



Appropriate Assessment Report and Determination for Maritime Usage Licence Application

From the Department of the Environment,
Climate and Communications

Application Number No. LIC240006

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Statement of Authority

This Appropriate Assessment Report has been undertaken by the Assessment Research and Development Unit within MARA, a specialist unit with appropriate expertise in environmental assessment.

1 Introduction

1.1 Background

The Department of Environment, Climate and Communications (DECC) are applying for a Maritime Usage Licence to undertake geophysical surveys and carry out Day Grabs, Hammon grabs, drop camera surveys, and side scan sonar survey work off the coast of Counties Cork, Waterford and Wexford within the proposed area of the Draft South Coast Designated Maritime Area Plan (DMAP) to increase the amount of baseline data available on the area. The proposed total survey area is 475,223 hectares and the survey will take place over a maximum of 70 days. Ireland's second offshore wind energy auction, ORESS 2.1 is planned as the first auction to take place in Phase Two and may procure up to 900 Megawatts of capacity from the planned DMAP off Ireland's south coast, currently in draft form. In support of ORESS 2.1, the Department of Environment Climate and Communications (DECC) is planning a Geophysical Reconnaissance Survey. Data acquired will be made publicly available to participants in the ORESS 2.1 energy auction process.

The reconnaissance survey data collected by this survey aims to provide information in the upper 100 m of sub-surface geology, to inform the potential suitability of marine areas for possible offshore wind and grid infrastructure development, should these areas be identified as suitable for offshore wind and/or grid development within the final South Coast DMAP. The proposed broad geophysical target survey area is 475,223 hectares. It encompasses an area from the nearshore out to the 75m contour stretching from approximately 8km east of Carnsore Point off the Wexford coast, west to Oysterhaven, County Cork.

The proposed geophysical surveys include multibeam echosounder, sub bottom profiler, sparkers, mini-air-gun and hydrophones. The surface towed sparker system will be the primary sound source used, with the mini-airgun utilised when inadequate sub-surface penetration is achieved due to local geological conditions. Ancillary instrumentation may be deployed during weather downtime periods where geophysical operations cannot proceed including a Day Grab or Hammon grab, drop camera, and side scan sonar. The Maritime Usage Licence Area is 475,223 ha in area and is 60 m from the HWM at its closest point. It is anticipated that the works will take place from May to September 2024 and will take approximately 52 days, up to a maximum of 70 days.

1.2 Legislative Context

This appropriate assessment report relates to a licence application for an activity in the maritime area in accordance with Part 5 of the Maritime Area Planning Act (2021, as amended). Section 117 of the Act sets out the requirements for MARA to undertake appropriate assessment in respect of proposed maritime usage. The EU Habitats Directive (Council Directive 92/43/EC) and Birds Directive (2009/147/EC) are transposed into Irish law by the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) and by Part XAB of the Planning and Development Act 2000 (as amended). Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended)

outline requirements for screening for appropriate assessment and for undertaking appropriate assessment.

A 30-day public consultation was undertaken under Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011, running from 7 May to 7 June 2024, with the public invited to make observations. In addition to the public consultation, observations were invited from three relevant public bodies. Three submissions were received on foot of the public consultation, all from public bodies, the Department of Agriculture, Food and the Marine, the Marine Institute and the Sea Fisheries Protection Authority. These submissions have been considered as part of the appropriate assessment.

1.3 Screening for Appropriate Assessment

MARA completed a screening for appropriate assessment and published an appropriate assessment screening determination on 21 March 2024. The screening determination found that the proposal to undertake geophysical surveys off the coast of Counties Cork, Waterford and Wexford required Stage 2 Appropriate Assessment. It could not be excluded beyond reasonable scientific doubt on the basis of objective scientific information that the proposed activities, either individually or in combination with other plans or projects, would not have a significant effect on a European Site.

2 Description of proposed works

2.1 Project and Site Description

In support of ORESS 2.1, the Department of Environment Climate and Communications (DECC) is planning a Geophysical Reconnaissance Survey for indicatively 52 days, up to a maximum of 70 days. Data acquired will be made publicly available to participants in the ORESS 2.1 energy auction process. For this survey, DECC propose to use the Marine Institute R.V. *Tom Crean* to acquire and deliver new offshore geophysical data and knowledge. The primary objective of this survey is to gather data on the sub-surface geology within the upper 100 meters below the seabed.

The area that will be surveyed is a subsection of the area that is outlined in Figure 1. The coastal area incorporated in the Cork Harbour approaches is to facilitate potential acquisition of baseline geophysical data in support of power cable routing for grid connection to offshore wind infrastructure. There is no spatial overlap between the proposed project area and any Special Area of Conservation (SAC). However the proposed project area abuts the Hook Head SAC. Samples collected through the INFOMAR programme, show a range of different sediment types throughout the area ranging from muddy sand, through sand, gravelly muddy sand, sandy gravel and gravelly mud. No sensitive subtidal habitats are recorded for the proposed project area. While there is no spatial overlap with any Special Protect Area (SPA), this area provides foraging habitat for seabird species likely to be connected to nearby SPAs, such as those at Seas off Wexford SPA, Saltee Islands SPA, Keeragh Islands SPA and Lady's Island Lake SPA and more distant SPAs within foraging range of the proposed project site.

Records suggest a diverse range of marine species use this region. There are records for frequent live sightings of Common dolphin (*Delphinus delphis*), Common Porpoise (*Phocoena phocoena*), Fin Whale (*Balaenoptera physalus*), Humpback Whale (*Megaptera novaeangliae*), Minke Whale (*Balaenoptera acutorostrata*) and Grey Seal (*Halichoerus grypus*) within the Zol

of the proposed project. Occasional records also exist for live sightings of additional cetacean species including Bottle-nosed Dolphin (*Tursiops truncatus*) and Risso's Dolphin (*Grampus griseus*).

