MERC Consultants
environmental and conservation services

# Natura Impact Statement

## Uisce Éireann South Cork Strategic Model

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# 1. Introduction

Uisce Éireann wish to conduct a strategic modelling study of water currents along a section of the South Cork coast. The study requires the deployment of static Acoustic Doppler Current Profilers (ADCPs) within the study area (see figure 1) to provide the required modelling data. Ancillary instruments, to collect salinity and temperature data, may also be contained within the trawl resistant frames in which the ADCPs will be deployed. The project also includes vessel based assessments of water currents and bathymetry using a combination of vessel mounted ADCPs, single-beam, multibeam and LiDAR surveys, and potentially, the deployment of tidal gauges.

Supporting Information for Screening for Appropriate Assessment (SISAA) of the proposed project was prepared (MERC, 2024). The SISAA is concluded that, in the absence of mitigation, it could not be excluded on the basis of objective scientific information, that the proposed project might have a significant effect on a number of European Sites. Accordingly it was considered that Appropriate Assessment of the proposed project is required.

Based on this conclusion, this report represents a Natura Impact Statement (NIS) for the proposed project.

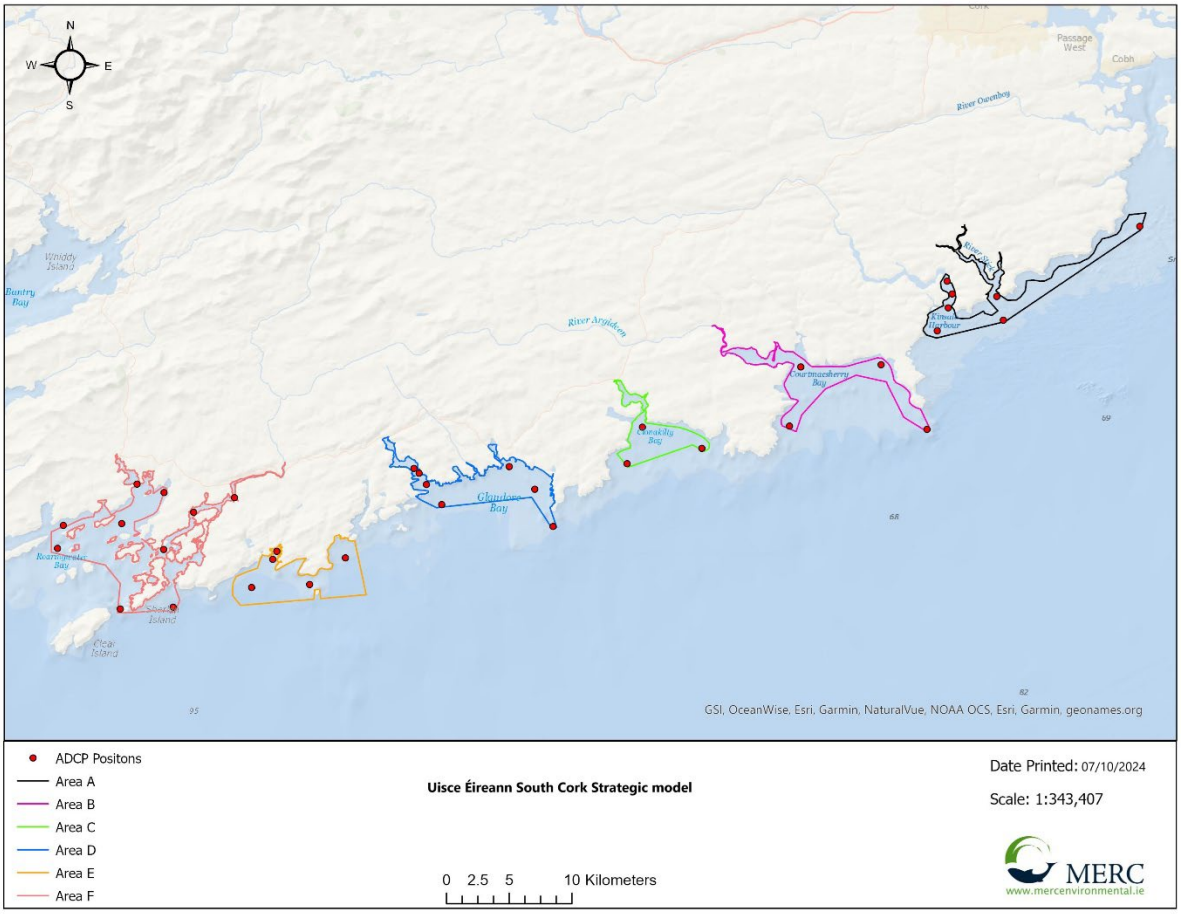


Figure 1. Survey areas and ADCP locations

## 2. Statement of authority

This report was prepared by MERC Consultants. MERC are a specialist marine ecological survey and consultancy firm. Core staff have more than 60 years of combined experience and specialist knowledge in relation to Irish aquatic habitats and species in addition to the assessment and management of conservation interests. MERC were responsible for preparing the NPWS national monitoring of marine Annex I habitats for compliance under Article 17 of the EU Habitats Directive in the period 2015-2019. In this context MERC were responsible for the assessment and reporting of marine Annex I habitats in Ireland and were the authors of all Article 17 reports and overarching site monitoring reports. MERC are currently engaged in conducting surveys and preparing the relevant reports for the current (2022-2025) monitoring cycle.

In addition to their scientific expertise MERC have an in-depth knowledge of Irish and European Environmental legislation and policy. In 2011 MERC prepared the text describing Activities Requiring Consent (ARCs) for inclusion in a handbook detailing the regulatory framework for all developments within designated sites in Ireland on behalf of the National Parks and Wildlife Service. They have also produced numerous Conservation Management Plans for the same department. To-date MERC have conducted in excess of 200 ecological reports in support of Appropriate Assessment under Article 6(3) of the EU Habitats Directive.

