



OREDP II Appropriate Assessment – Principles Report



An Roinn Comhshaoil,
Aeráide agus Cumarsáide
Department of the Environment,
Climate and Communications



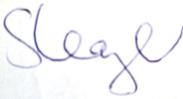
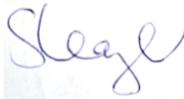
Date: 30th May 2022

Prepared by:

NIRAS Group (UK) Ltd for ClearLead Consulting Limited
The Barn, Cadhay, Ottery St Mary, Devon, EX11 1QT, UK

<p>Client: Emer Dennehy Project Manager SEAI Emer.Dennehy@seai.ie</p>	<p>Consultant: ClearLead Consulting Limited izzy@clearleadconsulting.com Phone: +44 (0)1404 814273</p>
--	---

Quality Management

Issue/revision	Issue 1	Revision 1	Revision 2
Report Status	DRAFT	Final for consultation	Final with amends for consultation
Date	March 2022	27/05/2022	30/05/2022
Prepared by	SAKZ	SAKZ	I Teague
Signature			
Checked by	IGP	IGP	V Pearson
Signature			
Authorised by	J Mitchell	I Teague	V Pearson
Signature			
Project number	C0342		

LIMITATIONS

This report has been prepared by ClearLead Consulting Limited solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from ClearLead Consulting Limited; a charge may be levied against such approval.

ClearLead Consulting Limited accepts no responsibility or liability for:

- a) the consequences of this document being used for any purpose or project other than for which it was commissioned, and
- b) the use of this document by any third party with whom an agreement has not been executed.

The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources (including the Client) and discussions with relevant authorities and other interested parties. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, ClearLead Consulting Limited reserves the right to review such information and, if warranted, to modify the opinions accordingly.

It should be noted that any recommendations identified in this report are based on information provided by the Client and as gathered during the site survey. In some cases access cannot be granted to all areas of the site, in these instances and in the absence of information to the contrary, ClearLead Consulting Limited will use the information provided to complete the report.



ISO 9001
ISO 14001
ISO 45001

Certificate Number. 16135

Table of Contents

Executive Summary.....	1
1 Introduction	1
1.1 Background	1
1.2 Role of Contributors.....	1
1.3 Purpose of this Report	1
2 Legislative Background	2
2.1 Birds and Natural Habitats Regulations	2
3 Plan Level Appropriate Assessment.....	2
3.1 Guidance	2
3.2 Process	2
3.3 Screening.....	3
4 Principles.....	3
4.1 Uncertainty	4
4.2 Precautionary Principle.....	5
5 Consultation.....	5
6 Screening Methods	6
6.1 Introduction	6
6.2 Scope.....	6
6.3 Identification of Protected Sites and Receptor Groups	9
6.4 Scoping Criteria	10
6.5 Alone or In-combination	10
6.6 Effects and Pressures	11
7 Receptor Specific Scoping Criteria	19
7.1 Approach to Scoping.....	19
7.2 Habitats.....	19
7.3 Marine Mammals.....	20
7.4 Terrestrial Mammals.....	21
7.5 Migratory Fish and the FWPM/NPM	22
7.6 Seabirds and Migratory Birds.....	23
7.6.1 Breeding seabirds in the breeding season	25
7.6.2 Breeding seabirds in the non-breeding season	27



7.6.3	Non-breeding seabirds and waterbirds in the non-breeding season	27
7.6.4	Migratory birds	28
8	Approach to Screening.....	29
8.1	Approach to Screening In-combination	29
9	Adverse Effect on Site Integrity	30
10	Mitigation.....	30
11	Derogation	31
12	References	31



Executive Summary

The purpose of this report is to outline the key principles to be applied to Appropriate Assessment (AA) Stage 1 Screening with respect to the Strategic Environmental Assessment being undertaken on the Offshore Renewable Energy Development Plan II (ORED II).

The requirement for AA is driven by the European Communities (Birds and Natural Habitats) Regulations 2011 –21, (S.I. 477 of 2011, as amended) (Birds and Natural Habitats Regulations), with the first step to that process (scoping) being the identification of the designated sites and Qualifying Interests (QIs) to be considered for potential Likely Significant Effect (LSE).

The approach outlined within the current report is proposed so that screening and scoping can be undertaken in a clear and logical manner.

1 Introduction

1.1 Background

The Department of the Environment, Climate and Communications (DECC) has commenced preparation of the Offshore Renewable Energy Development Plan II (OREDP II) for Ireland. The development of the OREDP II supports a plan-led approach to the strategic development of Offshore Renewable Energy (ORE) within Ireland and builds on the original OREDP published in 2014. OREDP II will support Ireland's increased ORE ambition, including a commitment to develop a plan to take advantage of a potential for at least 30GW of offshore floating wind power in the deeper waters in the Atlantic, and an increase in the proportion of renewable energy up to 80% by 2030 (as set out within the Climate Action Plan 2021).

The purpose of the OREDP II is to develop an understanding of the overall resource potential within Ireland's waters and to provide an evidence base for the identification of areas most suitable for the sustainable development of wind, wave, and tidal technologies (candidate areas for offshore renewable energy development) in Ireland's Exclusive Economic Zone (EEZ).

The OREDP II will be subject to a Strategic Environmental Assessment (SEA) and an Appropriate Assessment. This report details the principles to underpin the Appropriate Assessment (AA) Stage 1: Screening required under the European Communities (Birds and Natural Habitats) Regulations 2011 –21, (S.I. 477 of 2011, as amended) ("Birds and Natural Habitats Regulations"). Where potential for likely significant effect (LSE) is identified or cannot be excluded, a subsequent Stage 2 Appropriate Assessment (AA) will be undertaken and a Natura Impact Assessment (NIS) prepared.

1.2 Role of Contributors

The OREDP II is currently in preparation by the Government of Ireland, with the Department of the Environment, Climate and Communications (DECC) Chairing a Steering Group. The SEA of that Plan is being undertaken by ClearLead Consulting. NIRAS Group (UK) (NIRAS) are completing the AA Stage 1 (Screening) and, assuming it is required, AA Stage 2 to provide the NIS.

1.3 Purpose of this Report

This report sets out the proposed methods for AA Stage 1 (Screening), including the key principles and assumptions.

2 Legislative Background

2.1 Birds and Natural Habitats Regulations

The need to undertake an AA of a plan or project is derived from the requirements of the Habitats Directive 92/43/EEC and the Birds Directive 2009/147/EC (the ‘Habitats and Birds Directives’), as transposed into Irish law through the Birds and Natural Habitats Regulations.

The ‘Habitats and Birds Directives’ seek to maintain and, where necessary, restore the favourable conservation status of designated natural habitats and species throughout member states. The most important ecological sites are designated as European sites, termed Special Areas of Conservation (SAC), candidate Special Areas of Conservation (cSAC) (Habitats Directive) and Special Protection Areas (SPA), and proposed Special Protection Areas (pSPA) (Birds Directive), which collectively are known as European Sites. Together, these sites form part of the Natura 2000 network of comparable sites throughout Member States.