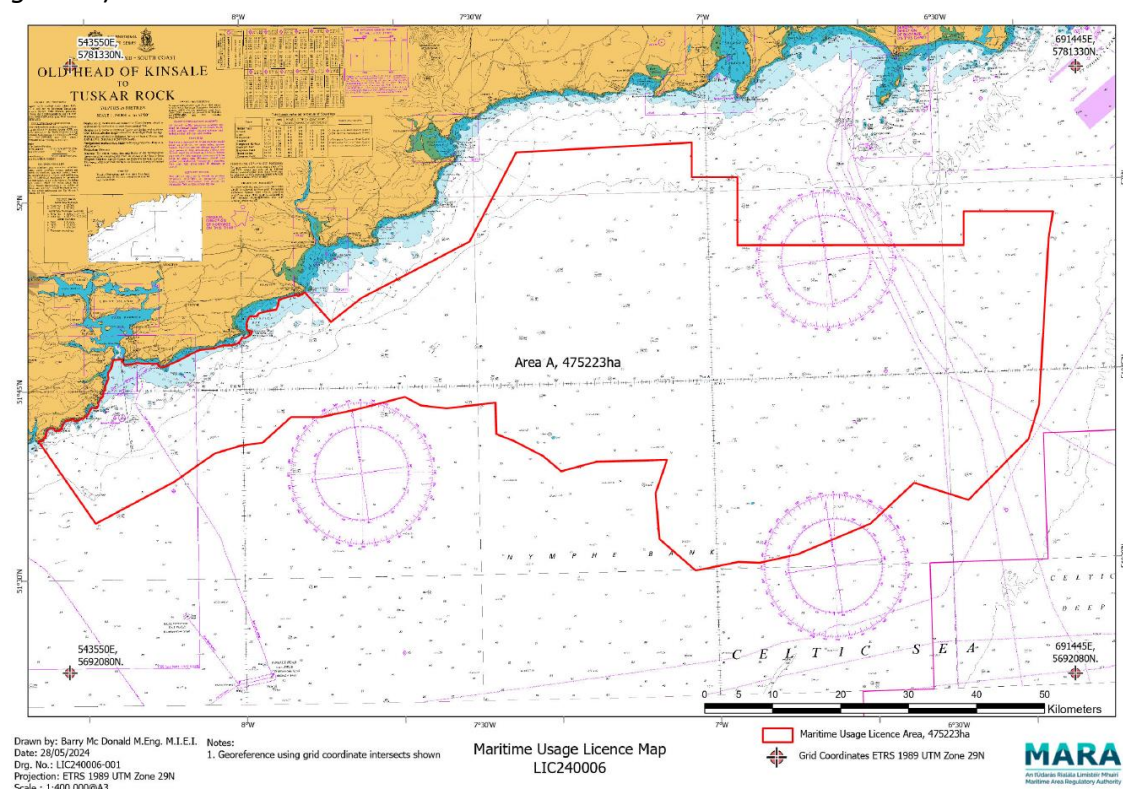


Figure 1: Map showing proposed total Maritime Usage Licence area outlined in red.

2.3 Description of the Proposed Survey Works

A full description of the proposed project and its associated scope of works is presented in the Supporting Information for Screening for Appropriate Assessment Report (SISAA), (MERC, 8 March 2024). A suite of mapping instruments is proposed to be used in this geophysical survey. This includes multibeam, sub bottom profiler, deployment of a day or Hammon grab sampler, side scan sonar, a sparker system and if further penetration is required, an air gun source. These will provide appropriate datasets for the various sub-bottom requirements for a ground investigation for offshore wind development. The type of sub-bottom profiler and sparker system to be used to investigate the geology will be determined by a number of factors including:

- Depth of interest below seafloor.
- Nature of shallow soil or rock that are likely to be encountered.
- Desired resolution of the data that are to be used for mapping the shallow materials.

The applicant did not specify the number of grab samples (using either Day or Hammon grabs) that would be taken throughout the proposed survey works. This appropriate assessment therefore assumes a maximum of 80 grab samples.

It is common to utilise a combination of sub-bottom acoustic profilers to image the various depths of interest for engineering. The zones of interest would typically include:

- Shallow sub-seafloor (0-5 m) for inter-array and export cable protection or burial depths.

- Intermediate sub-seafloor (5-10 m) for anchoring and small structure foundations.
- Deeper sub-seafloor: (10-100 m) for large structures (e.g., piled foundations).

The acquisition of deeper sub seafloor geophysical data will be acquired utilising a sparker system and /or air gun to penetrate to the required depth of up to 100m. Table 1 details the marine survey equipment that will be used for the purposes of the proposed maritime activity.

Table 1: Survey equipment proposed for the site investigations, with frequencies and noise pressure levels.

Acoustic survey equipment				
Equipment	Model	Purpose	Frequency	Sound Pressure Level re 1 μPA in water @ 1m from source
Multibeam Echo sounder	EM2040,Kongsberg Maritime	Collect topographical data of the seabed	200,300 & 400kHz	210
Sparker System & 48 channel hydrophone array	Dura-speak seismic sound source, Sub-sea Technologies	Identify geological layers and sediment thickness beneath the seabed	300Hz to 1.2kHz	226
Sparker (backup)	Geospark 200, Geus	Identify geological layers and sediment thickness beneath the seabed	250Hz – 1.75 kHz	223
Sub-bottom Profiler	Knudsen 3250 CHIRP	Identify geological layers and sediment thickness beneath the seabed	3.5 kHz -12kHz	223
Mini air-gun	Mini G Gun, Sercel	Identify geological layers and sediment thickness beneath the seabed	Less than 250 Hz	230
Side scan Sonar	4205 sidescan Edgetech	Determine sediment characteristics and seabed features	300 to 900 kHz	228
Benthic sampling equipment				
Day Grab	N/A	Overboard	N/A	N/A
Hammon Grab	N/A	Overboard	N/A	N/A

3 European Sites and Qualifying Interests

3.1 Identification of European sites likely to be affected

As the Consenting Authority for Maritime Usage Licensing and in line with Regulation 42.1 of the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) MARA carried out a screening for Appropriate Assessment (AA) for these site investigations off the coast of Counties Cork, Waterford and Wexford. This Screening for AA report is dated 21 March 2024 and is available on the MARA website.

The Screening for AA Report identified fourteen Irish Special Area of Conservation (SAC) sites, six British and twenty French sites, which were considered to be within the Zone of Influence

of the proposed maritime usage activity. The screening also identified five Special Protected Area (SPA) sites that were considered to be within the Zone of Influence of the proposed maritime usage activity. These European sites, their Qualifying Interests, Special Conservation Interests and possible impact as a result of the proposed project are given in Table 4 below.

3.2 Qualifying Interests and Special Conservation Interests affected

The appropriate assessment screening identified Harbour seal (*Phoca vitulina*) Grey seal (*Halichoerus grypus*), Bottlenose dolphin (*Tursiops truncatus*) and Harbour porpoise (*Phocoena phocoena*) as qualifying interests that may be impacted as a result of the proposed maritime usage. This appropriate assessment has been undertaken in light of the descriptions of the qualifying interests and special conservation interests in the latest Article 17 report from the NPWS in 2019¹.

In addition, 12 bird species were identified as needing further assessment due to the possibility for those species to be significantly negatively affected by disturbance from above water noise or underwater noise in the case of diving species (Screening for AA Report, 21 March 2024, Table 4). Seabird species profiles, population trends and species specific threats used in this assessment were taken from the most recent Article 12 assessment produced by the NPWS in 2019².

It should be noted that species marked with an asterisk in Table 4 are additional to those and assessed in the MARA AA Screening of 21 March 2024. For Bottlenose Dolphin and Harbour Porpoise, this is due to the addition of a number of QI's to SACs in late March 2024 which postdate the MARA AA Screening Report but are included in the NIS.

3.3 Conservation Objectives, Overall Status and Trends of Species and Habitats with potential to be affected

Conservation objectives are intended to define as precisely as possible the desired state or degree of conservation to be reached in a particular site. The measures taken under the Habitats Directive are to ensure that the species and habitats listed in the Annexes achieve Favourable Conservation Status. The objective of the Birds Directive is formulated slightly differently but the ambition is the same.

Site-specific conservation objectives for sites, habitats and species listed in Table 4 were used when considering potential impacts of the proposed activity. Details of these sites are available on the NPWS website (<https://www.npws.ie/protected-sites>). Additional to the data on the NPWS website, conservation objectives are not yet available for the new QI's for existing SAC sites screened in as a result to the updated list of QI species for a number of SAC's published by the NPWS in March 2024. The Conservation objectives used in the assessment of these species comes from the nearest available SAC. For Bottlenose Dolphin, this is the Lower River Shannon SAC. For Harbour Porpoise, this is Blasket Islands SAC for sites on the South and West Coast, and Rockabill and Dalkey Islands SAC on the East Coast. These SAC sites represent two of the three sites with Harbour Porpoise as a QI before March 2024. A similar approach was taken for assessing French sites without Conservation objectives.