## 3. Guidelines and legislation

This report has been prepared, *inter alia*, with reference to the following European Directives, national legislation and guidance on the appropriate assessment of projects and plans with regard to the implementation of the provisions of Article 6(3) and (4) of the EU Habitats Directive 92/43/EEC.

- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild flora and fauna. Official Journal of the European Communities.
- Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds (codified version).
- European Communities (Birds and Natural Habitats) Regulations 2011. SI No. 477 of 2011.
- Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC. European Commission 2018. 7621 final. Office for Official Publications of the European Communities, Luxembourg.
- Assessment of plans and projects significantly affecting Natura 2000 sites; Methodological Guidance on the provisions of Articles 6(3) and (4) of the Habits Directive 92/43/EEC. European Commission, 2002;
- Appropriate Assessment Screening for Development Management. OPR Practice Note PN01. Office of the Planning Regulator. March 2021.
- Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters. Department of Arts, Heritage and the Gaeltacht, 2014.
- JNCC. 2023. JNCC guidance for the use of Passive Acoustic Monitoring in UK waters for minimising the risk of injury to marine mammals from offshore activities. JNCC, Peterborough.

## 4. Screening conclusion

The SISAA report (MERC, 2024) concluded that in the absence of mitigation it cannot be excluded on the basis of objective scientific information, following the preparation of the SISAA, that the proposed project, individually or in combination with other projects, will have a significant effect the following European Sites:

- Lough Hyne Nature Reserve and Environs SAC (000097)
- Roaringwater Bay and Islands SAC (000101)
- Clonakilty Bay SPA (004081)
- Courtmacsherry Bay SPA (004219)

A number of additional European sites were also taken forward to the NIS, based on their location within a Management Unit (MU) for Harbour porpoise or Bottlenose Dolphin or within foraging range for Grey seal or Harbour seal. However, it should be noted that the SISAA did not identify the potential for LSEs on the conservation objectives of these sites.

These additional sites included:

- Saltee Islands SAC
- Slaney River Valley SAC
- Kenmare River SAC
- Glengarriff Harbour and Woodland SAC
- Blasket Islands SAC
- Lambay Island SAC
- Lower River Shannon SAC
- West Connacht Coast SAC
- Duvillaun Islands SAC
- Rockabill to Dalkey Island SAC
- Slyne Head Islands SAC
- Inishbofin and Inishshark SAC
- Slyne Head Peninsula SAC
- Récifs du talus du golfe de Gascogne
- Côtes de Crozon
- Ouessant-Molène
- Abers - Côte des legends
- Baie de Morlaix
- Côte de Granit rose-Sept-Iles
- Tregor Goëlo
- Baie de Saint-Brieuc – Est
- Cap d'Erquy-Cap Fréhel
- Baie de Lancieux, Baie de l'Arguenon, Archipel de Saint Malo et Dinard
- Estuaire de la Rance
- Côte de Cancale à Paramé
- Chausey
- Baie du Mont Saint-Michel
- Banc et récifs de Surtainville
- Anse de Vauville

- Récifs et landes de la Hague
- Récifs et marais arrière-littoraux du Cap Lévi à la Pointe de Saire
- Nord Bretagne DH

Four additional areas of the UK (outside of the Natura 2000 network) were further considered in this NIS, based on current MARA policy, as they were within a MU for or Harbour porpoise or within foraging range for Grey seal or Harbour seal. These include:

- North Anglesey Marine / Gogledd Môn Forol
- Pembrokeshire Marine/ Sir Benfro Forol
- West Wales Marine / Gorllewin Cymru Forol
- Bristol Channel Approaches / Dynesfeydd Môr Hafren

A list of European sites and the relevant Qualifying Interests (QIs) and Special Conservation Interests (SCIs) identified as having the potential for LSEs are given in Table 1.

Table 1. European sites and relevant QIs with potential for LSEs

| **European site** | **Relevant QI screened in** | **Reason** |
|---|---|---|
| Lough Hyne Nature Reserve and Environs SAC [000097] | Large shallow inlets and bays [1160] | Spatial overlap.<br>• Potential damage to sensitive subtidal communities (*Zostera*-dominated marine community). |
| Roaringwater Bay and Islands SAC [000101] | Large shallow inlets and bays [1160]<br>*Phocoena phocoena* (Harbour Porpoise) [1351]<br>*Halichoerus grypu*s (Grey Seal) [1364] | Spatial overlap.<br>• Potential damage to sensitive subtidal communities (*Zostera*-dominated marine community and maërl-dominated marine community).<br>• Potential for the creation of temporary artificial barriers to suitable habitat (Harbour porpoise).<br>• Potential for disturbance to haul out sites for Grey seal |
| Clonakilty Bay SPA [004081] | Shelduck (*Tadorna tadorna*) [A048]<br>Dunlin (*Calidris alpina*) [A149]<br>Black-tailed Godwit (*Limosa limosa*) [A156]<br>Curlew (*Numenius arquata*) [A160] | Spatial overlap.<br>• Potential for disturbance to wintering water birds |
| Courtmacsherry Bay SPA [004219] | Great Northern Diver (*Gavia immer*) [A003]<br>Shelduck (*Tadorna tadorna*) [A048]<br>Wigeon (*Anas penelope*) [A050]<br>Red-breasted Merganser (*Mergus serrator*) [A069]<br>Golden Plover (*Pluvialis apricaria*) [A140]<br>Lapwing (*Vanellus vanellus*) [A142]<br>Dunlin (*Calidris alpina*) [A149]<br>Black-tailed Godwit (*Limosa limosa*) [A156]<br>Curlew (*Numenius arquata*) [A160]<br>Black-headed Gull (*Chroicocephalus ridibundus*) [A179]<br>Common Gull (*Larus canus*) [A182] | Spatial overlap.<br>• Potential for disturbance to wintering water birds |