3 Plan Level Appropriate Assessment

3.1 Guidance

AA guidance in Ireland is provided primarily through the 2010 Plan and Project Guidance¹ and the 2017 guidance for project level offshore renewable energy developments².

3.2 Process

The 2010 Guidance defines AA as a four stage process, as summarised in Figure 1 below.

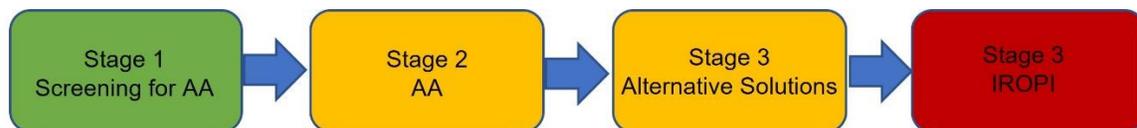


Figure 1: Appropriate Assessment Stages (from the 2010 Guidance³)

¹ https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf

² <https://assets.gov.ie/76533/6a82b451-e09f-483b-849e-07d4c7baa728.pdf>

³ https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf

3.3 Screening

The 2010 guidance refers to Stage 1 Screening in relation to the first two tests of Article 6(3):

- Whether a plan or project is directly connected to or necessary for the management of the site, and
- Whether a plan or project, alone or in combination with other plans and projects, is likely to have significant effects on a Natura 2000 site in view of its conservation objectives

Under the first point, as the Plan is not directly connected with or necessary to the nature conservation management of a Natura 2000 site, and given the scale and extent of the Plan, there is a requirement to undertake the second stage and it is the principles that define how that will be addressed that are defined in this report. The 2010 guidance states that 'If the effects are deemed to be significant, potentially significant, or uncertain, or if the screening process becomes overly complicated, then the process must proceed to Stage 2 (AA). Screening should be undertaken without the inclusion of mitigation.'

4 Principles

The Screening Report will build upon the previous Screening and NIS undertaken for OREDP I⁴, taking account of the modifications to the Plan, changes to the Natura 2000 network, more recent case law, similar documents prepared by other member states (including current best practice) and updated information on Qualifying Interests (QIs) and their interactions with ORE plans and projects. Key such sources include:

- Offshore Renewable Energy Development Plan (ORED) for Ireland: Natura Impact Statement (NIS)
- Guidance Documents for Offshore Renewable Energy Developers including NIS⁵
- 2010 NPWS NIS Guidance⁶
- Project level NIS for ORE in Ireland (when publicly available)
- Plan level assessments from the UK⁷
- EU guidance⁸

⁴ [http://files.dcenr.gov.ie/Decarbonisation/ORED%20Natura%20Impact%20Statement%20\(NIS\).pdf](http://files.dcenr.gov.ie/Decarbonisation/ORED%20Natura%20Impact%20Statement%20(NIS).pdf)

⁵ <https://www.gov.ie/en/publication/3d6efb-guidance-documents-for-offshore-renewable-energy-developers/>

⁶ https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf

⁷ E.g. <https://www.gov.scot/publications/draft-sectoral-marine-plan-offshore-wind-energy-habitat-regulations-appraisal/> and <https://www.thecrownstate.co.uk/round-4/round-4-plan-level-habitats-regulations-assessment/>

⁸ https://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm

4.1 Uncertainty

At the plan stage it is common for there to be uncertainty about the likely effects arising from potential future projects located within the plan area(s). For example, although specific or broad geographic areas where development may occur may be known, there will be limited information available about specifics such as project design, configuration and methodology, as these will be specific to a site and developer but are also influenced by changes in technology. Therefore flexibility is required at plan level. Additionally, at the plan stage, baseline data are typically broad scale (to encompass the plan) and not sufficiently detailed for project level, influencing the assessment of potential impacts on habitats and species. Further, knowledge of wildlife interactions with ORE, such as avian collision risk and the consequences of underwater noise for marine mammals, is still developing. In-combination effects also represent a key uncertainty, specifically the likely location, nature, scale and timing of all future activities.

An assessment undertaken at the plan-level is, therefore, necessarily based on certain assumptions about projects that may constitute the plan (within a design envelope), and their potential impacts. The approach adopted in AA Stage 1 Screening and (if required) AA Stage 2 will be to minimise the assumptions made and, where possible, rely on existing data, evidence and decisions, whilst also taking into account the need for precaution.

Given the inevitable uncertainty, it is important to consider how a meaningful assessment can or cannot be undertaken at plan-level. It is considered that a reasonable and meaningful assessment of potential LSE on European sites can be performed if:

- **Effect** – a potential pathway between source and receptor can be identified and it is possible to determine which sites / QIs are likely to be affected and how; **and**,
- **Magnitude** - the magnitude of effect (i.e. scale, extent, duration) can be estimated using existing information on those QIs and the nature of ORE within the plan; and,
- **Quantify with reasonable certainty** - the absence or not of an adverse effect on site integrity can be determined with reasonable certainty.

Where particular effects are sensitive to project specifics that cannot be known at this stage and reasonably assumed (using known quantitative and qualitative information), a reasonable and meaningful assessment may not be possible. In those circumstances, project level requirement for assessment will be explored, specifically whether AA will be required in all cases as a matter of law **and** whether sufficient flexibility in plan or project development (such as nature/ scale/ location) and/or mitigation (such as minimum hub height for wind turbines) exists at project level to avoid AEol.

This approach provides confidence that the integrity of Natura 2000 will be safeguarded. It is in line with established practice at plan level, specifically:

- **European Court of Justice case C-6/04 European Commission v United Kingdom**, in which 'adverse effects on areas of conservation must be assessed at every relevant stage of the procedure to the extent possible on the basis of the precision of the plan. This assessment is to be updated with increasing specificity in subsequent stages of the procedure' (Advocate General Kokott, para 49);

It is not the intention to defer assessment to project level except where it is not possible to undertake a reasonable and meaningful assessment at plan level.

For all other European sites and QIs that have been screened in, an assessment will be made of whether the Plan could lead to AEoI for a European site. This assessment will focus only on those pathways-effects identified during AA Stage 1 Screening as relevant to each European site/QI as other pathways-effects will not, by definition, have the potential to lead to AEoI.

4.2 Precautionary Principle

A precautionary approach will be adopted to the AA through Stage 1 Screening and, if required, Stage 2 AA. At the screening stage, such precaution will ensure that all effect pathways are explored and no relevant European site or QI excluded, with no risk of underestimating the effect magnitude. Effectively, all European sites and QIs will be scoped in unless a clear conclusion of no LSE can be made.

The 2010 Guidance⁹ is clear that for the consideration of LSE 'the requirement is not to prove what the impacts and effects will be, but rather to establish beyond reasonable scientific doubt that adverse effects on site integrity will not result'.

5 Consultation

The Stage 1 Screening report, accompanied by this Principles Report, will form part of the consultation process prior to undertaking the AA Stage 2 (if required). Comments received will be taken in to account, Stage 1 Screening updated as relevant, and sites and QIs scoped in will progress to Stage 2 AA. Further consultation on Stage 2 AA will be conducted prior to finalisation.