¹ https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2019_Vol3_Species_Article17.pdf

² <https://www.npws.ie/sites/default/files/publications/pdf/IWM114.pdf>

Conservation status of a species relates to the nationwide status, while conservation objectives relate to a specific SAC or SPA. The Favourable Conservation Status of a species is achieved when:

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

Harbour seal, Grey Seal, Bottlenose dolphin and Harbour Porpoise have Favourable conservation status in the Irish assessments. Grey Seal, Harbour Porpoise and Bottlenose dolphin have a favourable status for the British sites, but Harbour Seal has an Inadequate status in British sites. The Harbour Porpoise and Bottlenose dolphin have a Bad/Unfavourable conservation status for the French assessment.

Under the Birds of Conservation Concern in Ireland Assessment³, the birds that screened in for further assessment are mainly classified as Amber (medium concern), with one species classified as Red (high concern): the Common Scoter and two species classified as Green (low concern), Fulmar and Cormorant. Little grebe was not included in the listing.

The most recent Birds Directive Article 12 report⁴ identified trends in seabird species relating to Breeding Population numbers and Breeding Distribution. For the relevant species under consideration in this assessment, all except Kittiwake are experiencing increases in their Breeding population numbers in the short and long term. For breeding distribution, all species are seeing an increasing short-term trend. Declining long-term Breeding distribution trends were seen for the Cormorant.

3.4 Pressures and threats to Annex II species and Annex I species

Table 2 outlines the various pressures and threats experienced in Ireland by the Annex II species screened in for this assessment. It should be noted that under the European Environment Agency guidance on Article 17 guidance, noise pollution from marine seismic surveys was to be reported under C09 Geotechnical Surveying.

Table 2 Pressures and Threats for relevant Annex II species as assessed for the NPWS 2019 Article 17 report.

	Pressure	Threat
Grey seal[1364], Harbour seal [1365], Harbour porpoise [1351]	C09 Geotechnical surveying (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (M)	C09 Geotechnical surveying (M) G01 Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (M)

³ [https://birdwatchireland.ie/birds-of-conservation-concern-in-ireland/#:~:text=The%20conservation%20status%20of%20species,%25\)%20on%20the%20Green%20list.](https://birdwatchireland.ie/birds-of-conservation-concern-in-ireland/#:~:text=The%20conservation%20status%20of%20species,%25)%20on%20the%20Green%20list.)

⁴ <https://www.npws.ie/sites/default/files/publications/pdf/IWM114.pdf>

	Pressure	Threat
and Bottlenose dolphin [1349]		

The most recent Birds Directive Article 12 report identified the main pressures and threats to Annex I breeding seabirds. Table 3 shows these main threats and their percentage relevance to seabirds.

Table 3 Pressures and Threats on Annex I bird species as assessed for the NPWS 2019 Article 12 report.

Code	Description	Percentage relevance
D01	Wind, wave and tidal power, including infrastructure	92
G12	Bycatch and incidental killing (due to fishing and hunting activities)	79
N06	Desynchronisation of biological/ecological processes due to climate change	75
N07	Decline or extinction of related species (e.g. food source / prey, predator / parasite, symbiote, etc.) due to climate change	75
I02	Other invasive alien species (other than species of Union concern)	71
F22	Residential or recreational activities and structures generating marine macro- and micro- particulate pollution (e.g. plastic bags, Styrofoam)	54
F23	Industrial or commercial activities and structures generating marine macro- and micro- particulate pollution (e.g. plastic bags, Styrofoam)	54
F07	Sports, tourism and leisure activities	46
G01	Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species	46
J02	Mixed source marine water pollution (marine and coastal)	29

Table 4: Special Area of Conservation (SAC) and their qualifying interests to be considered further in the screening process.

European Site Code	Distance from the Proposed Development (km)	List of Qualifying Interests(QIs)	Potential source of impact	Conservation Objective
Special Areas of Conservation				
Hook Head SAC (Site code: IE000764)	0/abuts site boundary	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]* <i>Phocoena phocoena</i> (Harbour Porpoise) [1351]*	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Bottlenose Dolphin in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) were used in their absence (https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002165.pdf) To maintain favourable conservation condition of Harbour Porpoise in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Rockabill to Dalkey Islands SAC (Site code: IE003000) were used in their absence (https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO003000.pdf)
Saltee Islands SAC [Site code IE000707]	11.6 km	<i>Halichoerus grypus</i> (Grey Seal) [1364]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Grey Seal in the SAC as per the attributes, measures and targets set out in https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000707.pdf
Carnsore Point SAC (Site code: IE002269)	19.5 km	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]*	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Harbour Porpoise in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Rockabill to Dalkey Islands SAC (Site code: IE003000) were used in their absence (https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO003000.pdf)
Slaney River SAC (Site code:IE000781)	42 km	<i>Phoca vitulina</i> (Harbour Seal) [1365]*	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Harbour Seal in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Rockabill to Dalkey Islands SAC (Site code: IE003000) were used in their absence (https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO003000.pdf)

European Site Code	Distance from the Proposed Development (km)	List of Qualifying Interests(QIs)	Potential source of impact	Conservation Objective
Blackwater Bank SAC (Site code: 002953)	45 km	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]*	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Harbour Porpoise in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Rockabill to Dalkey Islands SAC (Site code: IE003000) were used in their absence (https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO003000.pdf)
Roaringwater Bay and Islands SAC [Site code IE000101]	Approx. 75 km	<i>Halichoerus grypus</i> (Grey Seal) [1364] <i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Grey Seal and Harbour Porpoise in the SAC as per the attributes, measures and targets set out in https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000101.pdf
Glengarriff Harbour and Woodland SAC (Site code: IE00090)	Approx. 150 km	<i>Phoca vitulina</i> (Harbour Seal) [1365]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Harbour Seal in the SAC as per the attributes, measures and targets set out in https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000090.pdf
Kenmare River SAC [Site code: IE002158]	Approx. 150 km	<i>Phoca vitulina</i> (Harbour Seal) [1365] <i>Phocoena phocoena</i> (Harbour Porpoise) [1351]*	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Harbour Seal in the SAC as per the attributes, measures and targets set out in https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002158.pdf To maintain favourable conservation condition of Harbour Porpoise in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Basket Islands SAC [Site code IE002172] were used in their absence (https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002172.pdf)
Rockabill to Dalkey Islands SAC (Site code: IE003000)	Approx. 175 km	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Harbour Porpoise in the SAC as per the attributes, measures and targets set out in https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO003000.pdf
Lambay Island SAC (Site Code IE000204)	Approx. 175 km	<i>Halichoerus grypus</i> (Grey Seal) [1364] <i>Phocoena phocoena</i> (Harbour Porpoise) [1351]* <i>Phoca vitulina</i> (Harbour Seal) [1365]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Grey Seal and Harbour Seal in the SAC as per the attributes, measures and targets set out in https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000204.pdf

