



MERC Consultants
environmental and conservation services

Natura Impact Statement

Uisce Éireann Sligo and Donegal Strategic Model

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1. Introduction

Uisce Éireann wish to conduct a strategic modelling study of water currents within Donegal Bay, Sligo Bay, Killala Bay and their adjoining waters (figure 1). A foreshore license application for this modelling was submitted in 2022 (Foreshore reference number: FS007553). The original licence application was for the deployment of static Acoustic Doppler Current Profilers (ADCPs) and associated ancillary instrumentation. Uisce Éireann now wish to expand the survey to include the gathering of bathymetric and tidal data.

The proposed programme of surveys includes vessel based assessment of bathymetry using a combination of single-beam, multibeam and LiDAR surveys, surface water sampling and 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 European Site. 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.

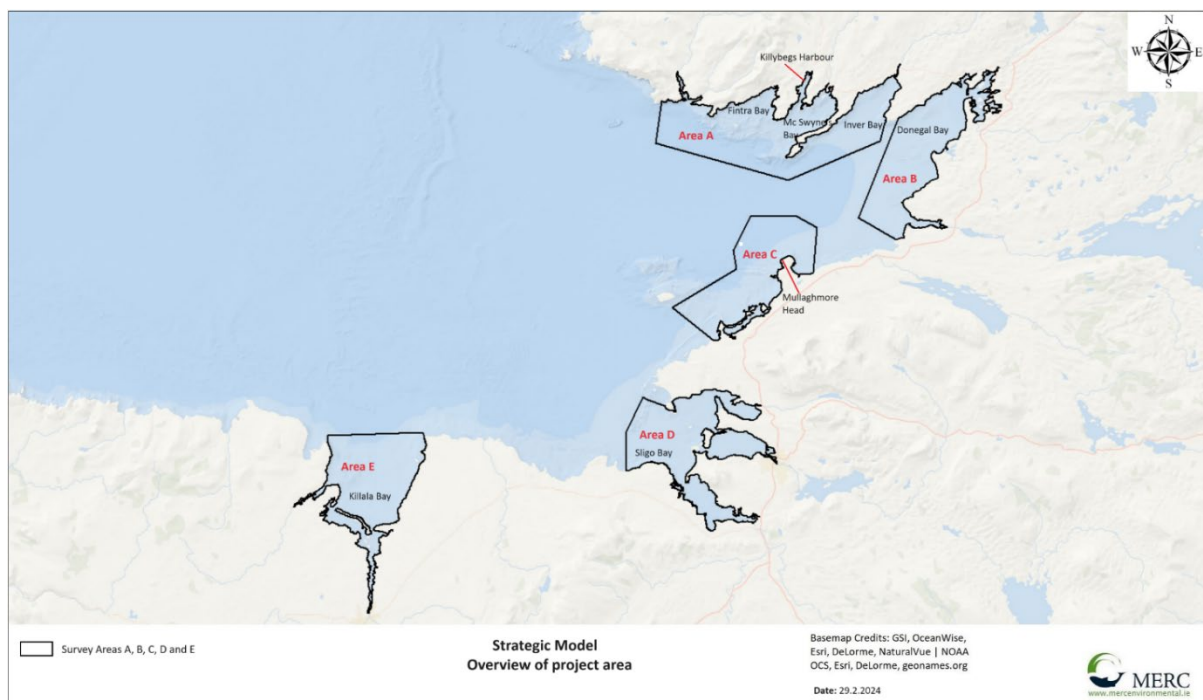


Figure 1. Overview of proposed project site.

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.

4. Screening assessment

The SISAA report (MERC, 2024) concluded that in the absence of mitigation, the proposed project alone and in-combination with other projects had the potential to impact the conservation objectives of:

- Donegal Bay (Murvagh) SAC
- Killala Bay/Moy Estuary SAC

- Ballysadare Bay SAC
- Cummeen strand/Drumcliff Bay (Sligo Bay) SAC
- Bunduff lough and Machair/Trawalua/Mullaghmore SAC

A list of European sites and the relevant Qualifying Interests (QIs) screened in are given in Table 1

Table 1. European sites and relevant QIs screened in.

European site	Distance km (Approx)	Relevant QI screened in	Reason
Donegal Bay (Murvagh) SAC (000133)	Within Area B	<i>Phoca vitulina</i> (Harbour Seal) [1365]	Within Zol. Potential disturbance from vessel working in close proximity to haul out sites may cause disturbance to Harbour seal during pupping, moulting and resting. Resulting in impacts to the Harbour seal population within the site.
St Johns Point SAC (000191)	Within Area A	<i>Tursiops truncatus</i> (Bottlenose dolphin) [1349]	Within Zol. Potential for the creation of temporary artificial barriers to suitable habitat. Potential for underwater noise from acoustic survey equipment resulting in temporary behavioural changes should the species be within the area during surveys
Bunduff Lough and Machair/Trawalua/Mullaghmore SAC (000625)	Within Area C	<i>Phocoena Phocoena</i> (Harbour Porpoise) [1351]	Within Zol. Potential for the creation of temporary artificial barriers to suitable habitat. Potential for underwater noise from acoustic survey equipment resulting in temporary behavioural changes should the species be within the area during surveys.
Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC (000627)	Within Area D	<i>Phoca vitulina</i> (Harbour Seal) [1365]	Within Zol. Potential disturbance from vessel working in close proximity to haul out sites may cause disturbance to Harbour seal during pupping, moulting and resting. Resulting in impacts to the Harbour seal population within the site.
Ballysadare Bay SAC (000622)	Within Area D	<i>Phoca vitulina</i> (Harbour Seal) [1365]	Within Zol. Potential disturbance from vessel working in close proximity to haul out sites may cause disturbance to Harbour seal during pupping, moulting and resting. Resulting in impacts to the Harbour seal population within the site.
Killala Bay/Moy Estuary SAC (000458)	Within Area E	<i>Phoca vitulina</i> (Harbour Seal) [1365]	Within Zol. Potential disturbance from vessel working in close proximity to haul out sites may cause disturbance to Harbour seal during pupping, moulting and resting. Resulting in impacts to the Harbour seal population within the site.