⁹ https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf

6 Screening Methods

6.1 Introduction

The aim of Screening is to determine where potential for LSE applies (or where it cannot be ruled out) and to scope in the sites and QIs which need to be taken forward to Stage 2 AA. The general approach to screening for the Plan is summarised below; however, should the Plan extents be modified, or additional sites or QIs be identified, the intention would be to update scoping to inform Stage 2 AA.

6.2 Scoping

The scope of the Plan extends across the defined Plan area(s), as identified in Figure 2 and is limited to marine works below Mean High Water (MHW) only. The relevant advice on Appropriate Assessment of Plans and Projects in Ireland¹⁰ references that the approach to screening is likely to differ between plans and projects, depending on scale and likely effects, but it should include the following:

- Any Natura 2000 sites within or adjacent to the plan or project area
- Any Natura 2000 sites within the likely zone of impact (Zol) of the plan or project. A distance of 15 km is currently recommended in the case of plans, and derives from UK guidance (Scott Wilson *et al.*, 2006). For projects, the distance could be much less than 15 km, and in some cases less than 100m, but this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects
- Natura 2000 sites that are more than 15 km from the plan or project area depending on the likely impacts of the plan or project, and the sensitivities of the ecological receptors, bearing in mind the precautionary principle. In the case of sites with water dependent habitats or species, and a plan or project that could affect water quality or quantity, for example, it may be necessary to consider the full extent of the upstream and/or downstream catchment.

It is noted that an update to the 15 km range may be forthcoming, however the above represents current advice on Plan level AA in Ireland. For project level, the appropriate Zol will need to be identified and the 15 km range may not be appropriate at project level. For the current report, the approach to scoping applies the site boundary, takes account of a 15 km buffer to address Plan

¹⁰ https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf

level ZOI and, on a case by case basis, also applies a greater range (which is specified in each case).

Given that some QIs may be intertidal or move between onshore and offshore, scoping is limited to marine and coastal sites (MHW seawards) with the exception of:

- Sites for migratory bat species, to be scoped within 15 km of the Plan¹¹;
- Sites for otters, to be scoped within 15 km of the Plan (in line with bats above);
- Annex II habitats that may fall above MHW but may have marine connectivity have been included, and for clarity all Annex II habitats included for scoping are listed under section 6.3.
- For migratory fish and pearl mussel, scoping takes account of the movement between marine and freshwater so sites considered for scoping include those with an estuarine presence but also sites that are wholly freshwater and are upstream of the estuary (but which have a QI(s) with a marine aspect to its lifecycle or are dependant on such species for their life cycle).
- Terrestrial ornithology – the majority of the pressures associated with ORE and relevant to terrestrial ornithology require either a direct overlap or a 15 km buffer for a pathway to be evident¹². All are associated with the export cable corridor except for collision risk, which is relevant to an array only. However, there are no QIs for which risk would be such that a sea area would need to be excluded from the plan and therefore scoping for terrestrial ornithology is limited to offshore collision risk only.

Screening is carried out on the potential extent of the Plan and is therefore currently limited to the areas of potential resource (Figure 2) and not specifics such as project capacity, turbine numbers etc. It is expected that these Plan areas will be refined subsequently, with screening to be revisited for the NIS, effectively updating the current screening conclusions with the updated Plan area(s) by applying the same screening and scoping parameters defined here to those revised area(s). Any changes that result will be clearly documented in the NIS.

¹¹ Noting that there is only one species of bat, *Rhinolophus hipposideros*, for which SACs are designated in Ireland. The species is not considered to be migratory.

¹² <https://www.thecrownestate.co.uk/round-4/round-4-plan-level-habitats-regulations-assessment/#:~:text=The%20Crown%20Estate%20is%20currently,mst%20valuable%20species%20and%20habitats.>

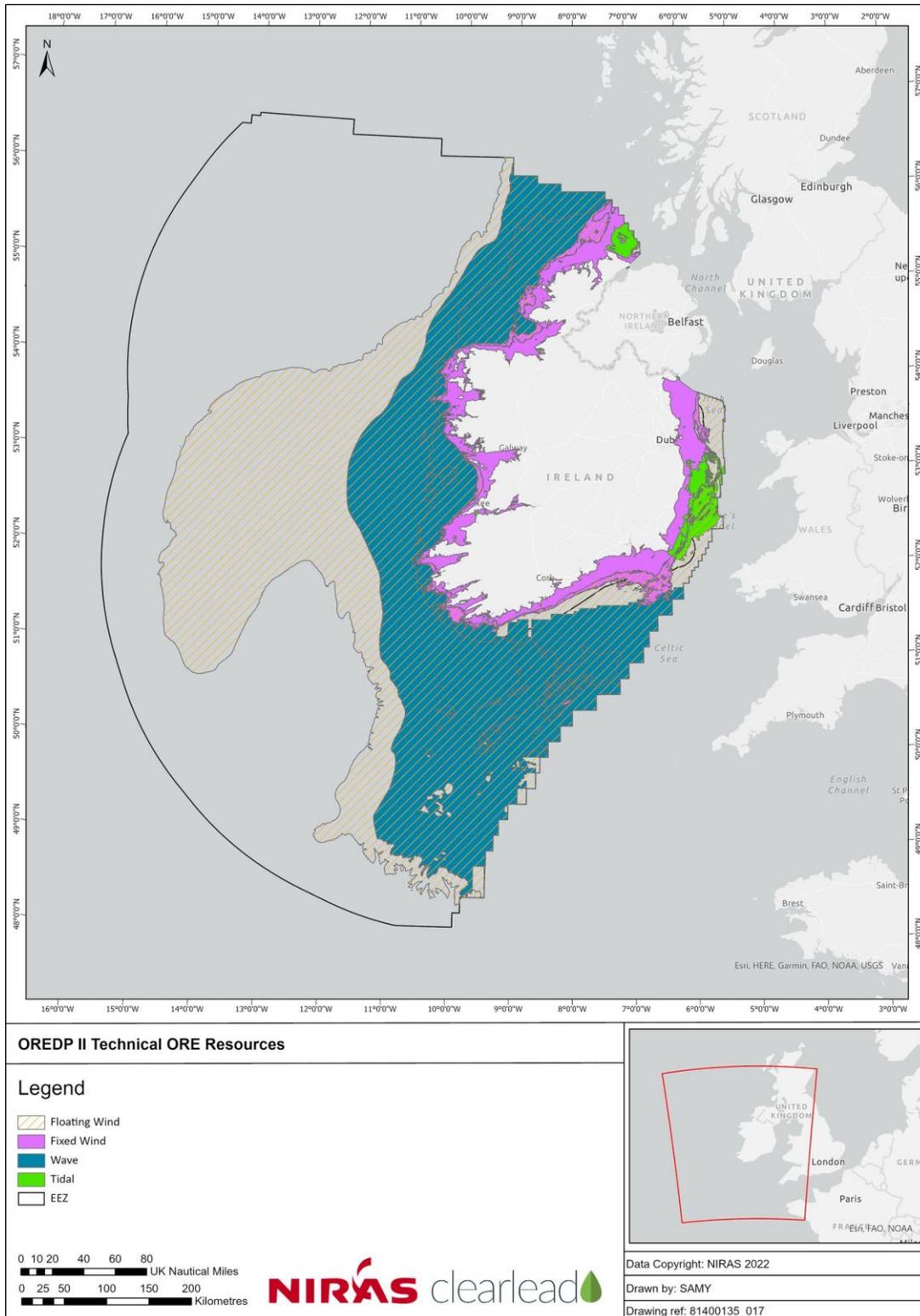


Figure 2: Extent of the Technical Resource for ORE

6.3 Identification of Protected Sites and Receptor Groups

The Screening process will draw on the lists of designated sites held on the National Parks and Wildlife Service (NPWS) website¹³. Confirmation has been sought and gained from NPWS that the lists are the most up to date and appropriate to use for Screening, and includes updates from that applied to screening for the OREDP I. For transboundary sites, scoping will draw on data held for adjacent countries.