European Site Code	Distance from the Proposed Development (km)	List of Qualifying Interests(QIs)	Potential source of impact	Conservation Objective
				To maintain favourable conservation condition of Harbour Porpoise in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Rockabill to Dalkey Islands SAC (Site code: IE003000) were used in their absence (https://www.npws.ie/sites/default/files/protected-sites/conservation objectives/CO003000.pdf)
Codling Fault Zone SAC (Site code IE003015)	Approx. 175 km	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]*	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Harbour Porpoise in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Rockabill to Dalkey Islands SAC (Site code: IE003000) were used in their absence (https://www.npws.ie/sites/default/files/protected-sites/conservation objectives/CO003000.pdf)
Blasket Islands SAC [Site code IE002172]	Approx. 180 km	<i>Halichoerus grypus</i> (Grey Seal) [1364] <i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Grey Seal and Harbour Porpoise in the SAC as per the attributes, measures and targets set out in https://www.npws.ie/sites/default/files/protected-sites/conservation objectives/CO002172.pdf
Lower River Shannon SAC [Site code IE002165]	Within MU for species	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Bottlenose Dolphin in the SAC as per the attributes, measures and targets set out in (https://www.npws.ie/sites/default/files/protected-sites/conservation objectives/CO002165.pdf)
Inishmore Island SAC [Site code IE000213]	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]*	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Harbour Porpoise in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Blasket Islands SAC [Site code IE002172] were used in their absence (https://www.npws.ie/sites/default/files/protected-sites/conservation objectives/CO002172.pdf)

European Site Code	Distance from the Proposed Development (km)	List of Qualifying Interests(QIs)	Potential source of impact	Conservation Objective
Kilkieran Bay and Islands SAC [Site code IE002111]	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]*	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Blasket Islands SAC - To maintain favourable conservation condition of Harbour Porpoise in the SAC. [Site code IE002172] were used in their absence (https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002172.pdf)
West Connacht Coast SAC [Site code IE002998]	Within MU for species	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349] <i>Phocoena phocoena</i> (Harbour Porpoise) [1351]*	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Bottlenose Dolphin in the SAC as per the attributes, measures and targets set out in https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002998.pdf To maintain favourable conservation condition of Harbour Porpoise in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Blasket Islands SAC [Site code IE002172] were used in their absence (https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002172.pdf)
Duvillaun Islands SAC [Site code IE000495]	Within MU for species	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Bottlenose Dolphin in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from West Connaught Coast SAC are used in their absence https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002998.pdf
Slyne Head Islands SAC [Site code IE000328]	Approx 350 km/Within MU for species	<i>Halichoerus grypus</i> (Grey Seal) [1364] <i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Bottlenose Dolphin and Grey Seal in the SAC as per the attributes, measures and targets set out in https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000328.pdf
Inishbofin and Inishshark SAC [Site code IE000278]	Approx 380 km	<i>Halichoerus grypus</i> (Grey Seal) [1364]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Grey Seal in the SAC as per the attributes, measures and targets set out in https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000278.pdf

European Site Code	Distance from the Proposed Development (km)	List of Qualifying Interests(QIs)	Potential source of impact	Conservation Objective
Slyne Head Peninsula SAC [Site code IE002074]	Within MU for species	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Bottlenose Dolphin in the SAC as per the attributes, measures and targets set out in https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002074.pdf
Bunduff Lough and Machair/Trawalua/Mullaghmore SAC [000625]	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]*	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Harbour Porpoise in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Blasket Islands SAC [Site code IE002172] were used in their absence (https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002172.pdf)
Belgica Mound Province SAC [Site code IE002327]	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]*	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Harbour Porpoise in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Blasket Islands SAC [Site code IE002172] were used in their absence (https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002172.pdf)
West Wales Marine SAC [Site code UK0030397]	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To ensure that the integrity of the site is maintained and that it makes the best possible contribution to maintaining Favourable Conservation Status (FCS) for Harbour Porpoise in UK waters
Cardigan Bay SAC [Site code UK0012712]	Within MU for species	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	To ensure that the integrity of the site is maintained and that it makes the best possible contribution to maintaining Favourable Conservation Status (FCS) for Bottlenose Dolphin in UK waters
Bristol Channel Approaches SAC [Site code UK003039]	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To ensure that the integrity of the site is maintained and that it makes the best possible contribution to maintaining Favourable Conservation Status (FCS) for Harbour Porpoise in UK waters
Lundy SAC (Site Code UK0013114)	Approx. 115 km	<i>Halichoerus grypus</i> (Grey Seal) [1364]	Disturbance from underwater noise and vibration	To ensure that the integrity of the site is maintained and that it makes the best possible contribution to maintaining Favourable Conservation Status (FCS) for Grey Seal in UK waters

European Site Code	Distance from the Proposed Development (km)	List of Qualifying Interests(QIs)	Potential source of impact	Conservation Objective
Lley Peninsula and the Sarnau SAC [Site code UK0013117]	Within MU for species	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	To ensure that the integrity of the site is maintained and that it makes the best possible contribution to maintaining Favourable Conservation Status (FCS) for Bottlenose Dolphin and Grey Seal in UK waters
North Anglesey Marine SAC [Site code UK0030398]	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To ensure that the integrity of the site is maintained and that it makes the best possible contribution to maintaining Favourable Conservation Status (FCS) for Harbour Porpoise in UK waters
Moray Firth SAC [Site code UK0019808]	Within MU for species	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	To ensure that the integrity of the site is maintained and that it makes the best possible contribution to maintaining Favourable Conservation Status (FCS) for Bottlenose Dolphin and Grey Seal in UK waters
Mers Celtiques – Talus du golfe de Gascogne (Site code: FR5302015)	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351] <i>Tursiops truncatus</i> (Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to these species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) and Blasket Islands SAC [Site code IE002172] were used - To maintain favourable conservation condition of Bottlenose dolphin and Harbour Porpoise in the SAC.
Nord Bretagne DH (Site code: FR2502022)	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351] <i>Tursiops truncatus</i> (Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to these species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) and Blasket Islands SAC [Site code IE002172] were used - To maintain favourable conservation condition of Bottlenose dolphin and Harbour Porpoise in the SAC.
Côte de Granit rose-Sept-Iles (Site code: FR5300009)	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351] <i>Tursiops truncatus</i> (Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to these species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) and Blasket Islands SAC [Site code IE002172] were used - To maintain favourable conservation condition of Bottlenose dolphin and Harbour Porpoise in the SAC.
Abers – Côtes des légendes (Site code: FR5300017)	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351] <i>Tursiops truncatus</i> (Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to these species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) and Blasket Islands SAC [Site code IE002172] were used - To maintain favourable conservation condition of Bottlenose dolphin and Harbour Porpoise in the SAC.