| **Additional Irish sites, listed below were, based on MARA policy, taken forward to the NIS as they are within a management Unit for Harbour Porpoise or foraging range of grey seal. The SISAA did not identify any potential for LSEs on these sites** | | |
|---|---|---|
| **Site** | **Species** | **Distance (Km) Hydrologically** |
| Saltee Islands SAC [Site code IE000707] | *Halichoerus grypus* (Grey Seal) [1364] | 114 |
| Slaney River Valley SAC [Site code IE 000781 | *Phoca vitulina* (Harbour Seal) [1365] | 160 |
| Kenmare River SAC [Site code IE002158] | *Halichoerus grypus* (Grey Seal) [1364]<br>*Phocoena phocoena* (Harbour Porpoise) [1351] | 30 |
| Glengarriff Harbour and Woodland SAC [Site code IE000090] | *Phoca vitulina* (Harbour Seal) [1365] | 82 |
| Blasket Islands SAC [Site code IE002172] | *Phoca vitulina* (Harbour Seal) [1365] | 118 |
| Lambay Island SAC [Site code IE000204] | *Phocoena phocoena* (Harbour Porpoise) [1351] | 291 |
| Lower River Shannon SAC [Site code IE002165] | *Halichoerus grypus* (Grey Seal) [1364] | 170 |
| West Connacht Coast SAC [Site code IE002998] | *Tursiops truncatus* (Common Bottlenose Dolphin) [1349] | 272 |
| Duvillaun Islands SAC [Site code IE000495] | *Tursiops truncatus* (Common Bottlenose Dolphin) [1349] | 341 |
| Rockabill to Dalkey Island SAC [Site code IE003000] | *Tursiops truncatus* (Common Bottlenose Dolphin) [1349] | 260 |
| Slyne Head Islands SAC [Site code IE000328] | *Phocoena phocoena* (Harbour Porpoise) [1351] | 265 |
| Inishbofin and Inishshark SAC [Site code IE000278] | *Halichoerus grypus* (Grey Seal) [1364]<br>*Tursiops truncatus* (Common Bottlenose Dolphin) [1349] | 285 |
| Slyne Head Peninsula SAC [Site code IE002074] | *Halichoerus grypus* (Grey Seal) [1364] | 281 |
| **The French SACs listed below were, based on MARA policy, taken forward to the NIS as they are within a management Unit for Harbour Porpoise or foraging range of grey seal. The SISAA did not identify any potential for LSEs on these sites** | | |
| Récifs du talus du golfe de Gascogne | Harbour porpoise, Bottlenose Dolphin | 262 |
| Côtes de Crozon | Harbour porpoise | |
| Ouessant-Molène | Harbour porpoise, Grey seal (416km), Bottlenose Dolphin | 416 |
| Abers - Côte des légendes | Harbour porpoise, Grey seal (425km), Bottlenose Dolphin | 425 |
| Baie de Morlaix | Harbour porpoise, Grey seal (446km) | 416 |
| Côte de Granit rose-Sept-Iles | Harbour porpoise, Grey seal, Bottlenose Dolphin | 425 |
| Tregor Goëlo | Harbour porpoise, Bottlenose Dolphin | 464 |
| Baie de Saint-Brieuc - Est | Harbour porpoise, Bottlenose Dolphin | 534 |
| Cap d'Erquy-Cap Fréhel | Harbour porpoise, Bottlenose Dolphin | 535 |
| Baie de Lancieux, Baie de l'Arguenon, Archipel de Saint Malo et Dinard | Harbour porpoise, Bottlenose Dolphin | 559 |
| Estuaire de la Rance | Harbour porpoise | 573 |
| Côte de Cancale à Paramé | Bottlenose Dolphin | 569 |
| Chausey | Harbour porpoise, Bottlenose Dolphin | 552 |
| Baie du Mont Saint-Michel | Harbour porpoise, Bottlenose Dolphin | 583 |
| Banc et récifs de Surtainville | Harbour porpoise, Bottlenose Dolphin | 539 |

| | | |
|---|---|---|
| Anse de Vauville | Harbour porpoise, Bottlenose Dolphin | 534 |
| Récifs et landes de la Hague | Harbour porpoise, Bottlenose Dolphin | 533 |
| Récifs et marais arrière-littoraux du Cap Lévi à la Pointe de Saire | Bottlenose Dolphin | 568 |
| Nord Bretagne DH | Harbour porpoise, Bottlenose Dolphin | 380 |
| **UK areas within a MU for Bottlenose Dolphin or Harbour Porpoise overlapping with the proposed project site or within foraging range of grey seal.** These sites are no longer part of the Natura 2000 network. However they have been included here to align with current MARA policy. | | |
| North Anglesey Marine / Gogledd Môn Forol | Harbour porpoise | 292 |
| Pembrokeshire Marine/ Sir Benfro Forol | Grey Seal | 175 |
| West Wales Marine / Gorllewin Cymru Forol | Harbour porpoise | 181 |
| Bristol Channel Approaches / Dynesfeydd Môr Hafren | Harbour porpoise | 222 |

# 5. Assessment of Likely Significant Effects

The screening determination identified the potential for the following LSEs:

- Potential disturbance from vessel working in close proximity to haul out sites of Grey seal, resulting in disturbance to this species at the haul out sites which could impact the Grey seal population within the site during pupping, moulting and resting.
- Potential disturbance from vessel working in close proximity to the intertidal foraging habitat for wintering water birds which could result in birds temporarily abandoning their foraging habitats.
- Potential for the creation of temporary artificial barriers to suitable habitat for Harbour porpoise as a result of underwater noise. Potential for underwater noise from acoustic survey equipment resulting in temporary behavioural changes should this species be within the area during surveys.
- Potential for in-combination effects related to 4 projects with potential for noise induced temporal overlap.