5. Impact assessment

The screening determination identified the following as having the potential for likely significant effects.

- Potential disturbance from vessel working in close proximity to haul out sites of Harbour seal, resulting in disturbance to this species at the haul out sites which could impact the Harbour seal population within the site during pupping, moulting and resting.
- Potential for the creation of temporary artificial barriers to suitable habitat for Bottlenose dolphin and Harbour porpoise as a result of underwater noise. Potential for underwater noise from acoustic survey equipment resulting in temporary behavioural changes should either of these species be within the area during surveys

The site specific Qualifying Interests (QIs) for the SACs screened in, as giving in table 1, are further discussed below and recommended mitigation measures are proposed.

5.1 Harbour Seal

Harbour seal is a QI for Donegal Bay (Murvagh) SAC, Killala Bay/Moy Estuary SAC, Ballysadare Bay SAC and Cummeen strand/Drumcliff Bay (Sligo Bay) SAC.

Disturbance from vessel working in close proximity to haul out sites of Harbour seal, resulting in disturbance to this species at their recorded haul out sites could impact the Harbour seal population within the site during pupping, moulting and resting. Harbour seals are present within the aforementioned sites, throughout their life cycle. There is a potential for disturbance to the Harbour seal QI for these sites should the vessel be operating within close proximity (<100m) of the haul out sites for these species.

There are no haul out sites recorded for grey seal within the ZoI of the proposed project.

Therefore, mitigation to ensure the proposed surveys do not give rise to significant effects on any European Site designated for Harbour seal the mitigation proposed in section 6 is proposed.

5.2 Bottlenose Dolphin and Harbour porpoise

Bottlenose dolphin is a QI for St Johns Point SAC and Harbour porpoise is a QI Bunduff Lough and Machair/Trawalua/Mullaghmore SAC. Both species will be habituated to vessels of the size proposed for the project and no impact is likely.

The proposed MBES and SBS may be operating in the range of 300 to 500 KHz. This frequency is within the range of Bottlenose dolphin and 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 either 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 Bottlenose dolphin and Harbour porpoise are considered possible.

Mitigation to ensure the proposed surveys do not give rise to significant effects on any European Site designated for bottlenose dolphin or Harbour porpoise is proposed in section 6.

5.3 Potential for in-combination effects

A total of 18 projects and 3 plans were identified within the ZOI of the proposed project and screened for in-combination effects. Of these, two projects were identified as having the potential to contribute to in-combination effects as given in table 2. Both of these projects have the potential to contribute to underwater noise in the receiving environment with the potential to act in combination with the underwater noise resulting from the proposed project.

Mitigation to address the potential for in-combination impacts is proposed in section 6.

Table 2. In-combination effects: Potential projects and plans.

Application licence no.	Applicant	Description/scope	Location	Potential for impact
FS007245	Arranmore Wind Ltd.	Marine surveys at the proposed site in order to inform the specific location, design and layout of the proposed Arranmore Wind Park. The surveys will include geophysical, geotechnical, environmental and metocean campaigns	Off the coasts of Donegal, Leitrim and Sligo	Potential for underwater noise related impacts which may have the potential to act in-combination with the proposed project without mitigation
FS007189	Aniar Offshore Array Ltd.	Site investigations for offshore floating and static wind farm to include surveys to assess geophysical, technical, environmental, social, and economic factors.	Off the coast of counties Sligo, Leitrim and Donegal.	Potential for underwater noise related impacts which may have the potential to act in-combination with the proposed project without mitigation

6. Mitigation measures

6.1 Bottlenose dolphin and 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 evidence¹ 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-Up 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:

- (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

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.

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).

6.2 Harbour 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 harbour seal.

In addition the survey vessel will not approach haul out sites for Harbour 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 have abandoned their intertidal haul out sites due to the tidal state.

6.3 In-combination effects

Sections 6.1 and 6.2 set out the proposed mitigation to avoid the potential for likely significant effects as a result of:

- Disturbance from vessel presence
- Disturbance & creation of artificial barriers by underwater noise

As the identified projects (listed in table 2) are likely to result in the same or very similar underwater noise/disturbance effects, the implementation of the proposed mitigation will act to eliminate any potential for in-combination effects on the qualifying interests of European sites within the ZoI of the proposed project.

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. This process and the subsequent assessment did not identify any potential for transboundary effects.

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 described in this document are fully implemented, **no adverse effect on the integrity** of any European site will occur.

10. References

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