As noted above, scoping will be limited to intertidal and subtidal sites and QIs with a few named exceptions. The QIs will be managed through the following receptor groups:

- Habitats (benthic habitats - intertidal and subtidal, see below)
- Marine mammals (harbour seal, grey seal, harbour porpoise and bottlenose dolphin)
- Terrestrial mammals (bats (therefore limited to lesser horseshoe bat) and otters)
- Migratory fish (sea lamprey, river lamprey, twaite shad and Atlantic salmon, the freshwater pearl mussel (FWPM) & Nore Pearl Mussel (NPM))
- Seabirds and migratory birds

Specific to the habitat group, the following Annex I habitats are included:

- Sandbanks which are slightly covered by sea water all the time
- Estuaries
- Mudflats and sandflats not covered by seawater at low tide
- Coastal lagoons
- Large shallow inlets and bays
- Reefs
- Submarine structures made by leaking gases
- Annual vegetation of drift lines
- Vegetated sea cliffs of the Atlantic and Baltic coasts
- *Salicornia* and other annuals colonizing mud and sand
- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)
- Mediterranean salt meadows (*Juncetalia maritimi*)
- Mediterranean and thermo-Atlantic halophilous scrubs (*Sarcocornetea fruticosi*)
- Embryonic shifting dunes
- Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes")
- Fixed coastal dunes with herbaceous vegetation ("grey dunes")

¹³<http://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=8f7060450de3485fa1c1085536d477ba>, https://www.npws.ie/sites/default/files/general/SPA_Datasheets_March_2022.zip and https://www.npws.ie/sites/default/files/general/SAC_Datasheets_March_2022.zip

- Decalcified fixed dunes with *Empetrum nigrum*
- Atlantic decalcified fixed dunes (Calluno-Ulicetea)
- Dunes with *Salix repens* ssp. *argentea* (*Salicion arenariae*)
- Humid dune slacks
- Submerged or partially submerged sea caves
- Machairs

6.4 Scoping Criteria

The terms pathway, pressure, impact, sensitivity and effect are used regularly in this section and are key to understanding how the scoping criteria have been defined.

- **Pathway** – an impact pathway is the link between a pressure and a QI. Whether that QI is fixed (e.g. a benthic habitat) or mobile (e.g. a mobile marine mammal). Presence of an impact pathway implies that the pressure could reach the QI and/or the QI may move into the impact pathway and an effect occur.
- **Pressure** – is the relevant consequence(s) of the Plan. For example ‘physical presence’.
- **Impact** – impact is what happens when a pathway and receptor overlap, for example habitat loss from physical presence of a structure.
- **Sensitivity** – linked to the tolerance, resistance, recoverability of the receptor, for example whether a migratory fish suffers an injury or disturbance as a result of the pressure ‘underwater noise’.
- **Effect** – is the consequence of the impact and linked to all the above points.

For most protected sites and QIs, it will be assumed on a precautionary basis that connectivity (i.e. there is a potential pathway) and sensitivity alone implies a potential for LSE. Connectivity will be established through GIS, by applying QI specific criteria (see Section 7), with sensitivity established through acknowledging the relevant pressures associated with different ORE and known sensitivity of QI to these (see Table 1).

6.5 Alone or In-combination

AA is required to be undertaken alone or in-combination with other plans or projects. It is assumed here that where potential for LSE applies alone, then potential for LSE also applies in-combination. The plans or projects to assess for in-combination effects will be established through the Plan Development Process. The precautionary nature of the screening process applied and the scale of the Plan means it is highly unlikely that for an effect where no LSE applies alone one could apply in-combination, however if any such instances are identified through the in-combination assessment, they will be highlighted and assessed.

6.6 Effects and Pressures

The NIS prepared for the OREDP I identified a number of Plan activities that could result in an effect, together with the relevant type of ORE, the sensitive receptor group and the project phase (as presented in Table 5.1 of the original OREDP NIS¹⁴). That table has been adapted, drawing on updates from available guidance (OSPAR, 2011) and recent plan level assessments from the UK, the latter drawing on EU and statutory body guidance and presented below as Table 1. The final column in the table summarises the equivalent term applied in OREDP I. Key changes made to the original screening are as follows (with links between the pressures presented and the original effects provided as a final column for reference):

- The amendment of the potential effects columns to pathway and pressure with an extra column to note the links between these)
- The splitting of offshore wind into fixed and floating
- The amendment of tidal to specify tidal stream
- The exclusion of reptiles from the marine mammal column (because no European sites in Irish or UK waters are designated for marine reptiles and therefore reptiles are not relevant to the AA process here)
- The previous receptor group of ‘birds’ has been separated into four sub categories
- The term installation has been altered to construction (to encompass the entire construction phase) and operation and maintenance have been merged
- ‘Fishing exclusion areas’ as an effect category has been removed

It is noted that there are numerous approaches to identifying pressure and effect in the general literature. The above updates ensure that the approach remains current (in terms of the pressures/effects considered in the most recent strategic level assessments) and inclusive of all ORE under consideration (as floating wind was not included in OREDP I).

Where the pressure has the potential to result from an ORE, this is marked with a Y. Where the receptor is sensitive to the pressure, this is marked with a Y. Where the ORE will not result in a specific pressure because of a lack of pathway, or the receptor is not linked by a pathway to the pressure, this is highlighted with N.

For benthic habitats, a ‘N’ is applied for P4 collision risk (water), P5 collision (birds) and P16 (entanglement) in air and in water, as well as P7 ‘physical presence’, P8 ‘underwater noise’, P9 ‘above water noise’ and P12 ‘light’ (because no pathway exists).

For marine mammals and terrestrial mammals (otters), a ‘N’ is applied to P5 collision (birds), P12 ‘light’ and to P13 temperature as there is no pathway.

¹⁴ [http://files.dcenr.gov.ie/Decarbonisation/OREDPA%20Natura%20Impact%20Statement%20\(NIS\).pdf](http://files.dcenr.gov.ie/Decarbonisation/OREDPA%20Natura%20Impact%20Statement%20(NIS).pdf)



For terrestrial mammals (bats), a 'N' is applied to the majority as a result of a lack of pathway. The exceptions are P5 collision (birds), P7 physical presence, P9 above water noise and P12 light.

For migratory fish and both FWPM and NPM, a lack of pathway is apparent for P5 collision (birds), P9 above water noise and P12 light, with 'N' assigned.

For migratory seabirds and migratory waterbirds, a 'N' has been applied to all except P5 collision (birds) as a result of a lack of pathway. A 'N' applies to P11 EMF, P13 temperature and P15 invasive non-native species for all birds.

The above pressures identified as relevant to individual receptor groups will be confirmed through scoping.

Table 1: Potential Effects to Consider For Screening

Pathway	Associated pressure(s) used for screening	Technology				Receptor Group								Phase			OREDP Effect	
		Floating Wind	Fixed Wind	Wave	Tidal Stream	Habitats	Marine Mammals	Terrestrial Mammals	Birds	Migratory Fish and FWP/M/NPM	Breeding birds (non breeding season)	Breeding birds (non breeding season)	Non-breeding birds (non-breeding season)	Migratory seabirds and migratory waterbirds	Survey	Construction/ Decommissioning		Operation & Maintenance
I. Physical Loss/Gain of habitats from removal or smothering	P1 Habitat loss / gain (includes change in habitat due to the presence of infrastructure or placed materials)	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Habitat loss/damage Creation of artificial reefs Species disturbance Species displacement and habitat avoidance

																			Food availability
II. Physical Damage of habitats and species from siltation, abrasion, erosion, coastal process effects or physical injury/death	P2 Direct physical damage. Includes any interaction which damages the seabed, including sand wave clearance, penetration by jack up barge legs etc	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Y	Damage/ loss of non-mobile species Change in wave exposure Change in tidal flow Species disturbance Species displacement and habitat avoidance Food availability
	P3 Indirect physical damage/habitat change	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Y	Smothering Scouring Species disturbance Species displacement

																		and habitat avoidance
	P4 Collision (marine mammals and fish)	Y	Y	Y	Y	N	Y	Y	N	Y	Y	Y	Y	N	N	Y	Y	Collision risk (submerged and surface devices)
	P5 Collision (birds)	Y	Y	N	N	N	N	N	Y	N	Y	Y	Y	Y	N	Y	Y	Collision risk (above water surface)
	P16 Entanglement	N	N	Y	Y	N	Y	Y	N	Y	Y	Y	Y	N	N	Y	Y	Collision risk (submerged and surface devices)
III. Non-Physical (Indirect) Disturbance from noise or visual presence and reduced availability or exclusion/displacement of species, including prey, and	P7 Physical Presence (visual disturbance and barrier effects)	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Species disturbance Species displacement and habitat avoidance Marine noise Barriers to movement
	P8 Underwater noise	Y	Y	Y	Y	N	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Species disturbance

direct impacts of noise	(including, disturbance, injury and death)																	Species displacement and habitat avoidance Marine noise Barriers to movement
	P9 Above water noise	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Species disturbance Species displacement and habitat avoidance Marine noise Barriers to movement
IV. Toxic Contamination from the introduction of synthetic compounds or non-synthetic contaminants	P10 Toxic contamination	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Disturbance of contaminated sediment Toxic effects

V. Non-Toxic Contamination from changes in suspended sediment and turbidity, light and EMF emissions or changes to the thermal regime. (No pathway identified for nutrient enrichment or organic enrichment.)	P11 Electromagnetic Fields (EMF)	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	N	N	N	Y	EMF
	P12 Light	Y	Y	Y	Y	N	N	N	N	N	Y	Y	Y	N	Y	Y	Y	Species disturbance Species displacement and habitat avoidance
	P13 Temperature	Y	Y	Y	Y	Y	N	N	N	Y	N	N	N	N	N	N	Y	N/A
	P14 Suspended sediments	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	N	Y	Y	Y	Suspended sediment and increased turbidity
	P17 Salinity	N	N	N	N	Not considered an issue for ORE												N/A
VI. Biological Disturbance from introduction of microbial pathogens, the introduction	P15 Invasive non-native species	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N	N	N	N	N	Y	Species displacement and habitat avoidance

of invasive non-native species and translocation, or from selective extraction of selected species																		
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

7 Receptor Specific Scoping Criteria

7.1 Approach to Scoping

The approach to scoping in sites and QIs is described in the following sections, on a receptor by receptor group basis.

7.2 Habitats

The Annex I habitats included for scoping are listed under section 6.3. Habitat QIs are considered stationary, in the sense that they occur wholly within the spatial extent of the protected site (taking account of the need to consider supporting habitats and processes that may occur outside the site boundary). The focus of scoping is therefore on the potential for a pathway, combined with QI sensitivity. The potential effects to be considered (as identified in Table 1) are as follows (noting that for habitats all of these apply to all types of ORE):

- P1 habitat loss/ gain
- P2 direct physical damage
- P3 indirect physical damage/habitat change
- P10 toxic contamination
- P11 EMF
- P13 temperature
- P14 suspended sediments
- P15 invasive non-native species

The potential for effect is limited to the immediate footprint of the QI/ designated site and the potential Zol. The range applied in all cases is 15 km, derived from the relevant guidance¹⁵. For benthic habitats, the application of 15 km at Plan level is deemed appropriate and is broadly consistent with the project level screening range applied for offshore wind farm projects more widely (for example 12km was initially applied at Hornsea Three¹⁶ with subsequent modelling determining measureable changes were not expected to extend to designated benthic sites approximately 10 km distant¹⁷, whereas East Anglia One North

¹⁵ https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf

¹⁶ https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010080/EN010080-000532-HOW03_6.2.2_Volume%20%20-%20Ch%20%20-%20Benthic%20Ecology.pdf

¹⁷ https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010080/EN010080-000531-HOW03_6.2.1_Volume%20%20-%20Ch%20%20-%20Marine%20Processes.pdf

identified a 1 km range for far field effects¹⁸). Further, current priority evidence gaps for the benthic environment in the UK with respect to impacts from offshore wind relate to habitat loss/change due to the introduction/removal of hard substrate¹⁹ and not to the ZoI.

It is therefore considered that at Plan level, the application of a standard range of 15 km is appropriate to enable a reasonable and meaningful assessment. However, at project level the appropriate ZoI will need to be confirmed by site specific data.

For screening purposes, it therefore follows that all sites for which a benthic habitat QI is designated and are located within, or within 15 km of, the Plan will be scoped in for all the above potential effects for potential LSE, unless it is clear that no pathway exists. The conclusions and supporting evidence base will be clearly laid out in the screening report.

7.3 Marine Mammals

Annex II species for which cSACs and SACs are designated are grey seal, harbour seal, harbour porpoise and bottlenose dolphin. These species are all highly mobile and therefore the determination of potential for LSE needs to take account of site connectivity outside the designated site(s) boundary. The focus of scoping is therefore not just on site boundaries but the wider supporting environment within which individuals may be located. The potential effects to be considered (as identified in Table 1) are as follows (noting that for marine mammals not all apply to all types of ORE, with these noted):

- P1 habitat loss/ gain
- P2 direct physical damage
- P3 indirect physical damage/ habitat change
- P4 collision (marine mammals and fish)
- P16 entanglement (wave and tidal stream only)
- P7 physical presence
- P8 underwater noise
- P9 above water noise
- P10 toxic contamination
- P11 EMF
- P14 suspended sediments
- P15 invasive non-native species

¹⁸<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010077/EN010077-001000-5.3.1%20EA1N%20Information%20to%20Support%20AA%20Report%20Appendix%201%20HRA%20Screening%20Report.pdf>

¹⁹<https://data.jncc.gov.uk/data/bc429809-ec23-47e5-ab45-44e4fe010fb2/JNCC-Report-675-FINAL-WEB.pdf>

The potential for effect relates both to the immediate footprint of the designated site and more widely for marine mammals – because the QIs are all highly mobile and a key effect (underwater noise) can extend beyond site boundaries. There are a variety of approaches in the literature for scoping marine mammal sites, with the approach adopted here mirroring that taken at OREDP1 – to scope in all marine mammal sites within Irish waters and for non Irish sites, to scope in sites within the relevant management unit as the Plan or in line with site level guidance (specifics noted below).