## 5.1 Benthic habitats

Table 2. COs for Large Shallow inlets and Bays: Roaringwater Bay and Islands SAC.

| *Conservation objective: To maintain the favourable conservation condition of Large shallow inlets and bays in within Roaringwater Bay and Islands SAC.* | |
|---|---|
| **Attribute** | **Target** |
| **Habitat area** | The permanent habitat area is stable or increasing, subject to natural processes |
| **Community extent** | The extent of the *Zostera*-dominated and maërl- dominated communities should be conserved, subject to natural processes |
| **Shoot density** | The quality of *Zostera*-dominated communities should be conserved, subject to natural processes |
| **Community structure** | The quality of maërl- dominated communities should be conserved, subject to natural processes |
| **Community distribution** | The following communities should be conserved in a natural condition: Muddy sand with bivalves and polychaetes community complex; Mixed sediment community complex; Shallow sand/mud community complex |

Deployment of fixed ADCPS over, or adjacent to (within 100 meters) of *Zostera*-dominated communities and maërl-dominated communities within Roaringwater Bay and Islands SAC has the potential to lead to physical damage (impacting the community extent, shoot density and community structure attributes) to these species and their associated communities. This could occur during both deployment and recovery of ADCPs. There is no potential for LSE on the remaining benthic communities.

Table 3. COs for Large Shallow inlets and Bays: Lough Hyne and Environs SAC

| *Conservation objective: To maintain the favourable conservation condition of Large shallow inlets and bays in within Lough Hyne and Environs SAC.* | |
|---|---|
| **Attribute** | **Target** |
| **Habitat area** | The permanent habitat area is stable or increasing, subject to natural processes |
| **Community extent** | Maintain the extent of the *Zostera*-dominated community, subject to natural processes |
| **Community structure: Shoot density** | Conserve the high quality of *Zostera*-dominated community, subject to natural processes |
| **Community distribution** | Conserve the following community types in a natural condition: Muds to mixed sediment with polychaetes, bivalves and oligochaetes community complex; Intertidal reef community complex; Subtidal reef community complex; Laminaria-dominated community complex; Sea cave community complex. |

Deployment of fixed ADCPS over, or adjacent to (within 100 meters) of *Zostera*-dominated communities within Lough Hyne and Environs SAC has the potential to lead to physical damage to this community impacting the shoot density and community extent attributes. This could occur during both deployment and recovery of ADCPs. There is no potential for LSE on the remaining benthic communities.

Mitigation is proposed (section 6.1) to ensure the proposed surveys do not give rise to significant effects on Roaringwater Bay and Islands SAC and Lough Hyne and environs SAC or any European site designated for “Large shallow Inlets and Bays”.

## 5.2 Harbour porpoise

Harbour porpoise is a QI for Roaringwater Bay and Islands SAC.

The proposed MBES and SBS may be operating in the range of 300 to 500 KHz. This frequency is within the range of Harbour porpoise and may lead to temporary behavioural changes should they be in the area during surveys. This is highly unlikely to lead to significant impact on this species due to the large area of alternative foraging habitat and the extremely shallow waters in which the survey will take place (intertidal, when covered at high water). However, with due regard to the precautionary principle temporary impacts on Harbour porpoise are considered possible.

Table 4. COs for Harbour porpoise

| *Conservation objective: To maintain the favourable conservation condition of Harbour porpoise in Roaringwater Bay and Islands SAC which are defined by the following list of attributes and targets:* | |
|---|---|
| **Target** | **Target** |
| Access to suitable habitat | Species range within the site should not be restricted by artificial barriers to site use |
| Disturbance | Human activities should occur at levels that do not adversely affect the harbour porpoise community at the site |

***Target 1:*** Access to suitable habitat

This target may be considered relevant to proposed activities or operations that will result in the exclusion of Harbour porpoise from part of its range within the site or will prevent access for the species to suitable habitat within the site. Underwater noise resulting from the proposed survey may have the potential to cause some behaviour changes in Harbour porpoise should they be within the ZoI of the survey during operations. JNCC (2017) considers that MBES in shallower waters (<200m), such as proposed in this project, do not require mitigation. It is believed that MBES which emit sound at higher frequencies and which also attenuate more quickly than the lower frequencies used in deeper waters, are unlikely to lead to impacts. However, NPWS (2014) recommend mitigation for such surveys in shallow water.

***Target 2:*** Disturbance

Proposed activities or operations should not introduce man-made energy (e.g. MBES surveys) at levels that could result in a significant negative impact on individuals and/or the population of Harbour porpoise within the site. This target also relates to proposed activities or operations that may result in the deterioration of key resources (e.g., water quality, feeding, etc.) upon which Harbour porpoise depend. As such the generation of underwater noise, as discussed above, has been considered. The proposed project does not have the potential to impact key resources for this species. Disturbance related to vessel traffic is also unlikely as the species would be habituated to small boat traffic in this area.

With due regard to the precautionary principle, mitigation (section 6.2) is recommended to ensure the proposed surveys do not give rise to significant effects on any European Site designated for Harbour porpoise.

## 5.3 Grey Seal

Grey seal is a QI for Roaringwater Bay and Islands SAC.

Table 5. COs for Grey seal and Harbour seal

| *Conservation objective: To maintain the favourable conservation condition of Grey seal within Roaringwater Bay and Islands SAC.* | |
|---|---|
| **Attribute** | **Target** |
| **Access to suitable habitat**: | Species range within the site should not be restricted by artificial barriers to site use |
| **Breeding behaviour:** | The breeding sites should be maintained in a natural condition |
| **Moulting behaviour:** | The moult haul-out sites should be maintained in a natural condition |

| | |
|---|---|
| **Resting behaviour:** | The resting haul-out sites should be maintained in a natural condition |
| **Population composition:** | The grey seal population occurring within this site should contain adult, juvenile and pup cohorts annually |
| **Disturbance:** | Human activities should occur at levels that do not adversely affect the grey seal population at the site |

*Target 1*: Access to suitable habitat
This target may be considered relevant to proposed activities or operations that will result in the permanent exclusion of grey seal from part of their range within the site, or will permanently prevent access for the species to suitable habitat therein. It does not refer to short-term or temporary restriction of access or range. No artificial barriers will be created that could impact this species.