European Site Code	Distance from the Proposed Development (km)	List of Qualifying Interests(QIs)	Potential source of impact	Conservation Objective
Trégor – Goëlo (Site code: FR5300010)	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351] <i>Tursiops truncatus</i> (Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to these species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) and Blasket Islands SAC [Site code IE002172] were used - To maintain favourable conservation condition of Bottlenose dolphin and Harbour Porpoise in the SAC.
Récifs et landes de la Hague SAC [Site code FR2500084]	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351] <i>Tursiops truncatus</i> (Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to these species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) and Blasket Islands SAC [Site code IE002172] were used - To maintain favourable conservation condition of Bottlenose dolphin and Harbour Porpoise in the SAC.
Baie de Morlaix (Site code: FR5300015)	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Harbour Porpoise in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Blasket Islands SAC [Site code IE002172] were used
Ouessant-Molene (Site code: FR5300018)	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351] <i>Tursiops truncatus</i> (Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to these species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) and Blasket Islands SAC [Site code IE002172] were used - To maintain favourable conservation condition of Bottlenose dolphin and Harbour Porpoise in the SAC.
Anse de Vauville SAC [Site code FR2502019]	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351] <i>Tursiops truncatus</i> (Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to these species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) and Blasket Islands SAC [Site code IE002172] were used - To maintain favourable conservation condition of Bottlenose dolphin and Harbour Porpoise in the SAC.
Banc et récifs de Surtainville SAC [Site code FR2502018]	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351] <i>Tursiops truncatus</i> (Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to these species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) and Blasket Islands SAC [Site code IE002172] were used - To maintain favourable conservation condition of Bottlenose dolphin and Harbour Porpoise in the SAC.

European Site Code	Distance from the Proposed Development (km)	List of Qualifying Interests(QIs)	Potential source of impact	Conservation Objective
Chaussée de Sein (Site code: FR5302007)	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351] <i>Tursiops truncates</i> (Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to these species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) and Blasket Islands SAC [Site code IE002172] were used - To maintain favourable conservation condition of Bottlenose dolphin and Harbour Porpoise in the SAC.
Cap Sizun SAC [Site code FR5300020]	Within MU for species	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) were used - To maintain favourable conservation condition of Bottlenose dolphin in the SAC.
Iles de la Colombiere, de la Nelliere et des Haches [Site code FR5310052]	Within MU for species	<i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) were used - To maintain favourable conservation condition of Bottlenose dolphin in the SAC.
Chausey [Site code FR2500079]	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Harbour Porpoise in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Blasket Islands SAC [Site code IE002172] were used
Baie du Mont Saint-Michel [Site code FR2500077]	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351] <i>Tursiops truncates</i> (Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to these species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) and Blasket Islands SAC [Site code IE002172] were used - To maintain favourable conservation condition of Bottlenose dolphin and Harbour Porpoise in the SAC.
Estuaire de la Rance SAC [Site code FR5300061]	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Harbour Porpoise in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Blasket Islands SAC [Site code IE002172] were used

European Site Code	Distance from the Proposed Development (km)	List of Qualifying Interests(QIs)	Potential source of impact	Conservation Objective
Baie de Lancier, Baie de l'Arguenon, Archipel de Saint Malo et Dinard [Site code FR5300012]	Within MU for species	Phocoena phocoena (Harbour Porpoise) [1351] Tursiops truncates (Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to these species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) and Blasket Islands SAC [Site code IE002172] were used - To maintain favourable conservation condition of Bottlenose dolphin and Harbour Porpoise in the SAC.
Cap d'Erquy-Cap Fréhel [Site code FR5300011]	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351] <i>Tursiops truncates</i> (Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to these species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) and Blasket Islands SAC [Site code IE002172] were used - To maintain favourable conservation condition of Bottlenose dolphin and Harbour Porpoise in the SAC.
Baie de Saint-Brieuc Est [Site code FR5300066]	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351] <i>Tursiops truncates</i> (Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	There are no specific conservation objectives relating to these species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) and Blasket Islands SAC [Site code IE002172] were used - To maintain favourable conservation condition of Bottlenose dolphin and Harbour Porpoise in the SAC.
Côtes de Crozon [Site code FR5302006]	Within MU for species	<i>Phocoena phocoena</i> (Harbour Porpoise) [1351]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Harbour Porpoise in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Blasket Islands SAC [Site code IE002172] were used
Côte de Cancale à Parme (Site code: FR5300052)	Within MU for species	<i>Tursiops truncates</i> (Bottlenose Dolphin) [1349]	Disturbance from underwater noise and vibration	To maintain favourable conservation condition of Bottlenose Dolphin in the SAC. There are no specific conservation objectives relating to this species in this SAC, so the conservation objectives from Lower Shannon River SAC (Site code: IE002165) were used.

Special Protected Areas

European Site Code	Distance from the Proposed Development (km)	List of Special Conservation Interests (SCI)	Potential source of impact	Conservation Objective
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Seas Off Wexford SPA (Site code: IE004237	0/abuts site boundary	Red-throated Diver (<i>Gavia stellata</i>) [A001] Fulmar (<i>Fulmarus glacialis</i>) [A009] Manx Shearwater (<i>Puffinus puffinus</i>) [A013] Gannet (<i>Morus bassanus</i>) [A016] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Shag (<i>Phalacrocorax aristotelis</i>) [A018] Common Scoter (<i>Melanitta nigra</i>) [A065] Guillemot (<i>Uria aalge</i>) [A199] Razorbill (<i>Alca torda</i>) [A200] Puffin (<i>Fratercula arctica</i>) [A204]	Visual and above water noise disturbance from surveys. Diving birds could be disturbed by underwater noise	To maintain the favourable conservation condition of all listed SCI species at Seas off Wexford SPA, as defined by the list of attributes and targets available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004237.pdf
Cork Harbour SPA [IE004030]	1.2 km	Cormorant [A017] Shoveler [A056] Little Grebe [A004]	Visual and above water noise disturbance from surveys. Diving birds could be disturbed by underwater noise	To maintain the favourable conservation condition of all listed SCI species at Cork Harbour SPA as defined by the list of attributes and targets available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004030.pdf
Helvick Head to Ballyquin SPA [IE004192]	6.5 km	Cormorant (<i>Phalacrocorax carbo</i>) [A017]	Visual and above water noise disturbance from surveys. Diving birds could be disturbed by underwater noise	To maintain the favourable conservation condition of all listed SCI species Helvick Head to Ballyquin SPA as defined by the list of attributes and targets available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004192.pdf
Mid-Waterford Coast SPA [IE004030]	7 km	Cormorant (<i>Phalacrocorax carbo</i>) [A017]	Visual and above water noise disturbance from surveys. Diving birds could be disturbed by underwater noise	To maintain the favourable conservation condition of all listed SCI species at Mid-Waterford Coast SPA as defined by the list of attributes and targets available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004193.pdf
Saltee Islands SPA (Site code: IE004002)	13.5 km	Fulmar (<i>Fulmarus glacialis</i>) [A009] Gannet (<i>Morus bassanus</i>) [A016] Cormorant (<i>Phalacrocorax carbo</i>) [A017] Shag (<i>Phalacrocorax aristotelis</i>) [A018] Guillemot (<i>Uria aalge</i>) [A199] Razorbill (<i>Alca torda</i>) [A200] Puffin (<i>Fratercula arctica</i>) [A204]	Visual and above water noise disturbance from surveys. Diving birds could be disturbed by underwater noise	To maintain the favourable conservation condition of all listed SCI species at Saltee Islands SPA as defined by the list of attributes and targets available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004002.pdf

4 Assessment and Mitigation

4.1 Assessment of Likely/Possible Significant Impacts on European Sites and their conservation interests

The impacts that have been identified that have the potential to cause significant impacts on European sites and their designated species or habitats are and visual disturbance, underwater noise and above water noise for QIs and SPIs of a number of SAC and SPA sites and impacts of accidental events. This disturbance may cause the displacement of individuals, changes in species behaviour, or the risk of morbidity or mortality. Any mitigation measures recommended on foot of the assessment in this section are included in Section 4.4 Mitigation Measures.