For screening purposes, it therefore follows that all sites for which a marine mammal QI is designated in Irish waters will be scoped in for all the above potential effects for potential LSE, unless it is clear that no pathway exists. For transboundary sites, harbour porpoise SACs will be scoped in where the Plan area falls within 26 km of the SAC (as per UK guidance for these sites²⁰), bottlenose dolphin SACs will be scoped in where these fall within the management units termed OCSW (Offshore Channel, Celtic Sea & south west England), IS (Irish Sea) and OW (offshore waters)²¹, harbour and grey seal SACs will be scoped in from management units 1, 2, 3, 11, 12, 13 and 14²². The conclusions and supporting evidence base will be clearly laid out in the screening report.

7.4 Terrestrial Mammals

Terrestrial mammals included in the screening process are limited to bats and otters. In Ireland, a single species of bat is included as QI within the Natura 2000 network, specifically the lesser horse shoe bat. The focus on scoping is the potential for a pathway, combined with QI sensitivity. For the lesser horseshoe bat, this is considered extremely unlikely given the non migratory nature of the species but there is the possibility that individuals could move seawards from a SAC and some of the effects could therefore be relevant. For otter, the species does occur in the marine environment and therefore additional marine pathways have the potential to result in an effect. The potential effects to be considered (as identified in Table 1) are as follows (with comment on the relevant species and ORE):

- P1 habitat loss/ gain (otter only)
- P2 direct physical damage (otter only)
- P3 indirect physical damage/ habitat change (otter only)
- P4 collision (marine mammals and fish) (otter only)
- P5 collusion (birds) (fixed and floating wind, bat only)
- P16 entanglement (wave and tidal stream, otter only)

²⁰ <https://hub.jncc.gov.uk/assets/2e60a9a0-4366-4971-9327-2bc409e09784>

²¹ <https://data.jncc.gov.uk/data/f07fe770-e9a3-418d-af2c-44002a3f2872/JNCC-Report-547-FINAL-WEB.pdf>

²² Figure 4 in <http://www.smru.st-andrews.ac.uk/files/2021/06/SCOS-2020.pdf>

- P7 physical presence
- P8 underwater noise (otter only)
- P9 above water noise
- P10 toxic contamination (otter only)
- P11 EMF (otter only)
- P14 suspended sediments (otter only)
- P15 invasive non-native species (otter only)

The potential for effect is limited to the immediate footprint of the QI/ designated site (considered unlikely for terrestrial mammals but will be considered) and the range of the effect. The range applied in all cases is 15 km, derived from the relevant guidance²³ and as advised for bats²⁴. The comments on the 15 km range noted above for benthic habitats also apply here and at project level should be confirmed as appropriate for a project specific Zol.

For screening purposes, it therefore follows that all sites for which a terrestrial mammal QI is designated and are located within, or within 15 km of, the Plan will be scoped in for the above potential effects as relevant to the QI for potential LSE, unless it is clear that no pathway exists. The conclusions and supporting evidence base will be clearly laid out in the screening report.

7.5 Migratory Fish and the FWPM/NPM

Migratory fish included in the screening process are limited to the Annex II species sea lamprey (*Petromyzon marinus*), river lamprey (*Lampetra fluviatilis*), twaite shad (*Alosa fallax fallax*) and Atlantic salmon (*Salmo salar*) and both the freshwater pearl mussel (FWPM) (*Margaritifera margaritifera*) and Nore Pearl Mussel (NPM) (*Margaritifera durrovensis*), which are linked in life cycle to salmon. It is noted that there are two species of shad for which SACs are designated in Ireland – however the Killarney shad (*Alosa killarnensis*) is wholly restricted to freshwater. It is noted that the NIS for the OREDP I included sites for both Allis shad (*Alosa alosa*) as well as for Twaite shad. Confirmation has been sought from NPWS, as confirmed by the downloaded datasets, who confirmed that SACs in Ireland are designated for Twaite shad (included here in scoping) and Killarney shad (excluded from scoping on the basis of ecology) only.

The focus on scoping is the potential for a pathway, combined with QI sensitivity. The potential effects to be considered (as identified in Table 1) are as follows (noting that for migratory fish and FWPM/NPM all of these apply to all types of ORE except where highlighted):

- P1 habitat loss/ gain
- P2 direct physical damage
- P3 indirect physical damage/ habitat change

²³ https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf

²⁴ https://www.batconservationireland.org/wp-content/uploads/2013/09/BCIreland-AA-Guidelines_Version1.pdf

- P4 collision (marine mammals and fish)
- P16 entanglement (wave and tidal stream)
- P7 physical presence
- P8 underwater noise
- P10 toxic contamination
- P11 EMF
- P13 temperature
- P14 suspended sediments
- P15 invasive non-native species

The potential for effect is limited to the immediate footprint of the QI/ designated site (considered unlikely for wholly freshwater sites) and the range of the effect. The range applied in all cases is 100 km from the Plan, which significantly exceeds the relevant guidance²⁵ of 15 km. Key to the Zol here is the potential for underwater noise generated at distance from a site to extend to the estuary mouth and influence fish as they migrate up or down an estuary. Different species of migratory fish have different levels of sensitivity to noise, with project level noise modelling likely to be required to determine a project level Zol. However, 100 km has been applied here at Plan level (and for example was agreed on the Awel y Mor offshore wind farm as an appropriate migratory fish scoping range by Natural Resources Wales²⁶ and noting for example that for salmon, the Neart na Gaoithe assessment considered the range of significant avoidance to extend only as far as 14 km²⁷) Where a relevant SAC is inland (and therefore not estuarine, for example the upriver freshwater section only) these sites have been manually checked for inclusion in scoping.

For screening purposes, it therefore follows that all sites for which a migratory fish or FWPM/NPM QI is designated and where the mouth of the relevant estuary is within 100 km of the Plan will be scoped in for all the above potential effects for potential LSE, unless it is clear that no pathway exists. The conclusions and supporting evidence base will be clearly laid out in the screening report.

7.6 Seabirds and Migratory Birds

This category relates to bird populations that are the interest qualifying interests of SPAs. Birds are highly mobile and can travel some distance from their breeding sites to forage or migrate to and from their non-breeding areas. There is, therefore, the potential for an impact to occur

²⁵ https://www.npws.ie/sites/default/files/publications/pdf/NPWS_2009_AA_Guidance.pdf

²⁶ https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010112/EN010112-000144-5.2_AyM_RIAA_vFinal.pdf

²⁷ https://marine.gov.scot/sites/default/files/chapter_11_-_nature_conservation.pdf

on qualifying interests of SPAs well beyond the site boundary. Furthermore, the extent and nature of their interaction with ORE can vary throughout their lifecycle.