*Target 2*: Breeding behaviour
This target is relevant to proposed activities or operations that will result in significant interference with or disturbance of (a) breeding behaviour by grey seal within its sites and/or aquatic/terrestrial/intertidal habitat used during the annual breeding season. Operations or activities that cause displacement of individuals from a breeding site or alteration of natural breeding behaviour, and that may result in higher mortality or reduced reproductive success, would be regarded as significant and should therefore be avoided. It is considered that LSEs on the breeding behaviour of grey seal are possible should project related activities occur within 100m of their recorded breeding sites.

*Target 3:* Moulting behaviour
This target is relevant to proposed activities or operations that will result in significant interference with or disturbance of (a) moulting behaviour by grey seal within the site and/or (b) aquatic/terrestrial/intertidal habitat used during the annual moult. Operations or activities that cause displacement of individuals from a moult haul-out site or alteration of natural moulting behaviour to an extent that may ultimately interfere with key ecological functions would be regarded as significant and should therefore be avoided. It is considered that LSEs on the moulting behaviour of grey seal are possible should project related activities occur within 100m of their moulting sites.

*Target 3:* Resting behaviour
This target is relevant to proposed activities or operations that will result in significant interference with or disturbance of (a) resting behaviour by grey seal within the site and/or (b) aquatic/terrestrial/intertidal habitat used for resting. Operations or activities that cause displacement of individuals from a resting haul-out site to an extent that may ultimately interfere with key ecological functions would be regarded as significant and should therefore be avoided. It is considered that LSEs on the resting behaviour of grey seal are possible should project related activities occur within 100m of their recorded resting sites.

*Target 4:* Population composition
Resting haul-out sites and the composition of haul-out groups may be different to those normally observed during breeding or moulting. Disturbance at a specific location may have the effect of causing cohort-specific disturbance within the population. Population composition, whether in aquatic or terrestrial/intertidal habitats within the entire site or at individual locations, is likely to vary naturally within and between years. For the effective maintenance of the population, the above cohorts should be represented in the population occurring naturally within the site each year and any disturbance likely to cause such a cohort-specific effect should be carefully considered. It is considered that LSEs

on the population composition of grey seal are possible should project related activities occur within 100m of their recorded breeding or haul-out sites.

*Target 5:* Disturbance
Proposed activities or operations should not introduce man-made energy (e.g., aerial or underwater noise, light or thermal energy) at levels that could result in a significant negative impact on individuals and/or the population of grey or harbour seal within the site. This refers to both the aquatic and terrestrial/intertidal habitats used by the species in addition to important natural behaviours during the species' annual cycle. This target also relates to proposed activities or operations that may result in the deterioration of key resources (e.g., water quality, feeding, etc) upon which grey seals depend. It is considered that disturbance could lead to LSEs on grey seal should project related activities occur within 100m of their recorded breeding sites.

It is recommended that mitigation (section 6.3) is implemented to ensure the proposed surveys do not give rise to significant effects on any European Site designated for Grey Seal.

## 5.4 Wintering water birds

Clonakilty Bay SPA and Courtmacsherry Bay SPA are designated for a range of wintering water birds.

The conservation objectives for the SCIs screened in for wintering water birds within these sites are listed in table 6 below:

Table 6. COs for wintering waterbirds

| *Conservation objective: To maintain the favourable conservation condition of the SCI's for which Clonakilty Bay SPA and Courtmacsherry Bay SPA which are defined by the following attributes and targets* | |
|---|---|
| **Attribute** | **Target** |
| Population trend. | The long term population trend should be stable of increasing |
| Distribution | There should be no significant decrease in the numbers or range of areas used by waterbird species, other than that occurring from natural patterns of variation |

Vessel operations close to intertidal foraging habitats for wintering waterbirds within these sites could cause them to temporarily abandon their foraging habitat. This has the potential for LSE on the "population trend" and "distribution" attributes within these two sites.

It is recommended that mitigation (section 6.4) is implemented to ensure the proposed surveys do not give rise to significant effects on the SCIs for which Clonakilty Bay SPA and Courtmacsherry Bay SPA are designated or on any European Site designated for these SCIs.

A summary of LSEs without mitigation is given in Table 7.

Table 7. Assessment of LSE without mitigation

| **Lough Hyne Nature Reserve and Environs SAC (000097)** | |
|---|---|
| **Large shallow inlets and bays [1160]** | |
| **Habitat Area:** The permanent habitat area is stable or increasing, subject to natural processes | **No Impact predicted.** The project is not capable of reducing the habitat area. Only temporary installation of ADCPs on the seabed proposed. |
| **Community Extent:** Maintain the extent of the *Zostera*-dominated community, subject to natural processes | **Potential for LSEs.** The *Zostera*-dominated is vulnerable to damage should the area occupied by this Marine Community Type (MCT) be selected for ADCP deployment. |
| **Community structure:** shoot density; Conserve the high quality of the *Zostera*-dominated community, subject to natural processes | **Potential for LSEs.** The *Zostera*-dominated community is vulnerable to damage should the area occupied by this Marine Community Type (MCT) be selected for ADCP deployment. |
| **Community distribution:** Conserve the following community types in a natural condition: Muds to mixed sediment with polychaetes, bivalves and oligochaetes community complex; Intertidal reef community complex; Subtidal reef community complex; *Laminaria*-dominated community complex; Sea cave community complex. | **No Impact predicted.** ADCP deployment on the muds to mixed sediment with polychaetes, bivalves and oligochaetes community complex would cause temporary disturbance only. ADCPS will not be deployed within reef or cave habitats as they do not provide a suitable deployment substrate. |
| **Reefs [1170]** | |
| **Habitat Area:** The permanent habitat area is stable or increasing, subject to natural processes | **No Impact predicted.** The project is not capable of reducing the habitat area. Only temporary installation of ADCPs on the seabed proposed and not within reef habitat as it does not provide a suitable deployment substrate. |
| **Distribution:** The distribution of reefs remains stable, subject to natural processes | **No Impact predicted.** The project is not capable of causing reef distribution change. |
| **Community structure:** Conserve the following community types in a natural condition: Intertidal reef community complex, Subtidal reef community complex; *Laminaria*-dominated community complex. | **No Impact predicted.** No deployment of ADCPS will occur within reef habitats. |
| **Submerged or partially submerged sea caves [8330]** | |
| **Habitat Area:** The permanent habitat area is stable or increasing, subject to natural processes | **No Impact predicted.** Sea caves are not suitable for ADCP deployment for the purpose of this project. |
| **Community Distribution**: The distribution of sea caves is stable, subject to natural processes. | **No Impact predicted.** See above. |
| **Community structure:** Conserve the following community type in a natural condition: Sea cave community complex | **No Impact predicted.** See above. |
| **Community structure:** Human activities should occur at levels that do not adversely affect the ecology of sea caves in this SAC | **No Impact predicted.** See above. |
| **European dry heaths [4030]** | |
| No potential for impact. Terrestrial habitat onside of the ZoI of the proposed project. | |
| **Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae) [91E0]** | |