4.1.1 Disturbance due to underwater noise (marine mammal)

Underwater noise resulting from the proposed survey has the potential to impact grey seal, harbour seal, bottlenose dolphin and harbour porpoise should they be within the Zone of Influence of the survey during operations. Marine mammals depend on sound for a wide range of functions including navigation, perception of their environment, communication, prey identification and capture, and the detection of predators. The hearing system of marine mammals, being highly sensitive and adapted to respond to changes in pressure in an aquatic environment, is particularly susceptible to damage. Auditory injury in marine mammals can be defined as a permanent threshold shift leading to non-reversible auditory injury or as a temporary threshold shift in hearing sensitivity, which can have negative effects on the ability to communicate, navigate, or locate prey for a period of minutes, hours or days. These threshold levels as they relate to varying impact levels on marine mammals have been the focus of a number of research papers and resulted in guidelines being issued⁵.

The NIS found that objectives for grey seal, harbour seal, Bottlenose dolphin and harbour porpoise in Ireland are relevant to the species within the site and as the distance from the proposed project area to the nearest site was outside the ZOI caused by acoustic noise did not extend to this site, no potential for impact on the Conservation Objectives for grey seal, harbour seal, Bottlenose dolphin and harbour porpoise within the site was likely. However, the MARA AA Screening report found that the possibility of impact on these marine mammals as a result of equipment proposed as per Table 1 of this report cannot be excluded beyond reasonable scientific doubt. In-combination impacts resulting in a higher risk of negative impact are also considered possible in relation to underwater noise due to the potential for similar surveys and activities occurring at the same time in the same area, as outlined in Section 4.2. Therefore, it is recommended that suitable mitigation measures be included in any Maritime Usage Licence relating to this proposed maritime usage activity to rule out possible negative impacts on marine mammals due to underwater noise.

4.1.2 Disturbance due to underwater noise (birds)

Diving birds such as Red-throated Diver, Great Northern Diver, Manx Shearwater, Cormorant and Shag can be sensitive to disturbance from underwater noise and fatalities can occur at close distance. The impacts of underwater noise on diving seabirds is poorly understood and there is a paucity of data on the potential effects of underwater noise on diving seabirds. Flushing disturbance can be expected to displace these diving seabirds from close proximity to the survey vessel and any towed

⁵ https://sea-inc.net/wp-content/uploads/2019/10/Southall-et-al_2019_MM-Noise-criteria-update-with-errata_Aq-Mam-mals.pdf

https://www.npws.ie/sites/default/files/general/Underwater%20sound%20guidance_Jan%202014.pdf

<https://data.jncc.gov.uk/data/e2a46de5-43d4-43f0-b296-c62134397ce4/jncc-guidelines-seismicsurvey-aug2017-web.pdf>

equipment, thereby limiting their exposure to the highest sound pressures generated. The likelihood of these birds being in the vicinity of a noise generating operation is low due to the surface activity associated with such operations disturbing the birds prior to commencement of the underwater noise⁶. There is a low likelihood of interaction between the sound source and diving birds due to the relatively short exposure time, the temporary nature of the survey work, the mobile nature of the birds and the displacement of most diving species due to flushing disturbance. Therefore, it can be determined that underwater noise would be unlikely to have a significant effect on diving seabirds in the vicinity of the survey area. However, in-combination impacts resulting in a higher risk of negative impact are possible in relation to underwater noise due to the potential for similar surveys and activities occurring at the same time in the same area, as considered in Section 4.2.

There is also a possible indirect impact from the proposed maritime usage activity on the supporting habitats of the proposed bird features of the SPAs through disturbance to marine benthic communities and habitat loss. This could impact the ability of foraging grounds to provide food for foraging birds. However, this is considered very unlikely as a result of this proposed maritime usage activity due to the relative size of the survey area disturbed in this manner in comparison to the overall foraging habitat available in the region and the SPAs themselves. Intrusive works undertaken by other projects may contribute to a further possible indirect impact on the supporting habitats of the proposed bird features of the SPA through disturbance to marine benthic communities and habitat. There is potential for increased physical disturbance and habitat loss if geotechnical activities from other projects were to take place at the same time in close proximity to this project, and this is considered further in Section 4.2. Therefore, it is recommended that suitable mitigation measures be included in any Maritime Usage Licence relating to this proposed maritime usage activity.

4.1.3 Disturbance due to above water noise

While it is acknowledged that the species that use the survey area for feeding and breeding may be disturbed by the activities of the survey vessel, visual or above water noise disturbance from up to two additional vessels in a busy maritime area is unlikely to be significant when considered against background levels. In-combination impacts in relation to disturbance are possible in relation to above water noise and bird activity due to the potential for other surveys and activities to occur at the same time in the same area, as outlined in Section 4.2. However, given the short duration of the proposed site investigations, the significance of effects on birds in the offshore environment from the proposed site investigations, including due to visual or above water noise disturbance, will be temporary and therefore, will not be significant.

4.1.4 Disturbance due to accidental incidents

It is proposed to carry out seabed surveys in both the nearshore and offshore areas using a survey vessel, the RV Tom Crean. The use of survey vessels present the risk of diesel or oil spills which can impact foraging ability, health and mortality of the birds identified as susceptible to potential impacts from the proposed project. While the risks associated with this form of disturbance is low, the impact could be significant and mitigation is required. Therefore, it is recommended that suitable mitigation measures be included in any Maritime Usage Licence relating to the proposed maritime usage activity.

⁶https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/778899/OPRED_EIA_Guidance_2019_Revision_5_-_14Feb19.pdf
<https://www.frontiersin.org/articles/10.3389/fmars.2019.00192/full>

4.2 Assessment of In-combination effects

Article 6(3) of the Habitats Directive requires that an Appropriate Assessment be carried out in respect of any plan or project that is likely to have a significant effect on one or more European sites, either individually or in combination with other plans or projects. Therefore, regardless of whether or not the likely or possible effects of a plan or project are significant when considered in isolation, the potential for the plan or project to significantly affect European sites in combination with other past, present or foreseeable future plans or projects must also be assessed. All types of plans or projects that could, in-combination with the project under consideration, have a significant effect, should be taken into account. This in-combination assessment has been undertaken using professional and scientific judgement

Defining the Cumulative Effects Spatial Scope (CESS)

Impacts of underwater noise associated with the proposed maritime usage are considered to have the widest spatial reach, with Harbour Porpoise being most sensitive to noise disturbance⁷. The CESS was defined at appropriate assessment screening stage as 12km, based on acoustic survey equipment effective deterrence ranges due to the potential use of airguns in this survey.

Defining the Cumulative Effects Temporal Scope (CETS)

The temporal scope for examination of cumulative effects has been defined considering the period over which the proposed maritime usage would take place. The Natura Impact Statement states, it is anticipated that the proposed activities will take up to 70 days in total and will be completed over a 4-month period. A licence period of 1 year is recommended to allow for bad weather hampering completion of the proposed project in Summer 2024. Therefore, the Cumulative Effects Temporal Scope (CETS) is 1 year.