For the purposes of scoping, qualifying bird interests have been grouped into four categories, reflecting these different potential interactions, each of which requires a different approach to scoping:

- Breeding seabirds in the breeding season
- Breeding seabirds in the non-breeding season
- Non-breeding seabirds in the non-breeding season (includes Irish Sea Front SPA)
- Migratory seabirds and migratory waterbirds

The pathways and pressures relevant to birds in each of these categories are summarised in Table 1. Wade *et al.* (2016) will be used to determine the sensitivity of each species to these pathways, where necessary. It is considered that there is no potential for an LSE to arise for other pressures not included in Table 1.

Reflecting the mobile nature of birds, the scoping criterion will be applied to the SPA boundary and the region within which birds can be expected to occupy beyond that boundary. In the case of breeding birds, for example, this is taken to be the area of sea within foraging range of the SPA (as defined by foraging range studies and summarised, in this case, by Woodward *et al.*, 2019). Other approaches are required for birds during the non-breeding season and during migration where the presence of birds is not linked to foraging range and these are described further below.

In some cases establishing connectivity is considered sufficient to conclude LSE on a precautionary basis especially where there may be high usage of a given area by birds from a discrete colony. However, due to the spatial scale of the Plan and the considerable distances over which birds can range, this approach can potentially lead to the identification of a very large number of SPAs with the potential for LSE, although the risk to a large number of these sites is in reality considered to be very low. This is particularly the case when considering breeding birds in the non-breeding season (where birds may be dispersed over very large areas) and migratory birds.

Scoping undertaken for birds is limited to SPA sites only.

7.6.1 Breeding seabirds in the breeding season

For breeding seabirds in the breeding season, it is proposed that screening will be conducted using the criteria indicated in Table 1. Some of these include the area of sea within foraging range of the breeding colony. The foraging ranges that will be used for this purpose are stated in Table 2 and are all taken from Woodward *et al.* (2019). It is possible to analyse foraging ranges in different ways and individuals and colonies of individuals may exhibit differences in the range over which they will forage, depending on food availability. Using the absolute maximum distance recorded for any species, however, is considered to be over-precautionary as many species can exhibit extreme behaviours, particularly if individuals are unconstrained from provisioning young birds. Conversely, using a simple mean or median foraging distance may exclude important connectivity between a colony and foraging upon which that colony relies.

For the purposes of this screening exercise, where possible, the mean-maximum foraging range will therefore be used. This is considered precautionary whilst still excluding atypical, extremes of foraging behaviour. Where this measure cannot be obtained from Woodward *et al.* (2019), the maximum value is used instead, except for Leach’s petrel and Arctic skua where only a mean foraging range is presented (see Table 2). The use of the values in Table 2 has been checked against the detailed site-specific data reported in Woodward *et al.* (2019) to ensure that it is suitably precautionary.

Table 2: Foraging Range for Breeding Seabirds in the Breeding Season

Species	Foraging range (km)	Rationale
Red-throated diver (<i>Gavia stellata</i>)	9	Mean-maximum
European storm petrel (<i>Hydrobates pelagicus</i>)	336	Mean-maximum
Leach’s petrel (<i>Oceanodroma leucorhoa</i>)	657	Mean (mean-maximum not available)
Northern fulmar (<i>Fulmarus glacialis</i>)	542.3	Mean-maximum
Manx shearwater (<i>Puffinus puffinus</i>)	1,346.8	Mean-maximum
Northern gannet (<i>Morus bassanus</i>)	315.2	Mean-maximum
European shag (<i>Phalacrocorax aristotelis</i>)	13.2	Mean-maximum
Cormorant (<i>Phalacrocorax carbo</i>)	25.6	Mean-maximum

Black-legged kittiwake (<i>Rissa tridactyla</i>)	156.1	Mean-maximum
Black-headed gull (<i>Chroicocephalus ridibundus</i>)	18.5	Mean-maximum
Common gull (<i>Larus canus</i>)	50	Mean-maximum
Herring gull (<i>Larus argentatus</i>)	58.8	Mean-maximum
Lesser black-backed gull (<i>Larus fuscus</i>)	127	Mean-maximum
Sandwich tern (<i>Thalasseus sandvicensis</i>)	34.3	Mean-maximum
Little tern (<i>Sternula albifrons</i>)	5	Mean-maximum
Roseate tern (<i>Sterna dougallii</i>)	12.6	Mean-maximum
Common tern (<i>Sterna hirundo</i>)	18.0	Mean-maximum
Arctic tern (<i>Sterna paradisaea</i>)	25.7	Mean-maximum
Great skua (<i>Stercorarius skua</i>)	443.3	Mean-maximum plus one standard deviation
Arctic skua (<i>Stercorarius parasiticus</i>)	63.3	Mean-maximum (from Woodward <i>et al.</i> 2019 database)
Common guillemot (<i>Uria aalge</i>)	55.5	Mean-maximum
Razorbill (<i>Alca torda</i>)	73.8	Mean-maximum
Atlantic puffin (<i>Fratercula arctica</i>)	119.6	Mean-maximum

Where there is potential connectivity according to this method and the criteria in Table 1 then potential for LSE will be assumed and the European site and its QI will be scoped into the assessment. The conclusions and supporting evidence base will be clearly laid out in the screening report.

7.6.2 Breeding seabirds in the non-breeding season

Breeding birds from SPAs in the non-breeding season are not constrained to specific areas due to the necessity to provision young, and typically disperse to exploit areas far beyond their breeding colonies. During the non-breeding season, therefore, the birds present within the Plan area may originate from sites that are further away than those considered in the breeding season.

Screening exercises in other jurisdictions have relied upon detailed studies relating to the movements and occurrence of different populations of birds into distinct sea areas (e.g. Furness, 2015) and considering these in light of information on the likely magnitude of effects from proposed developments. Such information is not available for Irish waters and therefore scoping for breeding birds in the non-breeding season will be conducted on a qualitative basis using available broad scale density information to identify important areas within Irish waters for different species. If important areas are identified, consideration will be given to the likely origin of birds and whether this is likely to represent a significant proportion of birds from a given SPA.

To avoid scoping in qualifying interests and sites for which there is a negligibly low risk of an adverse effect a view will be taken on the magnitude of the potential impact on each SPA population and whether this could potentially lead to an LSE. The conclusions and supporting evidence base will be clearly laid out in the screening report.

7.6.3 Non-breeding seabirds and waterbirds in the non-breeding season

There are a number of SPAs in Ireland that are designated for the non-breeding season (e.g. wintering) populations of birds that do not necessarily breed in the same region. This includes species that utilise the marine environment e.g. red-throated diver and those that may exploit intertidal areas for foraging opportunities whether these areas are within an SPA or not (i.e. functionally linked habitat) e.g. brent geese or knot. This category also includes the Irish Sea Front SPA which is designated because of the importance of its habitats for Manx shearwater.

Screening for these European sites and their qualifying interests will be based on connectivity with the Plan. To allow for effects at distance (such as disturbance) and indirect habitats effects a spatial criterion of 15 km will be assumed for the purposes of screening in line with the approach to benthic habitats and noting the need to confirm 15 km as an appropriate Zol at project level¹⁵.

Where there is connectivity according to this criterion then a potential LSE will be assumed and the European site and its relevant qualifying interest(s) will be scoped into the assessment. The conclusions and supporting evidence base will be clearly laid out in the screening report.

7.6.4 Migratory birds

7.6.4.1 Migratory seabirds

This category relates to certain species of migratory seabird that migrate through Irish waters between breeding SPAs and wintering areas and exhibit migratory movements that are not captured by traditional survey methods. The category therefore includes species of tern, skua, petrel, shearwater and little gull and their associated SPAs. Although other seabirds migrate through Irish waters these species are considered to be captured in the screening for other qualifying interest categories.

Connectivity will be identified utilising migratory corridors which represent the areas through which the migratory movements of these species occur. Migratory corridors for each species will be defined based on the methodology applied in Scottish waters in WWT Consulting and MacArthur Green (2014). Five migration bands were used in in WWT Consulting and MacArthur Green (2014) (0-10 km, 0-20 km, 0-40 km, 0-60 km and 1- 60 km) and a species was assigned to a band based upon observations from coastal watches, offshore surveys and information from Forrester *et al.* (2007) and seabird/sea-watching experts.

As stated in WWT Consulting and MacArthur Green (2014), seabirds are unlikely to follow the coastline closely at all times, especially when encountering geographic features such as inlets and bays. As none of the projects in the Plan are located within bays or inlets the precautionary approach will be to assume that birds also do not enter these features and therefore the migratory corridors used for each species will cross these features. Some seabird species also migrate overland (including terns (e.g. Walsh and Daly, 2021)) and this will be taken into account when identifying those species that migrate along the eastern and western coastlines of Ireland.

Where there is direct overlap between the Plan and the migratory corridor for a species, potential for connectivity will be identified. The conclusions and supporting evidence base will be clearly laid out in the screening report.

7.6.4.2 Migratory waterbirds

Species of migratory waterbirds and landbirds that are features of Protected Sites may interact with offshore wind farms as they migrate between wintering and breeding areas.

Connectivity will be identified based on the migratory corridors defined for relevant species in Wright *et al.* (2012), which were defined from an extensive literature review. Where there is direct overlap between a project area and the migratory corridor for a species connectivity will be identified. Only collision risk is considered relevant for this feature category.

8 Approach to Screening

AA Stage 1 Screening will be undertaken using GIS. The location of sites and associated QIs in Irish waters has been sourced from the NPWS website²⁸ and confirmed as a complete record with NPWS. The draft Plan area will be applied in GIS with the receptor specific screening and scoping parameters (the site footprint and, where relevant for the different receptor groups/QIs, the defined range from site). Where the Plan has physical overlap with a site or is within scoping range of a site and associated QI, these will be pulled together into a clearly defined list of designated sites, QIs and the associated effects (as relevant to the ORE and receptor) for consideration of potential LSE. Should no pathway be apparent, the effect (and QI and site) will be excluded. Where potential for LSE is apparent (or cannot be discounted), these will be taken forward (scoped in) to the next stage (AA Stage 2).

The results from screening will be presented in report format, including links to the sites scoped in, figures to show sites scoped in relative to the Plan and to summarise the effects scoped in for each site/QI. Should an effect be scoped in or out in contrast to those assumed in Table 1 above, a justification will be given.

It should be noted that the application of different scoping ranges to different QIs is likely to result in some designated sites where not all QIs are scoped in. For example, a designated site with benthic habitat and marine mammal QI may be located 30km from the Plan area and therefore be scoped in for marine mammals only and not the benthic habitats.

8.1 Approach to Screening In-combination

As noted above, the approach to screening is extremely high level and precautionary. Where potential for LSE applies alone, it is assumed potential for LSE could also apply in-combination.

The Plans that will be relevant for consideration will include (but not be limited to) the National Marine Planning Framework, the National Development Plan 2018-2027, the National Planning Framework (Ireland 2040 Our Plan), the Water Framework Directive (2000/60/EC) and River Basin Management Plan 2018-2021 and the Climate Action Plan 2021. Relevant projects will include applications for new or amended projects, together with consented but not constructed projects.

²⁸<http://dahg.maps.arcgis.com/apps/webappviewer/index.html?id=8f7060450de3485fa1c1085536d477ba>, https://www.npws.ie/sites/default/files/general/SPA_Datasheets_March_2022.zip and https://www.npws.ie/sites/default/files/general/SAC_Datasheets_March_2022.zip

Prior to the assessment, a clear list of the relevant plans and projects will be sought from the Plan Development Process and this will be aligned with those being considered through the SEA process to ensure parity between assessments and reports.

9 Adverse Effect on Site Integrity

Where a European Site and QI has been scoped in for potential LSE, and where there is sufficient information about the activities of the Plan to make a reasonable and meaningful assessment, then these will progress to AA Stage 2 for a more detailed analysis. The assessment could include a quantitative and/or qualitative assessment of risk and will be made against the conservation objectives for each site. The assessment will rely on relevant evidence, including:

- The work undertaken for OREDP I
- The work undertaken to date on OREDP II
- Wider Plan and Project level assessments for ORE (with a focus on Irish and UK assessments)
- Published scientific literature
- Grey literature (including reports produced by or on behalf of government agencies and advisors)
- Guidance documents
- Case law

Where there is evidence relied on by a competent authority that a QI is not sensitive to an effect, or such effects can be reasonably assumed to be *de minimis*, it will be concluded that there is no adverse effect.

10 Mitigation

Mitigation will not be included at AA Stage 1 Screening, but will where necessary be considered in Stage 2 AA (see Case C-521/12, T.C. Briels and Others v Minister van Infrastructuur en Milieu, EU:C:2014:330, [2014] Reports of Cases (Court Reports – general), paragraph 31; see Case C-164/17, Grace and Sweetman v An Bord Pleanála, EU:C:2018:593 [2018] Reports of Cases (Court Reports – general)).

Where the Stage 2 AA identifies the risk of an AEoI, options for mitigation that can be applied at Plan level will be considered. This could involve a modification to the Plan or the specification of measure(s) to apply at project level. Only where there is sufficient certainty that the mitigation would effectively reduce or avoid the harm sufficiently will no AEoI be concluded.



11 Derogation

Refers to the AA Stage 3, whereby a conclusion of no AEoI cannot be confidently drawn in all cases despite the application of mitigation. Should such a result appear likely, this would be raised with the project team in the first instance.

12 References

OSPAR Intercessional Correspondence Group on Cumulative Effects (ICG-C) – Amended 25th March 2011 (OSPAR, 2011).

Scott Wilson, Levett-Therivel Sustainability Consultants, Treweek Environmental Consultants and Land Use Consultants. 2006. Appropriate Assessment of plans. <http://www.landuse.co.uk/Downloads/AppropriateAG.pdf>