| | |
|---|---|
| No potential for impact. Terrestrial habitat outside of the ZoI of the proposed project. | |
| **Roaringwater Bay and Islands SAC (000101)** | |
| **Large shallow inlets and bays [1160]** | |
| **Habitat Area:** The permanent habitat area is stable or increasing, subject to natural processes | **No Impact predicted.** The project is not capable of reducing the habitat area. Only temporary installation of ADCPs on the seabed proposed. |
| **Community Extent:** The extent of the *Zostera* dominated and maërl dominated communities should be conserved, subject to natural processes. | **Potential for LSEs.** Thee extent of the *Zostera* and maërl-dominated communities are vulnerable to damage should the area occupied by these Marine Community Types (MCT) be selected for ADCP deployment. |
| **Community structure:** The quality of the *Zostera*-dominated community should be conserved, subject to natural processes | **Potential for LSEs.** The *Zostera*-dominated community is vulnerable to damage should the area occupied by this Marine Community Type (MCT) be selected for ADCP deployment. |
| **Community structure:** The quality of the maërl-dominated community should be conserved, subject to natural processes | **Potential for LSEs.** The maërl -dominated community is vulnerable to damage should the area occupied by this Marine Community Type (MCT) be selected for ADCP deployment. |
| **Community distribution:** Conserve the following community types in a natural condition; Muddy sand with bivalves and polychaetes community complex, Mixed sediment community complex; shallow sand/mud community complex. | **No LSEs.** ADCP deployment on the muds to mixed sediment with polychaetes, bivalves and oligochaetes community complex would cause temporary disturbance only. ADCPS will not be deployed within reef or cave habitats as they do not provide a suitable deployment substrate. |
| **Reefs [1170]** | |
| **Habitat distribution:** The distribution of reefs should remain stable, subject to natural processes | **No LSEs.** The project is not capable of altering reef distribution |
| **Habitat Area:** The permanent habitat area is stable or increasing, subject to natural processes | **No LSEs.** The project is not capable of reducing the habitat area. Only temporary installation of ADCPs on the seabed proposed and not within reef habitat as it does not provide a suitable deployment substrate. |
| **Community Structure:** The following reef community complex should be maintained in a natural condition: Exposed to moderately exposed intertidal reef; Exposed to moderately exposed subtidal reef below 20m Sheltered reef. | **No LSEs.** No deployment of ADCPS will occur within reef habitats. |
| **Community extent:** The extent of the Laminaria dominated communities should be conserved., subject to natural processes. | **No LSEs.** No deployment of ADCPS will occur within reef habitats. |
| **Community structure:** The biology of the Laminaria dominated communities should be conserved, subject to natural processes. | **No LSEs.** No deployment of ADCPS will occur within reef habitats. |
| **Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]** | |
| Habitat outside of ZoI | |

| | |
|---|---|
| **European dry heaths [4030]** | |
| Terrestrial habitat outside of ZoI | |
| **Submerged or partially submerged sea caves [8330]** | |
| **Habitat Area:** The permanent habitat area is stable or increasing, subject to natural processes | **No LSEs.** The project is not capable of altering the habitat area |
| **Community** distribution: The distribution of sea caves is stable, subject to natural processes. | **No LSEs.** The project is not capable of altering the habitat distribution |
| **Community structure:** Conserve the following community type in a natural condition: Sea cave community complex | **No LSEs.** The project is not capable of altering sea cave community complex |
| **Community structure:** Human activities should occur at levels that do not adversely affect the ecology of sea caves in this SAC | **No LSEs.** The project is not capable of altering the ecology of sea caves |
| ***Phocoena phocoena* (Harbour Porpoise) [1351]** | |
| **Access to suitable habitat:** Species range within the site should not be restricted by artificial barriers to site use | **Potential for LSEs.** Potential for temporary artificial barriers within the site, especially when operating within enclosed sections of the site. |
| **Disturbance:**<br>Human activities should occur at levels that do not adversely affect the harbour porpoise community at the site | **No LSEs.** Potential for disturbance related impacts are considered unlikely as Harbour porpoise will be habituated to vessels of this size. |
| ***Lutra lutra* (Oter) [1355]** | |
| **Distribution**: No significant decline | **No LSEs.** Proposed project does not have the potential to impact the range of otter. |
| **Extent of terrestrial habitat:** No significant decline. Area mapped and calculated as 171ha above high water mark (HWM); 3ha along river banks/ around ponds | **No LSEs.** No potential to impact terrestrial habitat |
| **Extent of marine habitat:** No significant decline. Area mapped and calculated as 1562ha | **No LSEs.** No potential to impact extent of marine habitat |
| **Extent of freshwater (river) habitat:** No significant decline. Length mapped & calculated as 0.74km | **No LSEs.** No potential to impact extent of river habitat |
| **Couching sites and holts**: No significant decline | **No LSEs..** No potential to impact couching or holt sites |
| **Fish biomass available:** No significant decline | **No LSEs.** No potential to impact fish biomass |
| **Barriers to connectivity:** No significant increase. | **No LSEs.** No potential to create barriers |
| ***Halichoerus grypus* (Grey Seal) [1364]** | |