Impact identification

The impacts identified are:

- Disturbance from underwater noise
- Visual and above water noise disturbance
- Physical disturbance and habitat loss affecting food supply - birds
- Disturbance from Accidental incidents

Pathway Identification

Impact	Potential Cumulative Pathway
Disturbance from underwater noise	Pathway possible via sound travelling through water with impacts possible within CESS where there is temporal overlap with other underwater noise producing projects.
Visual and above water noise disturbance	Pathway possible via light and sound travelling through air with impacts possible within CESS where there is temporal overlap with other visual and above water noise producing projects.
Physical disturbance and habitat loss affecting food supply - birds	Pathway requires direct spatial overlap. Potential pathway for physical disturbance and habitat loss impact where there is spatial and temporal overlap
Disturbance from accidental incidents	Pathway possible with surveys operating within CESS where there is temporal overlap with other maritime activities

Prediction:

The magnitude and extent of identified likely cumulative effects have been predicted below.

⁷ JNCC Guidance on Assessing the Significance of Noise Disturbance against Harbour Porpoise SACs Conservation Objectives (<https://data.jncc.gov.uk/data/2e60a9a0-4366-4971-9327-2bc409e09784/JNCC-Report-654-FINAL-WEB.pdf>)

Disturbance from underwater noise

There is the potential for increased underwater noise disturbance effects if geophysical and geotechnical activities with other projects were to take place at the same time.

Visual and above water noise disturbance

There is the potential for increased visual and above water noise disturbance if geophysical and geotechnical activities with other projects were to take place at the same time.

Physical disturbance and habitat loss

There is a low potential for increased indirect effects of habitat disturbance potentially affecting the food resources of protected bird species if geophysical and geotechnical activities with other projects were to take place at the same time.

Accidental events

Additional boats operating in an area bring increased risk of accidental events, but the increase in risk is considered very low generally, and even more so given this a modern research vessel operated by a government agency.

Identification of Plans or Projects that could act in combination:

A search was carried out of relevant databases (e.g. EPA, Foreshore, MARA, planning authorities, etc) for other plans/projects with characteristics that may cause in-combination or cumulative effects with the project being assessed, on Natura 2000 sites. All plans and projects within the CESS and CETS have been identified. All projects within the CESS and CETS have been considered for their potential to cause cumulative effects in combination with the site investigation activities proposed under this Maritime Usage Licence Application, on the qualifying interests of Special Areas of Conservation and Special Protection Areas.

Following a search of relevant databases undertaken on the 19 February 2024 as part of the appropriate assessment screening, and a further review on 26 April 2024, the projects in Table 5 were identified as potential in-combination projects.

Table 5: Projects identified with the potential to cause in-combination effects with the project being assessed.

Application reference no.	Project	Approximate Distance from MUL Area	Project Status	Cumulative Effects
FS007616	Ruby Offshore Energy Site Investigations for Offshore Wind Farm, off the coast of Counties Wexford, Waterford and cork	0km	Proposed – Fore-shore licence submitted 23/02/23	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap
FS007471	Floating Cork Offshore Wind Ltd Site investigations	0km	Proposed – Fore-shore licence submitted 22/09/22	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap
FS007318	RWE Renewables Ireland East Celtic Ltd site investigations for proposed offshore wind park	0km	Proposed – Fore-shore licence submitted 10/03/21	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap

FS007445	Blackwater OWL Off-shore Wind Ltd. marine surveys off the Wexford coast	0km	Proposed – Fore-shore licence submitted 09/05/22	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap
FS006982	Energia site investigations for wind farm off Helvick Head	0km	Approved but not completed – Fore-shore licence awarded 28/09/21	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap
FS007384	Celtic Horizon Offshore Wind Farm Ltd site investigations off the coast of Wexford and Waterford	0km	Proposed – Fore-shore licence submitted 02/06/21	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap
FS007464	Bore Array Ltd site investigations for wind farm off Co. Wexford	0km	Proposed – Fore-shore licence submitted 08/04/22	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap
FS007488	Celtic Offshore Renewable Energy site investigation off the coast of Wexford and Waterford	0km	Proposed – Fore-shore licence submitted 22/04/22	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap
FS007621	Péarla Offshore Wind Ltd. Site investigations for export cable for proposed offshore wind farm	0km	Proposed – Fore-shore licence submitted 24/10/22	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap
FS007436	Voyage Offshore Array Ltd. site investigations off coast of Wexford and Waterford	0km	Proposed – Fore-shore licence submitted 14/02/22	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap
FS007431	Tulca Offshore Array Ltd: site investigations off County Cork	0km	Proposed – Foreshore licence submitted 14/02/22	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap
FS007575	Kinsale Offshore Wind Ltd site investigations off County Cork	0km	Proposed – Foreshore licence submitted 26/08/22	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap
FS006983	SSE Renewables Celtic Sea site investigations off County Cork	0km	Proposed – Foreshore licence submitted 19/03/19	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap

LIC230017	Microsoft Ireland Operations Ltd investigations for fibre optic cable	0km	Proposed – Maritime Usage Licence submitted 14/12/23	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap
S0013-03	Port of Cork Company Dumping at Sea permit	0km	Approved but not completed - permission granted 04/08/2023	Spatial overlap with Doyle shipping Maritime Usage Licence Area.
FS007126	Port of Cork Maintenance Dredging	0km	Approved - licence granted 08/09/2023	Spatial overlap with Doyle shipping Maritime Usage Licence Area. Within the CESS. Possible temporal overlap.
FS007138	ESB Celtic Off-shore Wind - Site Investigations off Waterford and Cork	0km	Proposed – Foreshore licence submitted 20/12/20	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap
FS007138	ESB Wind Development Limited Site Investigations off Waterford and Cork Coasts - Helvick Head Offshore Wind	0km	Proposed – Foreshore licence submitted 18/12/20	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap
FS007376	Uisce Éireann ADCP Surveys at Cork Harbour	0km	Proposed – Foreshore licence submitted 30/09/22	Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap
FS007098	Port of Cork Site Investigations at Dognose Bank Co. Cork	4.3 km	Proposed – Foreshore licence submitted 21/06/2023	No Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap.
MAC20230018	Cork C.Co. Watersports Centre, Claycastle Youghal	5.5	Proposed – MAC application received 2023	No Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap.
FS007482	Department of Defence dredging at Haulbowline Naval Base	5.8km	Proposed – Foreshore licence submitted 13/07/23	No Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap.
LIC230019	Doyle Shipping – Development of harbour facilities, Cork harbour	7.9km	Proposed – MUL application received 14/11/2023	No Spatial overlap with DECC Maritime Usage Licence Area. Within the CESS. Possible temporal overlap.

Cumulative Effects Assessment conclusion:

Based on insufficient clarity on when projects will be carried out and using the precautionary principle the above projects in Table 5 are considered to have potential in-combination effects should there be temporal overlap with the proposed maritime usage activity.

The following plans, which promote sustainable development and integrated management planning in the maritime environment related to the development of the maritime environment, were also identified:

- Climate Action Plan 2023
- National Marine Planning Framework
- Draft River Basin Management Plan for Ireland (2022-2027)
- Draft South Coast Designated Maritime Area Plan

It is not possible to fully exclude the possibility of likely significant in-combination effects on the conservation objectives of the Natura 2000 sites considered in this assessment as a result of this proposed maritime usage activity, the projects identified in Table 5 and the relevant plans listed above. Therefore, it is recommended that suitable mitigation measure be included in any Maritime Usage Licence relating to the possibility of likely significant in-combination effects.

4.3 Transboundary effects

This proposed maritime usage relates to activity on part of the seafloor within the Irish EEZ. The mitigation measures proposed as part of this appropriate assessment will mitigate against any transboundary effects on the qualifying interests from the British and French protected sites highlighted in this assessment.

4.4 Public consultation

A 30-day public consultation was undertaken from 7 May to 7 June 2024 with the public invited to make observations. In addition to the public consultation, observations were invited from relevant public bodies. No submissions were received on foot of the public consultation, while three submissions were received from relevant public bodies. These submissions have been considered as part of the appropriate assessment and are summarised in the Final Environmental Report associated with the licence application.

4.5 Mitigation Measures

Mitigation measures for those impacts identified in Section 4.1 Assessment of Likely/Possible Significant Impacts on European Sites and their conservation interests are detailed below.

4.5.1 Disturbance due to underwater noise (marine mammals)

Appropriate mitigation for the effects of underwater noise on marine mammals as discussed in section 4.1.1, is the implementation of the NPWS [Guidance to manage the Risk to marine mammals from man-made sound sources in Irish Waters](#), including any update to this Guidance that may issue subsequent to the granting of a licence. It is recommended that a condition be included in any maritime usage licence as follows:

Marine Mammals

- i. The Holder shall appoint a marine mammal observer for the purposes of overseeing the activity. The Holder shall ensure the marine mammal observer shall satisfy the requirements of National Parks and Wildlife Service guidance.
- ii. The Holder shall implement risk control and mitigation measures for marine mammals in strict accordance with National Parks and Wildlife guidance.
- iii. The Holder, upon completion of the Permitted Maritime Activity, shall forward all reporting to offshore@npws.gov.ie and enforcement@mara.gov.ie.

4.5.2 Disturbance due to above and underwater noise and disturbance (birds)

To minimise the potential for underwater noise related disturbance or displacement on the diving seabirds as discussed in section 4.1.2, it is recommended a condition be included in any maritime usage licence that may be granted as follows:

Birds

- i. Where the Holder observes significant clusters of birds, actively fishing and/or diving, within 500m of the survey vessel, in carrying out the Permitted Maritime Usage, the survey route shall be altered to maintain a 500m buffer from the birds. Appropriate records must be retained by the Holder.

4.5.3 Disturbance due to above water noise

No mitigation is required for birds relating to above water noise or survey disturbance in the offshore marine environment.

4.5.4 Disturbance due to accidental incidents

Mitigation is required to minimise the risk of impacts as a result of accidental spills from small craft or survey vessels as discussed in section 4.1.4. It is recommended a condition be included in any maritime usage licence that may be granted as follows:

The Holder shall ensure that there is an oil pollution emergency plan on-board any survey vessels. This plan should specify:

- i. Information on the location and detail of spill response resources on-board;
- ii. Information on crew training in relation to oil pollution response;
- iii. How crew will interface with other site investigation operators, where applicable.

4.5.5 In-combination effects

To minimise any in-combination effects as a results of other projects or plans as discussed in section 4.2, it is recommended a condition be included in any maritime usage licence that may be granted as follows:

In-combination effects

- i. The Holder shall coordinate with other authorisation holders within a 24km radius of the site boundary to ensure that no temporal overlap occurs between projects in respect of geophysical, seismic and geotechnical activities.
- ii. Where the Holder becomes aware of temporal overlap that cannot be resolved, the Holder shall notify the Grantor who shall determine the timing of activities.
- iii. The holder shall carry out a maximum of 80 grab samples (using either Day or Hammon grabs) during the survey period covered by this Permitted Usage Licence.

To ensure appropriate records of all the above mitigation measure are maintained, it is also recommended a condition be included in any maritime usage licence that may be granted as follows:

The Holder shall keep the following documents together and available for inspection by the Grantor:

- i. a copy of the licence related to this Permitted Maritime Usage;
- ii. all correspondence with the Grantor;
- iii. up to date drawings, plans and maps relating to the Permitted Maritime Usage;
- iv. documents and photographs and other relevant records relating to the Permitted Maritime Usage to provide evidence of compliance with licence conditions;
- v. marine positional log; and,
- vi. any elements of the licence application and associated documentation referenced in this licence.

5 Appropriate Assessment Conclusion


The applicant provided a Natura Impact Statement (NIS), which detailed the potential impact of the proposed project on most relevant European sites and whether these impacts would adversely affect the integrity of the sites in light of their conservation objectives.

The screening process identified likely/possible significant impacts due to disturbance from underwater noise from geophysical surveys on Annex II marine mammal species and Annex I bird species, disturbance from above water noise and survey activity for foraging bird species offshore and disturbance due to accidental incidents. These likely significant impacts could not be ruled out beyond reasonable scientific doubt without mitigation.

The potential direct and indirect effects as a result of physical disturbance, visual and above water noise disturbance from surveys, underwater noise from geophysical surveys and accidental events were identified as having the potential to cause in-combination impacts which could not be ruled out beyond reasonable scientific doubt without mitigation.

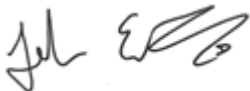
Mitigation measures were identified to ensure that impacts on European sites and their qualifying interests and special conservation interests do not occur. Therefore, with adherence to the mitigation measures specified in section 4.5 Mitigation Measures, and in view of best scientific knowledge, and of the sites' conservation objectives, the project, individually, or in-combination with other plans or projects, will not have adverse effects on European sites.

Therefore, having considered the documents submitted by the Department of Environment, Climate and Communications, the observations received on foot of the submissions from public bodies on the application, along with my own assessment, it can be concluded, and I conclude, for the purposes of Article 6(3) of the Habitats Directive and Regulation 42(11) of the Birds and Natural Habitats Regulations, that the proposal (LIC240006) for site investigation surveys in an area of foreshore (either individually or in combination with any other plans or projects), will not adversely affect the integrity of any European sites, in view of the sites' conservation objectives, subject to the implementation of the mitigation measures adopted and outlined above.

<p>Signature and Date of Recommending Marine Advisor</p>	 <hr/> <p>Dr Ciar O'Toole Senior Marine Advisor Assessment, Research and Data 28 June 2024</p>
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6 Appropriate Assessment Determination

Having considered this report, the documents submitted by the Department of the Environment, Climate and Communications, the observations received on foot of the the submissions from public bodies on the application, along with my own assessment, it can be determined , and I determine, for the purposes of Article 6(3) of the Habitats Directive and Regulation 42(11) of the Birds and Natural Habitats Regulations, that the proposal (LIC240006) for geophysical surveys and associated grab sampling, camera surveys and side scan sonar surveys within the proposed area of the Draft South Coast Designated Maritime Area Plan for the purposes of increasing the amount of baseline data available in the area (either individually or in combination with any other plans or projects), will not adversely affect the integrity of any European sites, in view of the sites' conservation objectives, subject to the implementation of the mitigation measures specified in section 4.5 Mitigation Measures adopted and outlined above, which must be included as conditions to any consent that may be granted in respect of the respective maritime usage licence application.

<p>Signature and Date of Decision Maker</p>	 <hr/> <p>John Evans Director of Assessment, Research and Data 02 July 2024</p>
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