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| **Access to suitable habitat:** Species range within the site should not be restricted by artificial barriers to site use. | **No LSEs.** No potential to create barriers. Grey seal auditory range is outside of the range of the proposed acoustic equipment. |
| **Breeding behaviour:** The breeding sites should be maintained in a natural condition. | **Potential for LSEs.** Potential for disturbance to breeding sites by vessel based activity close to breeding sites |
| **Moulting behaviour:** The moult haul-out sites should be maintained in a natural condition | **Potential for LSEs.** Potential for disturbance to moulting sites by vessel based activity close to moulting sites |
| **Resting behaviour:** The resting haul-out sites should be maintained in a natural condition. | **Potential for LSEs.** Potential for disturbance to resting sites by vessel based activity close to resting sites |
| **Population composition**: The Grey seal population occurring within this site should contain adult, juvenile and pop cohorts annually | **Potential for LSEs.** Disturbance related impacts could impact fitness to breed with resulting impacts on age cohorts. |
| **Disturbance:** Human activities should occur at levels that do not adversely affect the grey seal population at the site | **Potential for LSEs.** Disturbance related impacts could adversely impact grey seal at the site. |
| **Clonakilty Bay SPA (004081)** | |
| **Conservation objective:** To maintain the favourable conservation condition of Shelduck (*Tadorna tadorna*) [A048], Dunlin (*Calidris alpina*) [A149], Black-tailed Godwit (*Limosa limosa*) [A156], Curlew (*Numenius arquata*) [A160] and Wetland and Waterbirds [A999] within Clonakilty Bay SAC which is defined by the following list of attributes and targets: | |
| **Attributes** | **Screening assessment (ADCP locations and wider licence area)** |
| Population trend: Long term population trend stable or increasing | **No Impact predicted.** The proposed project does not have the potential to impact on population trends |
| Distribution: No significant decrease in the range, timing or intensity of use of areas by any of the SCI species (listed above), other than that occurring from natural patterns of variation | **Potential for LSEs.** Disturbance related impacts could adversely impact the SCIs for which this site is selected. |
| Wetland habitat area: The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 508ha, other than that occurring from natural patterns of variation | **No Impact predicted.** All deployments are in the subtidal outside of the wetland habitat. |
| **Courtmacsherry Bay SPA (004219)** | |
| **Conservation objective:** To maintain the favourable conservation condition of Great Northern Diver (*Gavia immer*) [A003], Shelduck (*Tadorna tadorna*) [A048], Wigeon (*Anas penelope*) [A050], Red-breasted Merganser (*Mergus serrator*) [A069], Golden Plover (*Pluvialis apricaria*) [A140], Lapwing (*Vanellus vanellus*) [A142], Dunlin (*Calidris alpina*) [A149], Black-tailed Godwit (*Limosa limosa*) [A156], Bar-tailed Godwit (*Limosa lapponica*) [A157], Curlew (*Numenius arquata*) [A160], Black-headed Gull (*Chroicocephalus ridibundus*) [A179], Common Gull (*Larus canus*) [A182] and Wetland and Waterbirds [A999] in Courmacsherry Bay SPA which is defined by the following list of attributes and targets: | |
| **Attributes** | **Screening assessment (ADCP locations and wider licence area)** |

| | |
|---|---|
| Population trend: Long term population trend stable or increasing | **No Impact predicted.** The proposed project does not have the potential to impact on population trends |
| Distribution: No significant decrease in the range, timing or intensity of use of areas by any of the SCI species (listed above), other than that occurring from natural patterns of variation | **Potential for LSEs.** Disturbance related impacts could adversely impact the SCIs for which this site is selected. |
| The permanent area occupied by the wetland habitat should be stable and not significantly less than the area of 1,299ha, other than that occurring from natural patterns of variation | **No Impact predicted.** All deployments are in the subtidal outside of the wetland habitat. |

## 5.5 Potential for in-combination effects

A total of 4 projects, listed below, which may contribute to underwater noise in the receiving environment were identified. These projects may act in combination with the underwater noise resulting from the proposed project if they occur simultaneously.

- FS007616: Ruby Offshore Energy Ltd.
- FS007471: Floating Cork Offshore Wind Ltd.
- FS007431: Tulca Offshore Array Ltd.
- FS007575: Kinsale Offshore Wind Ltd.

Mitigation to address the potential for in-combination impacts is proposed in section 6.5.

# 6. Mitigation measures

## 6.1 Benthic habitats

Fixed ADCP deployment should not be permitted to take place over *Zostera*-dominated communities or maërl-dominated communities within Roaringwater Bay SAC and *Zostera*-dominated communities Lough Hyne and environs SAC. Reference should be made to the most recently available NPWS marine community mapping for these community types in advance of any surveys and all fixed ADCP deployment should be at least 100m away from the spatial boundary given for these community types.

## 6.2 Harbour porpoise

NPWS (2014) provides guidance to manage the risk to marine mammals from man-made sound sources in Irish waters. This document provides guidance and mitigation measures to address key potential sources of anthropogenic sound that may impact negatively on marine mammals in Irish waters. The guidance set out in NPWS (2014), relates to geophysical acoustic surveys (seismic, multibeam and single beam surveys) and should be fully implemented as detailed below.

1. A qualified and experienced marine mammal observer (MMO) shall be appointed to monitor for marine mammals and to log all relevant events using standardised data forms.
2. Acoustic surveying using the geophysical survey equipment specified for this project shall not commence if marine mammals are detected within a 500m radial distance of the sound source intended for use, i.e., within the Monitored Zone. A 500m zone is considered appropriate as empirical evidence[1] by the authors of this report has demonstrated that seals do not abandon their haul out sites unless approached within less than 200m of the site.

Pre-Start Monitoring

Sound-producing activities shall only commence in daylight hours where effective visual monitoring, as performed and determined by the MMO, has been achieved. Where effective visual monitoring, as determined by the MMO, is not possible the sound-producing activities shall be postponed until effective visual monitoring is possible.

An agreed and clear on-site communication signal must be used between the MMO and the Works Superintendent as to whether the relevant activity may or may not proceed, or resume following a break (see below). It shall only proceed on positive confirmation with the MMO.

The MMO shall conduct pre-start-up constant effort monitoring at least 30 minutes before the sound-producing activity is due to commence. Sound-producing activity shall not commence until at least 30 minutes have elapsed with no marine mammals detected within the Monitored Zone by the MMO.

This prescribed Pre-Start Monitoring shall subsequently be followed by a Ramp-Up Procedure which should include continued monitoring by the MMO.

Ramp-Ip Procedure

In commencing an acoustic survey operation using the above equipment, the following Rampup Procedure (i.e., “soft-start”) must be used, including during any testing of acoustic sources, where the output peak sound pressure level from any source exceeds 170 dB re: 1µPa @1m:

[1] Surveys, conducted on behalf of Bord Iascaigh Mhara, of seal disturbance at haul out sites as a result of fishing activity (potting) at haul out sites in Roaringwater Bay in 2015.

(a) Where it is possible according to the operational parameters of the equipment concerned, the device's acoustic energy output shall commence from a lower energy start-up (i.e., a peak sound pressure level not exceeding 170 dB re: 1µPa @1m) and thereafter be allowed to gradually build up to the necessary maximum output over a period of 20 minutes.
(b) This controlled build-up of acoustic energy output shall occur in consistent stages to provide a steady and gradual increase over the ramp-up period.
(c) Where the acoustic output measures outlined in steps (a) and (b) are not possible according to the operational parameters of any such equipment, the device shall be switched "on" and "off" in a consistent sequential manner over a period of 20 minutes prior to commencement of the full necessary output.

In all cases where a Ramp-Up Procedure is employed the delay between the end of ramp-up and the necessary full output must be minimised to prevent unnecessary high-level sound introduction into the environment.
Once the Ramp-Up Procedure commences, there is no requirement to halt or discontinue the procedure at night-time, nor if weather or visibility conditions deteriorate nor if marine mammals occur within a 500m radial distance of the sound source, i.e., within the Monitored Zone.

Breaks in sound output
If there is a break in sound output for a period greater than 30 minutes (e.g., due to equipment failure, shut-down, survey line or station change) then all Pre-Start Monitoring and a subsequent Ramp-up Procedure (where appropriate following Pre-Start Monitoring) must be undertaken.

For higher output survey operations which have the potential to produce injurious levels of underwater sound (see sections 2.4, 3.2) as informed by the associated risk assessment, there is likely to be a regulatory requirement to adopt a shorter 5-10 minute break limit after which period all Pre-Start Monitoring and a subsequent Ramp-up Procedure (where appropriate following Pre-Start Monitoring) shall recommence as for start-up.

Reporting
Full reporting on MMO operations and mitigation undertaken must be provided to the Regulatory Authority as outlined in Appendix 6 of NPWS (2014).

## 6.3 Grey seal

In line with the guidance to manage the risk to marine mammals (NPWS, 2014), the mitigation proposed in section 6.1 for Cetacean species are also proposed for Grey seal.

In addition, it is proposed that the survey vessel should not approach haul out sites for Grey seal closer than 100m as observed by the MMO. It should be noted that the survey vessel will be moving through the intertidal area during high water. At this stage, seals will normally have abandoned their intertidal haul out sites during this timeframe due to the tidal state.

## 6.4 Wintering waterbirds

Clonakilty Bay SPA and Courtmacsherry Bay SPA are designated for a range of wintering water birds. Vessel operations close to intertidal foraging habitats for wintering waterbirds within these sites should not take place within 50 meters of the Low water mark of these habitats during the months of September through March.

## 6.5 In-combination effects

Four projects, listed in section 5.5 above, may result in the same or very similar underwater noise/disturbance effects. It is therefore recommended that the proposed project should not take place during the same time period as any noise inducing elements of any of these four projects.

# 7. Transboundary effects

Transboundary effects relate to the likelihood of significant effects on a site which is part of the Natura 2000 network but lies outside our national boundaries. Since 1 January 2021 nature conservation areas in the UK (including Northern Ireland) are no longer part of the Natura 2000 network (OPR, 2021).

The ZoI of the proposed project has been estimated and all European sites with the potential for project related impacts have been assessed, including *ex-situ* effects. The SISAA did not identify any potential for impact on *ex-situ* sites, due to the scale and scope of the project and the likely magnitude of any effects. Further, it is considered that the mitigation proposed in this document would similarly avoid any negative effects on the conservation of these *ex-situ* sites should they have been identified.

Therefore no transboundary effects are considered possible.

# 8. Residual impacts

No residual impacts of the proposed project have been identified or are considered possible.

# 9. Natura Impact Statement Conclusion

This assessment is based on complete, precise and definitive findings in the light of the best scientific knowledge. It objectively concludes that provided the mitigation measures recommend in this document are fully implemented, **no adverse effect on the integrity** of any European site will occur.

# 10. References

MERC (2024) Supporting Information for Screening for Appropriate Assessment (SISAA). Uisce Éireann South Cork Strategic Model.

NPWS (2014). Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters.