



**REMEDIAL SCREENING FOR APPROPRIATE
ASSESSMENT REPORT AND REMEDIAL
NATURA IMPACT STATEMENT**

Ros an Mhíl Deep Water Quay

Department of Agriculture, Food and the Marine

October 2025

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Appendices

Appendix 1	Stages of Appropriate Assessment
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Project No.	Doc. No.	Rev.	Date	Prepared By	Checked By	Approved By	Status
24984	6005	C	October 2025	Úna Williams	Hazel Dalton Caitríona Fox	Hazel Dalton	Final

MWP, Engineering and Environmental Consultants
Address: Reen Point, Blennerville, Tralee, Co. Kerry, V92 X2TK
www.mwp.ie



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Summary of Findings – Remedial Appropriate Assessment

Project Title	Deep Water Quay Works at Ros an Mhíl (Rossaveal), County Galway
Project Proponent	Department of Agriculture, Food and the Marine
Project Location	The application site is situated immediately southwest of Ros an Mhíl Harbour on the northeast shore of Cashla Bay, approximately 1 kilometre southwest of the Gaeltacht village of Ros an Mhíl in Connemara and approximately 40 kilometres west of Galway City.
Screening for Appropriate Assessment (Stage 1)	A remedial Screening for Appropriate Assessment was undertaken to determine the potential for likely significant effects that unauthorised deep water quay construction works at Ros an Mhíl in County Galway may have had, either individually or in combination with other plans or projects, on certain European sites identified within this report in view of the conservation objectives of those European sites.
Stage 1 Conclusion	It was objectively concluded during the screening process that significant effects on the following European site are not likely to have ensued because of the unauthorised works: ▪ Slyne Head to Ardmore Point Islands SPA (004159) However, it was concluded that significant effects, which are potentially or likely to have ensued from potential impacts associated with the development, could not be precluded for the following European sites: ▪ Connemara Bog Complex SAC (002034) ▪ Kilkieran Bay and Islands SAC (002111) ▪ Connemara Bog Complex SPA (004181) ▪ Inishmore Island SAC (000213) Therefore, further assessment was required to determine whether the development is likely to have adversely affected the integrity of any of these European sites.
Natura Impact Statement (Stage 2)	In cases where an Appropriate Assessment is required, a Natura Impact Statement (NIS) is prepared and includes a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications of a project, individually, or in combination with other plans or projects, for European sites in view of the conservation objectives of the sites. This has been undertaken in Section 4 of this report.
Stage 2 Conclusion	The remedial NIS (rNIS) set out in Section 4 of this report has considered all aspects of the development, by itself, or in combination with other plans or projects, which may have affected the four relevant European sites- Connemara Bog Complex SAC, Kilkieran Bay and Islands SAC, Connemara Bog Complex SPA, and Inishmore Island SAC. The rNIS contains information which the competent authority may consider in making its own complete, precise and definitive findings and conclusions and upon which the competent authority can determine that all reasonable scientific doubt has been removed as to the effects of the project on the integrity of these European sites. In light of best scientific knowledge, and for the reasons set out in detail in this report, it has been concluded in Section 4.10 that the construction phase and current phase of the development, either individually or in combination with other plans/projects, did/does not adversely affect the integrity of any European site, including the following: ▪ Connemara Bog Complex SAC (002034) ▪ Kilkieran Bay and Islands SAC (002111) ▪ Connemara Bog Complex SPA (004181) ▪ Inishmore Island SAC (000213)

1. Introduction

1.1 Purpose of the Assessment

The Department of Agriculture, Food and the Marine (DAFM) (the Applicant) is seeking Substitute Consent in respect of unauthorised development works for a deep water quay carried out between 11th July 2023 and 20th May 2024, inclusive, at Ros an Mhíl in Connemara in County Galway.

A remedial Screening for Appropriate Assessment (AA) is set out in **Section 3** of this report. It has been undertaken to determine whether said unauthorised deep water quay works were directly connected with, or necessary to, the management of a European site(s)¹, and if not, whether the works were likely to have had significant effects on nearby European site(s) (either alone or in combination with other plans or projects) in view of the conservation objectives of that site(s). The remedial screening for AA has been prepared in support of an application by the DAFM to An Coimisiún Pleanála (ACP)² for leave to apply for Substitute Consent under Section 177E of the Planning and Development Act 2000, and to provide a sufficient level of information to ACP, on which to base their own remedial Screening for AA of the works already undertaken.

This study is based on a preliminary impact assessment using both publicly available data and data collected during ecological surveys at the site. It comprises a description of the deep water quay works (in **Sections 3.2.2** and **3.2.3**), particularly the aspects that could interact with or could have interacted with the receiving environment, the identification in **Section 3.6** of the impacts that likely/potentially ensued from it, and a determination as to whether these predicted impacts, either alone or in combination with the other plans or projects identified in **Section 3.4**, are likely to have had significant effects on the European sites identified in **Section 5**, in view of those sites' conservation objectives.

The need to apply the precautionary principle (the absence of scientific evidence on the significant negative effect of an action cannot be used as justification for approval of this action) in making any key decisions in relation to the tests of AA has been confirmed by European Court of Justice case law. Therefore, where significant effects are likely, possible or uncertain at the screening stage, an AA will be required, and a remedial NIS (rNIS) should be prepared. A detailed rNIS for this project is set out in **Section 4**.

1.2 Statement of Competency

This report has been prepared by Úna Williams (BSc., MSc.), Senior Ecologist and Environmental Scientist, that has worked at Malachy Walsh and Partners Engineering and Environmental Consultants (MWP) for nearly six years. Having worked on research teams both in Ireland and abroad, she is an experienced field ecologist familiar with various ecological survey methodologies including habitat/survey mapping and zoological surveys. She has undertaken assessments for a wide variety of projects including renewable energy developments, and infrastructural and coastal developments. Úna has designed and carried out several Avian Collision Risk Models for proposed wind farms and has authored many ecological reports including Screening for AA reports, NIS, EclA, and Environmental Impact Assessments (EIA). She graduated from Queen's University Belfast in 2018 with an MSc in Animal Behaviour and Welfare, and from Trinity College Dublin in 2008 with an Environmental Science degree.

The on-site survey was carried out in 2025 by Úna and a second MWP ecologist, namely Salona Reddy.

¹ 'European sites' are defined in Section 177R of Part XAB of the Planning and Development Act 2000 and include Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) at all stages of designation.

² Formerly known as An Bord Pleanála (ABP).

Salona is an Ecologist (MSc, BSc) who has worked full-time with MWP since January 2024. She holds a master's degree in environmental science and brings over nine years of consultancy experience in the preparation and delivery of Environmental Impact Assessment Reports (EIARs) across a broad range of project types. She is proficient in a wide array of ecological survey methodologies, including habitat mapping and faunal surveys, and has contributed to research teams internationally. Her experience includes ecological assessments for diverse developments, and she has taken lead authorship roles in numerous technical reports, such as Stage 1 Screening Reports for Appropriate Assessment (AA), Stage 2 Natura Impact Statements (NIS), and Ecological Impact Assessments (EclA). Salona is an experienced field ecologist with a broad and diverse ecological survey portfolio, encompassing habitats and flora, mammals, bats, birds, and terrestrial invertebrates.

This report has been reviewed by Hazel Dalton (BSc., BBus.), Principal Ecologist at MWP. Hazel has ten years' experience working at MWP since graduating with a first-class Honours Degree in 'Wildlife Biology' from Munster Technological University (MTU) in 2015. Hazel is experienced in ecological surveying and impact assessment for AA and Environmental Impact Assessment Reports (EIAR). She has authored and contributed to numerous Screenings for AA, NIS and Ecological Impact Assessment (EclA) reports. Hazel is an experienced field ecologist with a diverse ecological survey profile including habitats and flora, mammals, bats, birds and terrestrial invertebrates. She has held/holds National Parks and Wildlife Service (NPWS) Licences for small mammal trapping, tape lure/endoscope bird surveys, Kerry slug (*Geomalacus maculosus*) surveys, disturbance of bat roosts, photographing wild animals (badger and otter) at their resting/breeding places and undertaking bat surveys.

1.3 Development Background

A summary of the planning timeline for the development is provided hereunder.

- **2nd April 2018:** Planning permission granted by Galway County Council (GCC) for construction of new Deep Water Quay (DWQ) and reclamation area with low concrete sea walls, and installation of rock armour revetment, access road, lighting, drainage infrastructure and ancillary works (GCC Planning Application: 17/967).
- **26th January 2023:** Works commenced and were well advanced throughout 2023.
- **23rd May 2023:** Prior to the assumed expiration date of 11th July 2023, an application was made to GCC to extend duration of the granted Application 17/967 for a further five years.
- [Two earlier unsuccessful applications to extend the duration of the permission were also made - Planning Application 22/460 was refused; and Planning Application 23/60548 was declared incomplete.]
- **11th July 2023:** Permission was granted by GCC to extend duration (GCC Planning Application: 23/218).
- **4th September 2023** (on or about): Leave to apply for Judicial Review was lodged at court by Wild Ireland Defence questioning the validity of the decision of GCC to extend the duration of permission of Application 23/218: *Wild Ireland Defence CLG v. Galway County Council*, High Court 2023 1007 JR.
- **17th May 2024:** Letter issued by GCC to the solicitors of Wild Ireland Defence to confirm that GCC would consent to an order quashing the decision to extend the duration of permission for Application 23/218.
- **20th May 2024:** Works on the lands ceased, and the site cleared.
- **October 2024:** Decision to extend the planning permission of Application 23/218 was quashed by an Order of Certiorari³ of the High Court.

³ Certiorari - an order which quashes a decision of a public body or a body exercising public functions which has been made in excess of or in abuse of its jurisdiction or where an error appears on the face of the record [[Ireland.pdf](#) Accessed: 24th March 2025].

In view of the information set out above, the following is the current project status:

- **Works carried out up to and including 10th July 2023** were carried out as lawful and permitted, under and in accordance with the granted Application 17/967.
- **Works carried out from 11th July 2023 to 20th May 2024, inclusive**, were carried out as presumed lawful permitted works, under and in accordance with Application 17/967, as extended by permitted Application 23/218. However, the Department accepts that the legal status of this part of the development is now in question and should be regularised by way of application for Substitute Consent under Section 177E of the Planning Acts.

1.4 Legislative Context for Appropriate Assessment

The Habitats Directive (92/43/EEC) seeks to conserve natural habitats and wild fauna and flora through the designation of Special Areas of Conservation (SACs), while the Birds Directive (2009/147/EC) seeks to protect bird species of special importance via the designation of Special Protection Areas (SPAs). It is the responsibility of each European Union (EU) member state to designate SPAs and SACs that form part of Natura 2000; a network of protected sites located throughout the European Community. The European Communities (Birds and Natural Habitats) Regulations 2011-2021 transpose the Habitats Directive and the Birds Directive into Irish law. The requirement for Appropriate Assessment of the implications of plans and projects on the Natura 2000 network of sites comes from the Habitats Directive (Article 6(3)). Further information is available at:

[The Habitats Directive - Environment - European Commission](#)

[Guidance on Appropriate Assessment for Planning Authorities | National Parks & Wildlife Service](#)

The current assessment was conducted within this legislative framework and in accordance with the following:

- The European Commission (EC) guidelines '*Assessment of plans and projects in relation to Natura 2000 sites - Methodological Guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*' (EC, 2021);
- The EC Notice '*Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC*' (EC, 2019);
- The National Parks and Wildlife Service (NPWS) guidelines '*Appropriate Assessment of Plans & Projects - Guidance for Planning Authorities*' (DEHLG, 2010); and,
- The Office of the Planning Regulator (OPR) Practice Note '*Appropriate Assessment Screening for Development Management*' (OPR, 2021).

As outlined in the above guidance documents, it is the responsibility of the proponent of the project, in this case the Department of Agriculture, Food and the Marine ('the Applicant'), to provide a comprehensive and objective remedial screening for Appropriate Assessment report (Stage 1) which can then be used by An Coimisiún Pleanála to assist them in completing their screening exercise.

If it is determined that a full remedial Appropriate Assessment should be required in respect of the unauthorised development at Ros an Mhíl, a remedial Natura Impact Statement (rNIS) (Stage 2) must be prepared. The rNIS will assist the competent authority to conduct their own full remedial Appropriate Assessment for the project.

1.4.1 Stages of Appropriate Assessment

The Appropriate Assessment process is a four-stage process with issues and tests at each stage where each successive stage determines whether a further stage in the process is required.

The remedial screening for Appropriate Assessment (Stage 1) of a development determines whether a full remedial Appropriate Assessment (Stage 2) (rNIS) is required. If it cannot be excluded that a development had or may have had a significant effect on a European site, a Stage 2 assessment is required, and a remedial NIS must be prepared whereby mitigation of impacts can be considered.

This assessment has proceeded to Stage 2 and the rNIS is set out in **Section 4**, below.

The stages of the Appropriate Assessment process are set out in **Appendix 1** of this report.

2. Methodology

2.1 Appropriate Assessment Guidance

A plan or project can only be authorised by a competent authority if it has made certain that it will not adversely affect the integrity of the European sites relevant to the project in view of the sites' conservation objectives, either alone or in combination with other plans and projects. This can only be the case where "no reasonable scientific doubt remains as to the absence of such effects"⁴.

As set out in the NPWS guidance (refer to **Section 1.4**, above), the task of establishing whether a plan or project is likely to influence a European site(s) is based on a preliminary impact assessment using available environmental information and data, supplemented as necessary by local site information and ecological surveys (DEHLG, 2010). This is followed by a determination of whether it is likely that the effects identified could be significant. The precautionary principle approach is required.

Once the potential impacts that may arise from the proposal are identified, the significance of these is assessed using the following key indicators:

- Water quality and resource;
- Habitat loss or alteration;
- Disturbance and/or displacement of species; and
- Habitat or species fragmentation.

2.2 Consultation

Written notification setting out an overview of the development and the intention to make an application for retrospective permission in relation to the works undertaken between 11th July 2023 and 20th May 2024, and a separate application for the proposed future works to complete the Deep Water Quay was circulated to the Development Application Unit (DAU) of the Department of Housing, Local Government & Heritage. The notification invited feedback from the DAU on any key issues and/or concerns that the DAU considered should be addressed within the rNIS. Indeed, the notification expressed that DAU input at this stage would be welcomed. It was further clarified that participation at this point in the project would not preclude involvement at later stages of the planning process. The DAU acknowledged receipt of the notification; however, no further response was received.

⁴ European Court of Justice Case C-127/02 Landelijke Vereniging tot Behoud van de Waddenzee

2.3 Desktop Study

2.3.1 History of the Development Site near Ros an Mhíl Harbour

To gain an understanding of the planning history of the development site, a review of available on-line sources of planning information was undertaken by MWP in late September 2025, and included the following:

- Review of GCC's on-line planning enquiry system⁵
- Review of ACP's on-line planning enquiry system⁶

A search of planning records for the townland of 'Rossaveel' (search terms of 'Ros an Mhíl' and 'Rossaveel' were also used) and its environs was carried out, in addition to map-based searches using interactive mapping resources, with the aim of constructing a timeline of the works undertaken at the development site.

2.3.2 Existing Environment

To inform the assessment, certain information on the existing environment of the development site and surrounding area is required. A desktop study was carried out to collate information available on the development site's natural environment. This comprised a review of the following publications, data and datasets:

- Ordnance Survey Ireland (OSI) aerial photography, 1:50,000 mapping, and GeoHive
- Google Earth Pro Aerial Mapping, satellite imagery sources including historical imagery (online resource)
- National Parks and Wildlife Service (NPWS) online datasets and literature
- National Biodiversity Data Centre (NBDC) online resources
- BirdWatch Ireland and online I-WeBS (Irish Wetland Bird Survey) data
- Geological Survey Ireland (GSI) area maps on-line (including Teagasc soil maps)
- Environmental Protection Agency (EPA) waterbody and water quality data and online mapping
- Inland Fisheries Ireland (IFI) fish sampling reports and fish data online
- Review of requested records from NPWS Rare and Protected Species database
- Relevant County Development Plans (CDPs) for County Galway (see **Section 3.4.1**)
- Screening for Appropriate Assessment report (Aquafact, 2017) for Planning Application 17/967
- Environmental Impact Statement (EIS) (Mott MacDonald, 2017) for Planning Application 17/967
- Other sources and research listed in **Section 5**, below, and as footnotes throughout the report.

2.3.3 Data Requests and Database Searches

The study area lies within OSI National Grid hectad L92. A data request for records of rare or protected species from this hectad encompassing the development site and a five-kilometre radius around it was submitted to NPWS on 20th March 2025. Requested data was received from NPWS on 15th July 2025.

Information on species records available for hectad L92 was also retrieved from the NBDC on-line database and reviewed. 'The Status of EU Protected Habitats and Species in Ireland' interactive map-viewer available on-line from

⁵ [Select Search Type](#) Accessed: 25th May 2025

⁶ [Welcome to An Coimisiún Pleanála | An Coimisiún Pleanála](#) - Accessed: 25th May 2025

the NPWS was also reviewed in relation to records of EU annexed habitats and species known to occur in the vicinity of the development site⁷.

A review of BirdWatch Ireland I-WeBS⁸ online database determined that summary data for the closest count sites and sub-sites to Ros an Mhíl Harbour was unavailable online⁹. A request was submitted to BirdWatch Ireland on 20th March 2025 for I-WeBS count data for relevant survey subsites around Ros an Mhíl and the development site. All requested information was provided by BirdWatch Ireland on 26th March 2025.

Information received via the NPWS, NBDC and BirdWatch Ireland in response to the data requests and database searches was used to help inform the baseline surveys and impact assessment in relation to the development.

2.4 Field Surveys

2.4.1 Study Area

The study area for the field surveys is shown in **Figure 1**, below and for this assessment was taken as the entire development site near Ros an Mhíl Harbour as well as the adjoining habitats (including part of Cashla¹⁰ Bay).



⁷ <https://storymaps.arcgis.com/collections/1a721520030d404f899d658d5b6e159a?item=1> Accessed: 26th May 2025

⁸ Irish Wetland Bird Survey (I-WeBS) – annual winter counts at wetland sites within the Republic of Ireland. Counts are coordinated by BirdWatch Ireland and are undertaken to monitor population trends for wintering waterbirds across the country.

⁹ [Site Summary Tables S27](#) Accessed: 26th March 2025

¹⁰ In English, generally, the names 'Cashla' and 'Casla' appear to be used interchangeably. 'Costelloe' is the English name for the village of Casla situated just north of Ros an Mhíl village, but the names of nearby features are known as Cashla Bay (Cuan Chasla) and Cashla River (Abhainn Chasla). Within this document, the name 'Casla' is used only in reference to the village and/or in the context of the official EPA-registered names of waterbodies/facilities, some of which are named using the spelling 'Casla' e.g. Casla Estuary.

Figure 1: Approximate extent of study area encompassing the development site and publicly accessible adjoining areas.

2.4.2 Previous Ecological Surveys

Ecological surveys of the development site were previously undertaken in support of the original planning application submitted for the site by the Applicant (Planning Application 17/987)).

Previous terrestrial ecology surveys carried out at the site included those for habitats and flora, volant and non-volant mammals, birds and general protected species/habitats. Surveys were undertaken on 7th October 2010 and are detailed in '*Rossaveel Harbour: Deep Water Quay Development. Environmental Impact Statement. Chapter 9: Terrestrial Ecology*' (Mott MacDonald, 2017).

Marine ecology surveys were carried out on 11th October 2016. These included subtidal benthic surveys for faunal and sediment granulometric analyses, drop-down video surveys, sediment chemistry surveys, marine mammal and fish surveys, flood risk assessment, and wave/hydrodynamic modelling. Details of all previously carried out marine ecology surveys are presented in '*Rossaveel Harbour: Deep Water Quay Development. Environmental Impact Statement. Chapter 10: Marine Ecology and Water*' (Mott MacDonald, 2017).

2.4.3 Recent Ecological Surveys

The desktop study completed by MWP (refer to **Section 2.3**, above) was supplemented by a multi-disciplinary ecological walkover survey of the study area. This survey was undertaken by MWP ecologists on 15th April 2025 and provided supplementary baseline data on the local ecology, including the habitats occurring or which may have previously occurred, and the species (flora and fauna) which are present or can have reasonably been expected to be present at the time of earlier development activity.

The study area for the 2025 ecological surveys carried out by MWP was the entire development site near Ros an Mhíl Harbour and the publicly accessible surrounding lands as shown in **Figure 1**, above

Summaries of the MWP field survey methodologies employed are provided in the following sub-sections.

2.4.3.1 Habitats and Flora

Baseline habitat and flora surveys were carried out as part of the MWP multi-disciplinary ecological walkover survey on 15th April 2025.

All habitat surveys were carried out within the optimum flora survey period of April to September and in accordance with guidelines contained in '*Best Practice Guidance for Habitat Survey and Mapping*' (Smith *et al.* 2011). Habitats were recorded and classified according to the classification scheme outlined in the Heritage Council's publication '*A Guide to Habitats in Ireland*' (Fossitt, 2000). As part of these surveys, any habitats with potential links to EU Annex I habitat, either occurring presently or likely to have occurred historically within the development area, were evaluated.

2.4.3.2 Fauna

Non-volant¹¹ mammals and/or evidence of their activity such as prints, faecal pellets/droppings, burrow-holes/dens and food caches, activity trails and disturbed vegetation were looked for during the MWP ecological walkover survey. In general, '*Animal Tracks and Signs*' (Bang & Dahlstrom, 2004) and the Mammal Society publication '*How to Find and Identify Mammals*' (Muir *et al.* 2013) were followed. Evidence of otter was looked for along the shoreline and at suitable locations within the development site and harbour with reference to '*Monitoring the Otter*

¹¹ Non-volant mammals are land-based mammals incapable of flight i.e. all land-based mammals excluding bats.

Lutra lutra' (Chanin, 2003) for guidance on identification of otter signs including spraints, footprints, tracks, couches, and holts.

During the walkover survey, all bird species seen or heard were recorded and any evidence of breeding activity was noted. The survey aimed to determine presence/absence of bird species using the surrounding harbour area, including birds on the water or flying overhead. Habitats either occurring presently or likely to have occurred historically within the development area were also assessed for their potential suitability for avian species.

2.4.3.3 Invasive Alien Plant Species (IAPS)

During the multi-disciplinary ecological walkover survey, the development site and surrounds were surveyed for the presence of terrestrial and aquatic invasive alien plant species (IAPS), with a focus on those species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (SI 477 of 2011, as amended). Any infestations encountered were recorded and the species, location and extent of infestation was noted, and a photographic record made.

3. Stage 1: Remedial Screening for Appropriate Assessment

The purpose of this remedial screening assessment is to record in a transparent and reasoned manner the likely effects of the unauthorised deep water quay works near Ros an Mhíl Harbour on relevant European sites and whether these likely effects were or could have been significant. Screening for Appropriate Assessment (Stage 1) determines the need for a full Appropriate Assessment (Stage 2) and consists of several steps, each of which is addressed in the following sections of this report:

- 3.1** Establish whether the unauthorised deep water quay works were necessary for the management of a European site(s).
- 3.2** Description of the deep water quay works - authorised (26th January to 10th July 2023), and unauthorised (11th July 2023 to 20th May 2024) - carried out at Ros an Mhíl Harbour in County Galway.
- 3.3** Description of the site's pre-development ecological characteristics, description of the existing site, and a summary of the results of the historic and recent field surveys.
- 3.4** Identification of other plans, projects and/or activities with which the deep water quay works may have interacted or are currently interacting to create in-combination effects.
- 3.5** Identification of European site(s) potentially affected.
- 3.6** Identification and description of potential individual and cumulative impacts (in-combination effects) of the development.
- 3.7** Assessment of the significance of the impacts, if any, on European sites.
- 3.8** Conclusion of screening stage.

3.1 Management of European Sites

The unauthorised deep water quay construction works were not connected with or necessary to the conservation management of any European site.

3.2 Description of Deep Water Quay Works

3.2.1 Site Location and Context

The deep water quay works site is situated immediately southwest of Ros an Mhíl Harbour on the northeast shore of Cashla Bay approximately 1 kilometre southwest of the Gaeltacht village of Ros an Mhíl in Connemara and approximately 40 kilometres west of Galway City - see **Figure 2**, below. Access to the development site is from the R372 Regional Road through Ros an Mhíl village via the R336 connecting the village to Galway City.

The village contains several residential dwellings, a local shop, school and church, with industries in the wider area providing support to the fishing port at Ros an Mhíl Harbour including companies that supply diesel/oil, process fish, and repair nets/boats. The harbour serves fishing fleets operating off the coast of Galway and is suitably located between the major fishing ports of Dingle and Castletownbere to the south and Killybegs to the north. Ros an Mhíl Harbour also supports ferry and leisure activities.

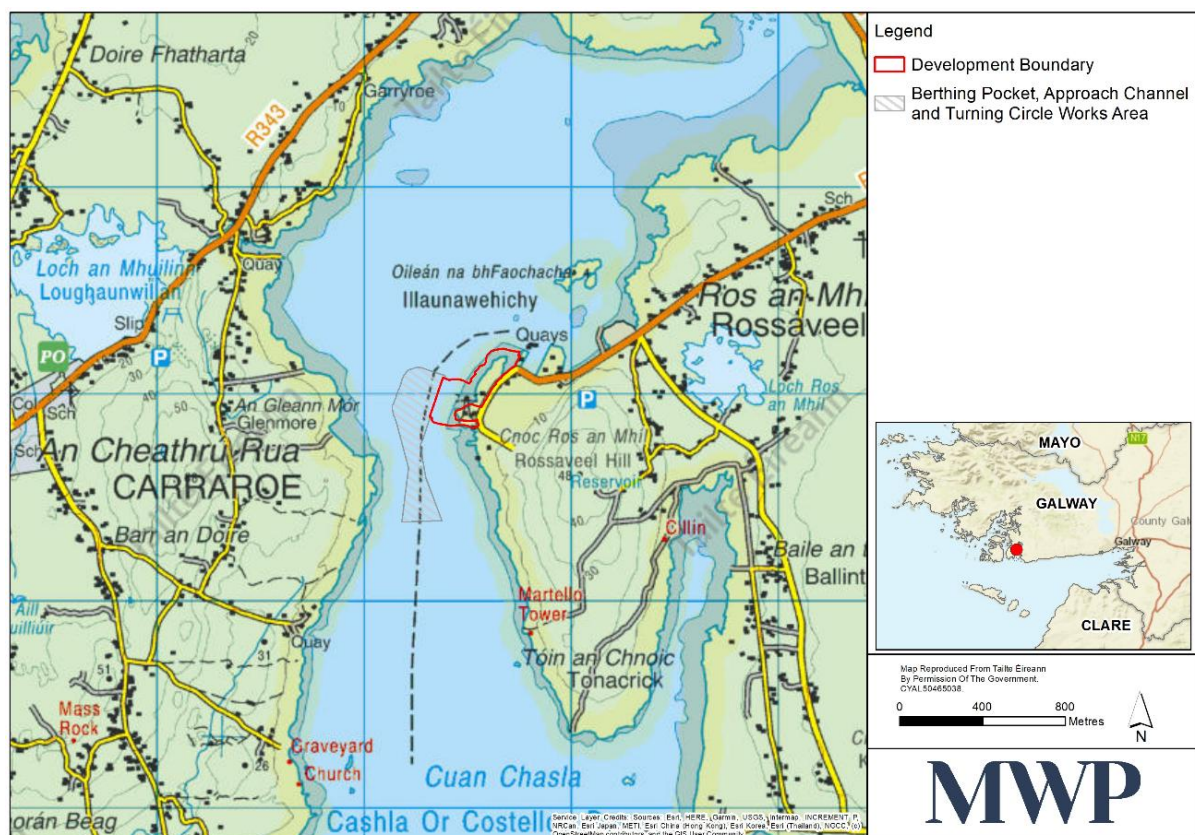


Figure 2: Location of development site near Ros an Mhíl Harbour in County Galway.

3.2.2 Summary of Authorised Works – 26th January to 10th July 2023

The first phase of the Deep Water Quay construction from 26th January 2023 to 10th July 2023 took place during the appropriate period of permission Planning Ref. 17/967. It included the following works:

1. Mobilisation and development of construction compound and facilities.
2. Reclamation: importing rock fill material to increase the existing ground level to the high-water level and to fill the marine area behind the proposed quay wall (east side) to create a construction surface to the level of +5mCD
3. Rock Armour for revetments (35%).

4. Drilling and blasting of 15% of the proposed quay wall trench and berthing pocket (2 blast events).
5. Off-site construction of 45 pre-cast concrete caissons.

On the basis of the foregoing, prior to the end of the appropriate period or “life” of the permission on 10th July 2023, significant works had been completed. Approximately 90% of the 2.4 hectares reclamation was complete and 15% of the rock blasting in the middle of the berthing pocket and quay wall trench was complete (see **Figure 3**).

The reclamation involved the use of imported engineering fill material transported from local quarries to the site, tipping from the lorries and use of excavators to place and level the material. The approximate quantity placed is 390,000 tonnes of stone.

Site Status Pre-Commencement



Site Status 10th July 2023



Figure 3: Photographs of development site showing status pre commencement and status on 10th July 2023

3.2.3 Description of Unauthorised Works - 11th July 2023 to 20th May 2024

The works carried out between 11th July 2023 to 20th May 2024 for which substitute consent is being applied for are summarised below. The works which took place during this period were understood by DAFM to be permitted by reason of a permission (Planning Ref. 23/218) for the extension of duration of Planning Ref. 17/967. These works were:

1. Completion of Reclamation area by placing engineering fill material into a remaining area of 0.12 ha within the middle of the reclaimed lands.
2. Creation of a temporary protective berm around the quay wall trench. This is a temporary structure needed for the construction of the quay wall.
3. Drilling and blasting of the remaining 85% (18 blast events) of quay wall trench and berthing pocket was completed along with a small circular area in the channel adjacent to the berthing pocket.
4. Dredging of rock in quay wall trench (50m long).
5. Filling and dredging the blasting platforms in berthing pocket.
6. Installation of Concrete Batching plant.
7. Installation of 48m of quay wall foundations.

The area of drilling and blasting for the quay wall and berthing area undertaken is indicated in purple in **Figure 4**. The relevant Planning Drawings of these works are 24984-XX-DR-MWP-CE-5010, 24984-XX-DR-MWP-CE-5011, 24984-XX-DR-MWP-CE-5012 and 24984-XX-DR-MWP-CE-5013.



Figure 4: Map indicating the development works area, including the reclamation area, the blasting and dredging areas, the berm construction areas and rock armour placed undertaken between Jan 2023 and May 2024

The delivery of the caissons to site at Ros an Mhíl commenced in November 2023 and by end of Jan 2024 a total of 92 units had been delivered. These units were removed from the site back to the manufacturers plant when works were suspended

A total of 121 No. L-Wall units were fabricated during this period and these are stored at Banagher Concrete, awaiting transport as and when required on site. Two were delivered to site during this period.

When works were suspended in May 2024 (see **Figure 5**), all the contractor's equipment, facilities and materials were removed from site. The caissons and beams that had been delivered but not installed were returned to the manufacturer. This removal process took place between 20th May – 29th Oct 2024. A photograph of the final cleared site is provided in **Figure 6**.



Figure 5: Site Status on 20th May 2024 when the works ceased.



Figure 6: Status of site on 29th October 2024.

3.2.3.1 Reclamation:

The construction of the deep water quay as previously permitted under Planning Ref. 17/967 included the reclamation of a new area of land along the existing shoreline. This was achieved through the importation and use of engineering fill material to raise the ground level of the existing sea bed to the high-water mark (+5mCD). This involved transport of material from local quarries to the site, tipping from the lorries and use of excavators to place and level the material. The approximate quantity placed was 390,000 tonnes (or 200,000m³) of stone.

Figure 7 Provides a photograph of the development site in July 2023 when Planning Ref. 17/967 expired. The reclamation work was largely completed then to a level of +5mCD (with the exception of a remaining area of 0.12ha

within the centre of the reclaimed lands). Also the first three temporary blasting platforms for the quay wall trench and berthing pocket had been constructed and the drilling and blasting was completed on two of the three platforms. The only additional reclamation works undertaken during the works period for which substitute consent is being sought was the filling of the remaining hole in the centre of the reclamation area shown in **Figure 7**.



Figure 7: Photograph of the development site on the 10th July 2023 indicating the reclaimed area when the 2017 planning permission expired.

3.2.3.2 Temporary protective Rock Berm

In order to create a safe working environment for the construction of the quay wall, a temporary protective rock berm north, south and west of the proposed quay wall was constructed. **Figure 8** provides a photograph of this temporary protective berm around the quay wall trench. The quay wall trench is located in the middle of the lagoon within the berm. The berm structure is needed temporarily to facilitate the construction of the quay wall. Imported rock from local quarries was used to construct the northern and southern berms and dredged rock from the blasting areas was used to construct the remainder (west side) of the protective berm.



Figure 8: Site Status on 14 May 2024 when the presumed lawful works ceased.

3.2.3.3 Drilling and Blasting

At the time of the 2017 planning application, the anticipated method for removing rock for the quay wall trench and berthing pocket was to use a jack-up pontoon to undertake the drilling and blasting works. However, the appointed contractor considered that the use of a Jack Up Pontoon was not the best practicable environmental option or most efficient method to use to remove the rock. An alternative method was developed. The method adopted was to fill the marine area above each section of the quay wall trench and berthing pocket with rockfill up to the high water level to create a blasting platform. The drilling and blasting of the quay wall trench was undertaken in segments. Each segment to be blasted was first filled with rock to the high-water level and then holes at 2.5m cc were drilled into the fill material and bedrock to 2.5m below the required depth of the quay wall foundations level. These holes were then filled with casings and explosives and blasted (see **Figure 10**). The dredged rock was then removed with excavators and used to construct a platform for the next segment to be blasted.

Figure 9 shows the sequential process of constructing the blasting platforms, blasting and dredging the quay wall trench and berthing pocket from start to finish. Each blasting platform (finger) was c40m long and c10m wide. While the first three fingers in the middle of the trench were constructed together with imported rock, the remaining fingers were constructed individually using the rock material that was previously used as a blasting platform. To facilitate the efficient use of materials and machinery, the blasting started in the middle of the proposed quay wall (see **Figure 11**) and thereafter progressed in a sequence of constructed fingers that alternated between the north and south sides of the centre of the trench, gradually progressing to the ends of the quay wall trench (see **Figures 12 to 15**).

After each blast, the temporary blasting platform was removed and used to construct the next platform. Drilling was carried out using drilling rigs operating on top of the (temporary) blasting platforms (see **Figure 16**). The drilling equipment specifications was a DT145 Drilling unit: Hydraulic pressure 280 bar.

Three (3 No.) drilling and blasting platforms (of a total 20 No.) were constructed prior to 10th July 2023, of which two (2 No.) were drilled and blasted. The remaining 18 No. drilling and blasting events which were undertaken between 11th July 2023 and 20th May 2024 comprise works for which substitute consent is sought.

Explosives were used for blasting with varying numbers of explosives required per blast as the number of blast holes varied per location. The following specifications reflect one such blast which consisted of 108 holes at average depths of 17m:

- Explosives: Kemex 70, Detonators: U500 x 21.0m, SL 17ms x 7.8ms
- Boosters 250g: SL 25ms x 7.8m, SL 42ms x 7.8m
- Estimated Blast Tonnage: 30,983t
- Total explosive charge: 5,244kg

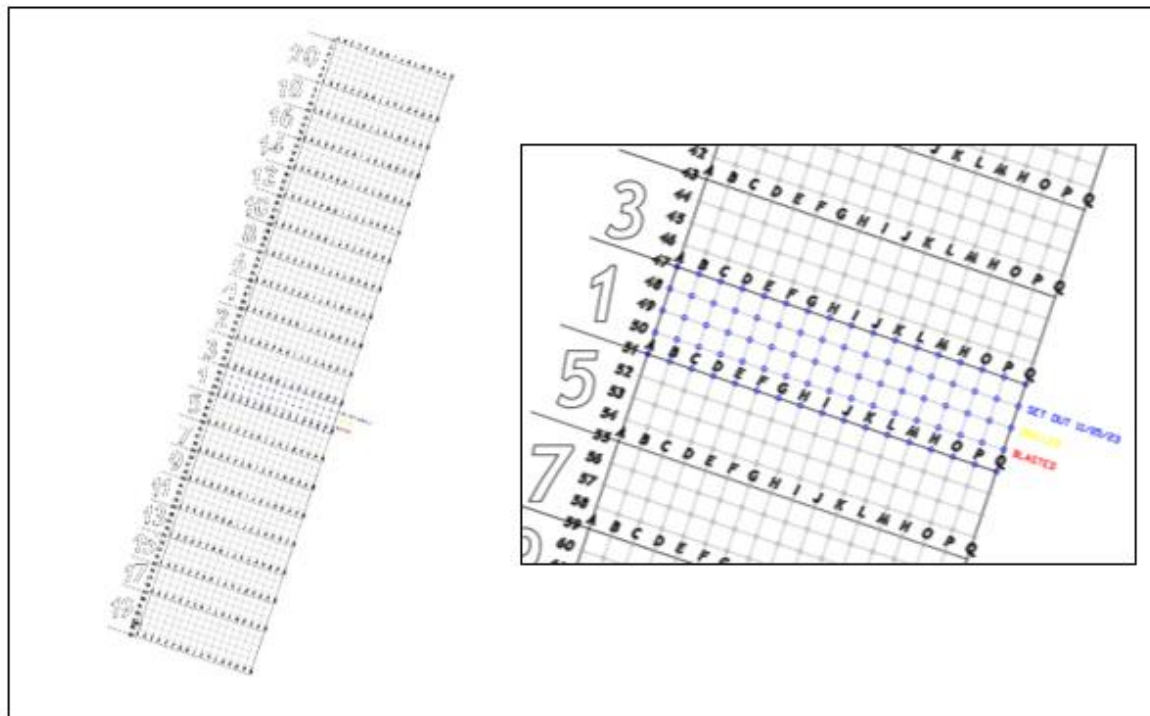


Figure 9: Blasting sequence for Quay wall trench and berthing pocket.



Figure 10: Photograph of a platform blasting event.



Figure 11: Southern protective berm with initial 3 blasting platforms in the middle of the quay wall trench on 12 July 2023.



Figure 12: Construction of blasting platform 5 on 18th July 2023.



Figure 13: Construction of two blasting platforms on 26th Sept 2023.



Figure 14: Progress with blasting platforms on 11 Oct 2023.



Figure 15: Quay wall trench and protective berm on 20th March 2024.



Figure 16: Drilling Rig used to drill the blasting holes.

3.2.3.4 Dredging

The dredging of the blasted rock began just after the 11th July 2023 using excavators on the platform and/or on floating pontoons. The dredged rock was used to create each new blasting platform and the protective temporary berm on the sea (west) side of the quay wall trench (see **Figure 17**). All the dredged material was rock rather than sand or silt. These works are subject of the substitute consent application.



Figure 17: Photograph showing use of excavators on the protective berm and on floating pontoons in the constructed lagoon.

3.2.3.5 Construction of the Quay wall Foundations

Once the blasting of the quay wall trench was completed, the process of laying the foundations of the quay wall commenced. These works were undertaken between 11th July 2023 and 20th May 2024 and comprise development subject of the substitute consent application.

These foundations consisted of precast reinforced concrete ground beams (12m long x 0.35m wide x 0.5m high) placed along front and rear lines of the previously permitted quay wall. The pre-cast concrete beams for the quay wall had been constructed off-site and were delivered.

Figure 18 illustrates how caissons are placed on top of the foundation beams. The foundation beams are lowered into the quay wall trench using land-based cranes and a levelling frame designed specially to lower the beams into position. **Figure 19** shows this lowering frame with two beams attached before it was lowered into the quay wall trench. This frame has four adjustable hydraulic legs, which, once lowered into the trench and sitting on the bed, are adjusted to level the beams and frame to the correct level for the foundations of the Quay wall. The top of the foundation beams need to be at a level of minus 10m Chart Datum on the 200m long front wall of quay and at minus 4.74mcd on the return walls of the quay. Once correctly positioned, divers' direct liquid concrete delivered via a Tremie Pipe (see **Figure 20**) to surround the concrete beams to hold them in position and ensure their stability and proper bearing. Once concreted into position, and after allowing sufficient time for the concrete to cure, the frame operator releases the beams, and proceeds with the installation of the next set of beams.

During the period 11th July 2023 and 20th May 2024, 48m (24 %) of the front quay wall foundations (8 foundation beams) were installed. The rest are yet to be installed.



Figure 18: Photograph showing the (7m x 4m x 2m) concrete caisson boxes being positioned on precast concrete foundation beams positioned on the ground during a field trial on land.



Figure 19: Bespoke frame used to accurately lower and position the foundation beams for the quay wall in the trench.



Figure 20: Liquid concrete being delivered via Tremie Pipe and directed by underwater divers to surround and hold the foundation beams in place.

3.2.3.6 Mobilisation and Construction Compound and Facilities

A temporary contractor's compound was located in the northern corner of the project site adjacent to the existing Ros an Mhíl harbour facilities in a surfaced area previously used for parking (see **Figures 21 to 23**). This site included temporary site offices (Portacabins), staff welfare facilities and car parking, and equipment lay down areas.

Office compound welfare facilities were connected to a waste-water holding tank installed for the duration of the construction works and removed thereafter. The waste water holding tank was emptied as required and effluent disposed of at a municipal WWTP.

The compound was put in place prior to the expiration of the appropriate period of Planning Ref. 17/967 and remained in place and operational during the period 11th July 2023 and 20th May 2024 and therefore falls within the scope of the substitute consent application.



Figure 21: Layout for the Construction Compound Facilities at the northern end of the proposed development site.



Figure 22: Photograph on the 14th Dec 2023 View of Compound, Concrete Batching Plant, Aggregate Storage Areas in foreground with works area in background.



Figure 23: Photograph of the Construction compound with offices, storage and parking areas.

3.2.3.7 Concrete Batching Plant

A project specific ready-mix concrete batching plant also formed part of the construction facilities provided on site (see **Figure 24**) during the substitute consent period 11th July 2023 and 20th May 2024. A concrete base for the plant was constructed in September 2023 and the batching plant was installed in October 2023. This plant was used to provide concrete for the construction of the quay wall foundations. When the construction works ceased in May 2024, the batching plant was removed from site.

Storage areas for the construction materials and supplies for the concrete production plant were located adjacent to the construction compound (see **Figure 25**).



Figure 24: Photograph of the mobile Concrete Batching Plant and water storage tank.



Figure 25: Storage areas for the construction materials and supplies for the concrete production plant adjacent to the construction compound.

3.2.4 Characteristics of Unauthorised Works

The elements of the unauthorised works are further characterised hereunder.

Table 1. Characteristics of the unauthorised works carried out from 11th July 2023 to 20th May 2024.

<i>Size, scale, area, land-take</i>	The overall area encompassed within the development boundary is approximately 6.78 hectares. There is no spatial overlap of any element of the development with a European site; therefore, there was no land-take from any European site.
<i>Details of physical changes that likely/possibly took place during the various stages of implementing the works</i>	Physical changes which occurred or potentially occurred to facilitate the unauthorised development are outlined as follows: ▪ Construction of temporary drilling platforms using fill material. ▪ Drilling and blasting of the granite bedrock and dredging of the resulting broken rock and soft sediment. ▪ Transportation and dumping of dredged material to a reclamation area situated behind the proposed quay wall. ▪ Construction of on-site concrete batching plant. ▪ Delivery and storage of pre-cast concrete caisson units, L-wall units and ground beams. ▪ Dredging/grading of blasted stone in preparation for installing ground beams. ▪ Stockpiling of excavated material. ▪ Importation of suitable material. ▪ Construction of infrastructure including paths, drainage and services. ▪ Ancillary site development works. ▪ Removal off-site of unsuitable and surplus material.
<i>Description of anticipated resource requirements for the construction/operation and decommissioning of the development (water resources, construction material, human presence etc)</i>	<u>Materials (Indicative)</u> ▪ Explosives ▪ Diesel, Hydraulic/Engine Oil ▪ Hoarding, scaffolding, propping, etc ▪ Drainage pipes, fitting and pipework ancillaries for surface water drainage ▪ Concrete (in-situ/sundries/formwork/precast) ▪ Fill (crushed stone Clause 804, pea gravel) ▪ Cement mortar etc. ▪ Fencing/signage ▪ Lights <u>Plant/Machinery (Indicative)</u> ▪ Tracked Excavators 30T, 50T, 120T ▪ Drilling Rig ▪ 6T Dumper Trucks ▪ Truck with Explosives ▪ Crane ▪ Barges

	▪ Boat (container for equipment) ▪ Diving Equipment ▪ Concrete Pump ▪ Tremie Pipe ▪ Lifting Frame and Levelling Frame ▪ Generator Human Resources Although the number of employees on site fluctuated during the different phases of the works, it is envisaged that up to 30 persons were on the site during the unauthorised works including site contractors, on-site vehicle and plant operators, engineers, divers, delivery personnel, environmental personnel, and health and safety personnel.
<i>Description of anticipated timescale for the various activities that likely/possibly took place as a result of implementation (including likely start and finish date)</i>	The timeline of all works completed thus far is 26th January 2023 to 20th May 2024, inclusive, split into authorised works and unauthorised works as follows: <u>Authorised works</u>: Reclamation of land, placement of rock revetment, and initiation of drilling and blasting operations - occurred from 26th January to July 10th 2023, inclusive. <u>Unauthorised works</u>: Drilling, blasting and dredging operations, construction of on-site concrete batching plant, deliveries of pre-cast concrete structures, installation of ground beams, clearance of site - occurred 11th July 2023 to 20th May 2024, inclusive.
<i>Description of wastes arising and other residues (including quantities) and their disposal</i>	Waste generated at the site during the unauthorised works comprised the following: ▪ Concrete, bricks, wood, plastic ▪ Soil/sub-soil, stones ▪ Paper, cardboard/plasterboard ▪ Mixed Construction and Development (C&D) waste ▪ Liquid fuels/oils/lubricants ▪ W/C utilities waste ▪ Green waste Most of the waste generated during the unauthorised works was clean, inert material such as mixed dry recyclables. Where it was not possible to reuse surplus material on-site, the material was removed from the site by licenced waste contractors for disposal of in accordance with best practice procedures at an approved, licenced facility. Removal of effluent/wastewater from the construction compound facilities was carried out by a permitted waste contractor. Refuelling of plant on-site (e.g. excavators) occurred in designated areas only. All other site vehicles (cars, vans, rigid/articulated vehicles etc.) were refuelled off-site.
<i>Identification of wastes arising and other residues (including quantities) that may have been or may be of particular concern in context Natura 2000 network</i>	▪ Fuels/oils/lubricants/chemicals etc. ▪ Waste concrete/mortar and other cementitious material ▪ Stockpiled/waste soil/sub-soil etc.
<i>Description of any additional services required to implement the project or plan, their location and means of construction</i>	Temporary site compound(s), including temporary welfare facilities, were set up by the main contractor(s).

3.3 Description of the Development Site

3.3.1 General Site Description

The development site near Ros an Mhíl (Rossaveel or Rossaveal in English) village is located within the Connemara region of western County Galway, approximately 40 kilometres west of Galway City. The terrestrial elements of the development are located within the townland of ‘Rossaveel’ and situated within the Electoral Division (ED) of ‘Kilcummin’ (Cill Chuimín) (ED 67122) which, during the 2022 census, was found to have a total population of 1,403 persons with almost all residing in private households in small rural villages or ribbon development along the local road network¹².

The existing rectangular-shaped north-facing Ros an Mhíl Harbour consists of two piers – Pier 1 and Pier 2 - that presently serve approximately 35 vessels including whitefish boats, small pelagic vessels, and recreational angling boats on day trips. Additionally, several Irish-registered deep water fishing vessels sporadically call at the pelagic berth at Pier 2, while a small craft harbour to the northeast provides berths for approximately forty small crafts. East of Pier 2 is a foot passenger terminal for ferries operating to the Aran Islands along with three floating pontoon ferry berths linked to the mainland via gangways. The deep water quay works site is located to the west and southwest of these existing harbour structures – see **Figure 26**, below.

The development site is bounded to the north, south and west by the open waters of Cashla Bay while areas to the east include unused, sparsely vegetated rocky ground, the R372 Regional Road, and two small Údarás na Gaeltachta buildings at the southeast border. Cashla Bay Lighthouse is situated on Lion Point approximately fifteen metres south of the redline boundary, and Lir Environmental Research operates a single 3MW wind turbine at a location approximately 150 metres to the south - see **Figure 26**, below. Connemara Airport lies approximately eight kilometres southeast of the development site while Shannon International Airport is located approximately 75 kilometres to the southeast.

The CORINE¹³ (2018) land cover category for the development works is ‘Sea and ocean (523)’ for the aquatic-based elements of the work, and ‘Sea ports (123)’ for most of the terrestrial areas of the redline. A small section of the southeasternmost corner of the site falls within an area extending southwards from the site categorised as ‘Moors and heaths (322)’. Within the wider area there are ‘Pastures (231)’ to the southeast and across the bay, ‘Sparsely vegetated areas (333)’ to the east, and ‘Peat bogs (412)’ across the bay to the southwest¹⁴.

¹² [Interactive Data Visualisations | CSO Ireland](#) Accessed: 24th April 2025

¹³ Co-ORdinated INformation on the Environment – data series initiated in 1985 by the European Commission to gather environmental data.

¹⁴ [EPA Maps](#) Accessed 25th April 2025

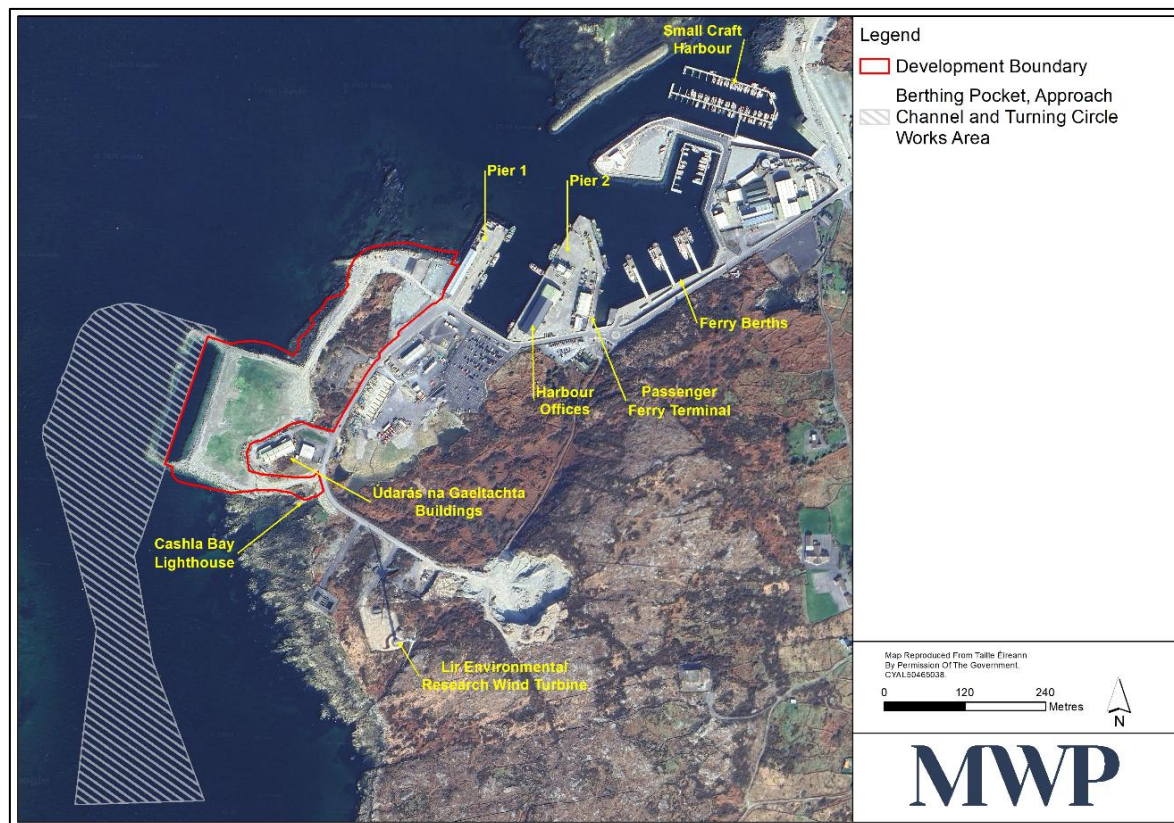


Figure 26 : Features of Ros an Mhíl Harbour relative to the development area redline boundary.

A review of bedrock mapping determined that the rock unit underlying all parts of the development site is ‘Banded Zone (Galway Granite)’ as part of the Devonian system with lithology described as ‘east-west trending, foliated, arcuate mixed zone of granodiorite or granite and mafic quartz diorite’. Bordering this band of bedrock to the east is the ‘Costello Murvey Granite’ rock unit comprised of ‘Med-coarse leucocratic syenogranite’ while to the south, a small pocket of ‘Pink-grey leucocratic granite’ bedrock forms part of the rock unit ‘Lough Lurgan Granite’. Soils at the development site are ‘Acid Shallow, lithosolic or podzolic type soils potentially with peaty topsoil’¹⁵.

3.3.2 Hydrology

The development site is located within the Water Framework Directive (WFD) Cashla_SC_010 sub-catchment which in turn is located within the Galway Bay North Catchment (31). A review of the EPA map-viewer¹⁶ determined that there are no watercourses traversing the development site. The nearest are three small 1st Order streams (Carrowroe South Stream and two unnamed streams) that drain into Cashla Bay¹⁷ near Sruthán Pier to the west of the development site on the opposite side of the bay. These three streams are all constituents of the Carrowroe_South_010 River Waterbody¹⁸. The Carrowroe South Stream is the only EPA-registered watercourse flowing into and out of Loughaunwillan (Loch an Mhuilinn)¹⁹, a large lake containing eighteen islands located approximately 1.3 kilometres northwest of the development site across the bay – refer to **Figure 27**, below.

¹⁵ [Geological Survey Ireland Spatial Resources](#) Accessed 25th April 2025

¹⁶ [EPA Maps](#) Accessed: 19th April 2025

¹⁷ EPA Coastal Waterbody Code: IE_WE_190_0000

¹⁸ EPA River Waterbody Code: IE_WE_31C050910

¹⁹ EPA Lake Waterbody Code: IE_WE_31_120

Watercourses on the same side of the bay as the development site include the 4th Order Cashla River and its tributary the 2nd Order Rossaveel River, both part of the Cashla_010 River Waterbody²⁰. The Cashla River empties into the Casla Estuary²¹ approximately 2.4 river kilometres²² upstream of the development site (**Figure 27**, below).

Compliance with the reporting requirements of the WFD (Directive 2000/60/EC) obliges each European Union (EU) member state to publish reports providing summary information about individual waterbodies relating to their status, risks and objectives. The WFD Ecological Status (2016–2021) of the Carrowroe_South_010 River Waterbody is 'Moderate' while the Cashla_010 River Waterbody and the Loughaunwillan Lake Waterbody both have a status of 'Good'. Casla Bay Coastal Waterbody and Casla Estuary Transitional Waterbody both have an ecological status of 'High', however, neither are on a 'published monitoring programme'²³.

There are no EPA water quality monitoring stations downstream of the development site. The nearest monitoring station²⁴ is on the Cashla River where the Cashla Bridge crosses R336, approximately 3.4 river kilometres upstream of the development site. The latest river Q-value²⁵ for the station is 'Q4, Good' and it was recorded by the EPA in 2024. The Carrowroe_South_010 River Waterbody has been assigned a WFD risk status of 'Review'²⁶ while the Cashla_010 River Waterbody is classed as being 'At risk'²⁷. Casla Bay Coastal Waterbody and Casla Estuary Transitional Waterbody have both been classified as being 'Not at risk'²⁸ (EPA, 2024).

The development site overlies the Spiddal Ground Waterbody²⁹ and is characterised as 'poorly productive bedrock' with a WFD Ecological Status (2016–2021) of 'Good' and a risk status of 'Not at risk'.

²⁰ EPA River Waterbody Code: IE_WE_31C010100

²¹ EPA Transitional Waterbody Code: IE_WE_190_0100

²² River kilometres (rkm): measure of the distance in kilometres along the path of a watercourse/waterbody (as opposed to a linear measure such "as the crow flies").

²³ [Data - Catchments.ie - Catchments.ie](https://data.catchments.ie/catchments) Accessed: 22nd April 2025

²⁴ EPA Monitoring Station Code: RS31C010100

²⁵ Quality Rating (Q) System devised by Toner *et al.* (2005). This method categorises invertebrates into one of five groups (A-E), depending on their sensitivity to pollution. Q values range from Q1-Q5 with Q1 being the poorest quality and Q5 being pristine/unpolluted conditions. The system is used by the EPA and is the standard biological assessment technique used when surveying rivers in Ireland under the WFD.

²⁶ *Review* – either additional information is needed to ascertain the waterbody's status, or measures have been undertaken but the results have not yet been monitored ([EPA Maps](https://epamaps.ie) Accessed: 15th April 2025).

²⁷ *At risk* - either the waterbody is currently not achieving its WFD environmental objective of Good or High Ecological Status, or there is an upward trend in nutrients/ammonia, and should this trend continue, the waterbody Status will decline and fail to meet WFD objectives by 2027. [EPA Maps](https://epamaps.ie) Accessed: 11th May 2025.

²⁸ *Not at risk* – waterbody is meeting its WFD objectives. Requires maintenance of existing measures to protect satisfactory status.

²⁹ EPA Ground Waterbody Code: IE_WE_G_0004



As shown in the habitat map in **Figure 28**, below, the development area is, at present, comprised mainly of artificial surfaces and open marine water. Habitats within the immediate environs are similar but with slightly more variation. Existing habitats within and around the development site include the following:

Buildings and artificial surfaces (BL3)	Scrub (WS1) / Recolonising bare ground (ED3)
Stone walls and other stonework (BL1)	Scrub (WS1)
Sea walls, piers and jetties (CC1)	Lagoons and saline lakes (CW1)
Open marine water (MW1)	Upper salt marsh (CM2)
Exposed rocky shores (LR1)	Scrub (WS1) / Dry siliceous heath (HH1)
Moderately exposed rocky shores (LR2)	Amenity grassland (improved) (GA2)

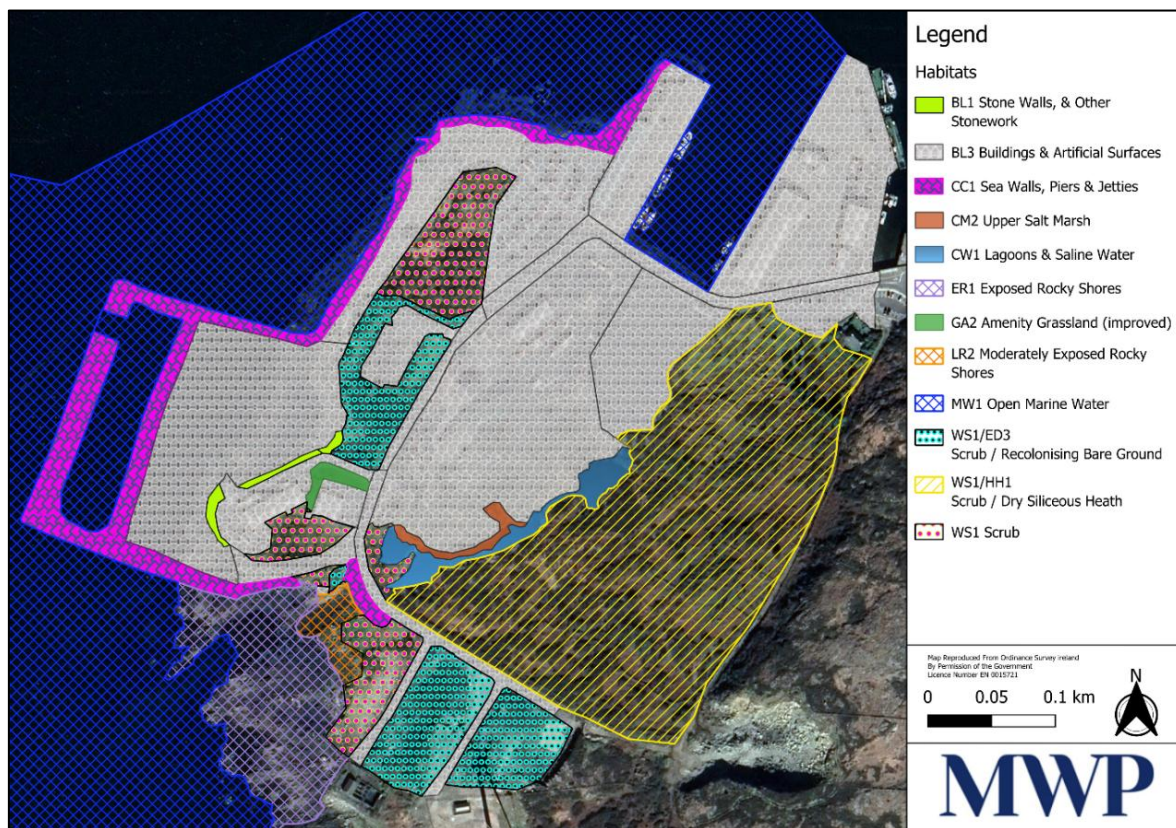


Figure 28: Map of existing habitats at the development site near Ros an Mhíl Harbour in April 2025.

3.3.3.1 Buildings and Artificial Surfaces (BL3), and Stone Walls and Other Stonework (BL1)

Buildings and artificial surfaces (BL3) is the predominant terrestrial habitat type within the development boundary. It encompasses the reclaimed land and approach causeway, both Pier 1 and Pier 2, the Údarás na Gaeltachta buildings, Cashla Bay Lighthouse, the R372 and other local roads, and all existing structures and car parks with artificial surfaces (refer to **Figure 26**, above, for building locations). The reclaimed land was created predominantly by importation of engineering fill material, and to a lesser extent reusing blasted and dredged seabed substratum. Small areas of **Stone walls and other stonework (BL1)** consisting of large rocks and boulders occur on reclaimed land to the west and north of the Údarás na Gaeltachta buildings.

Both these artificial habitat types are devoid, or almost devoid, of any vegetation. Refer to **Plate 1**, below (see also **Plate 2** and **Plate 3**, below).



Plate 1. Westernmost Údarás na Gaeltachta building and reclaimed land, both classified as Building and Artificial Surfaces (BL3), with Stone Walls and Other Stonework (BL1) to the right of the middleground.

3.3.3.2 Sea Walls, Piers and Jetties (CC1)

On the seaward sides of the development area, there are **Sea walls, piers and jetties (CC1)** consisting mainly of protective rows of large rocks and boulders that are partially or totally inundated by sea water during tidal movements. The rocks and boulders of the upper shore that are subject to wave splash and sea spray display patches of the black lichen (*Verrucaria maura*). At the lower shore, where the rocks and boulders are periodically completely inundated, fucoids and kelps occur. Refer to **Plate 2**, below.

Also categorised as this habitat type is the rectangular configuration of protective rocks constructed at the western side of the site at the proposed deep water quay location. Measuring approximately 215 metres long and 60 metres wide, this rectangle of rocks is covered in layers of ephemeral green seaweed (*Enteromorpha* spp.) during the summer months - see **Plate 2**, below.

3.3.3.3 Open Marine Water (MW1)

Extending away from the site to the west, north and south into the bay is **Open marine water (MW1)**. This also describes the marine habitat found within the protective rectangular berm - see **Plate 2**, below.



Plate 2. Sea Walls, Piers and Jetties (CC1) and Open Marine Water (MW1) – (left) at northeast corner with Pier 1 in background, and (right) rectangular rock berm with green seaweed (*Enteromorpha* spp.) layer.

3.3.3.4 Exposed Rocky Shores (LR1)

An area of **Exposed rocky shore (LR1)** occurs south of the Údarás na Gaeltachta buildings, extending southwards along the coastline towards the Lir Environmental Research wind turbine. As is typical of this habitat type, the rocks of the extreme upper shore exhibit distinct bands of lichen within a lichen zone created by the differing levels of sea spray or wave splash exerted on an area – refer to **Plate 3**, below. Grey lichens (*Ramalina* spp.) occur at the upper reaches of the lichen zone, yellow lichens (*Xanthoria* spp.) are found within the middle region with black lichen (*Verrucaria maura*) present at the lowest reaches of the lichen zone. Rocks of the lower littoral and upper infralittoral zones are dominated by brown seaweeds (fucoids).

3.3.3.5 Moderately Exposed Rocky Shores (LR2)

The small section of shoreline south of Cashla Bay Lighthouse is classified as **Moderately exposed rocky shore (LR2)** and is comprised of boulders and rock and a smaller lichen zone than more exposed rocky shorelines. Black lichen and fucoids occur on the lower shore while at upper sections there are some patchy occurrences of terrestrial vascular plants like scurvygrass (*Cochlearia* spp.) and thrift (*Armeria maritima*) – see **Plate 3**, below.



Plate 3. West-facing view across Cashla Bay - Open Marine Water (MW1) and Exposed Rocky Shores (LR1) (with visible lichen zone) transitioning to Moderately Exposed Rocky Shores (LR2). Cashla Bay Lighthouse, categorised as Buildings and Artificial Surfaces (BL3), is located on the right.

3.3.3.6 Scrub (WS1) / Recolonising Bare Ground (ED3)

Two areas comprised of a **Scrub (WS1) / Recolonising Bare Ground (ED3)** mosaic are located to the southeast of the redline boundary adjacent to the Lir Environmental Research wind turbine and the R372. Vegetation within these areas is varied but dominated by gorse (*Ulex europaeus*), bramble (*Rubus fruticosus* agg.), and willow (*Salix* spp.) and typical ruderal species including dandelion (*Taraxacum* spp.) and ragworts (*Senecio* spp.) – refer to **Plate 4**, below.

There is also a relatively large central area of this habitat surrounding a concreted artificial surface located between the R372 and the coastline. Vegetation in this part of the site is similar to that of the same habitat type near the Lir Environmental Research wind turbine but is slightly more established and with additional species including ivy (*Hedera helix*), plantain (*Plantago major*), bird's-foot-trefoil (*Lotus corniculatus*), and heather (*Calluna vulgaris*).

3.3.3.7 Scrub (WS1)

An area of **Scrub (WS1)** in the northwestern region of the study area is dominated by dense gorse, bramble, heather, and bracken (*Pteridium aquilinum*) with patches of purple moor-grass (*Molinia caerulea*) and scattered willow trees also present - refer to **Plate 4**, below.

Several smaller pockets of scrub are located to the southeast of the study area towards the Lir Environmental Research wind turbine, and at the southern side of the Údarás na Gaeltachta buildings, around the Cashla Bay Lighthouse and on the eastern side of the R372 opposite the lighthouse. Vegetation in these areas is varied and includes species such as gorse, willow, bramble, silverweed (*Potentilla anserina*), bramble, ivy, teasel (*Dipsacus fullonum*) and fescues (*Festuca* spp.)



Plate 4. Area of Scrub (WS1) / Recolonising Bare Ground (ED3) adjacent to the R372 road classified as Buildings and Artificial Surfaces (BL3) (left), and Scrub (WS1) at northeast corner of study area near Pier 1.

3.3.3.8 Lagoons and Saline Lakes (CW1), and Upper Salt Marsh (CM2)

The centrally located brackish pools of standing water that stretch diagonally southwest to northeast across the study area are classified as **Lagoons and saline lakes (CW1)** - refer to **Plate 5**, below. The pools are separated from the sea by a stretch of the R372 near the Údarás na Gaeltachta buildings with a potential small outlet from the pools to the sea on the western side of the R372. Water currents are almost entirely absent from the pools while any tidal influence exerted on them is extremely limited. Vegetation appears to be sparse in these pools and limited to salt-tolerant species such as tasselweeds (*Ruppia* spp.) and stoneworts (Charophytes).

At the northern fringes of those brackish pools situated nearest the R372, a very narrow area of **Upper salt marsh (CM2)** occurs comprised predominantly of grasses and rushes (*Juncus* spp.) with other species including arrowgrass (*Triglochin* spp.) and ribwort plantain (*Plantago lanceolata*) also present - see **Plate 5**, below.

3.3.3.9 Scrub (WS1) / Dry siliceous heath (HH1)

The eastern side of the study area consists of a large tract of **Scrub (WS1) / Dry siliceous heath (HH1)** mosaic stretching from close to the Harbour Offices on Pier 1 southwards to where the R372 terminates near the Lir Environmental Research wind turbine. Dominant floral species at this habitat includes gorse of varying heights, dense bracken, willow, ivy, and ling (*Calluna vulgaris*) with the occasional occurrence of single, young stands of holly (*Ilex aquifolium*) and rowan (*Sorbus aucuparia*). Ground flora at the edge of this habitat supports species including dandelion, primrose (*Primula vulgaris*), coltsfoot (*Tussilago farfara*), and silverweed. See **Plate 5**, below



Plate 5. Northeast-facing view of Lagoons and Saline Lakes (CW1) fringed by Upper Salt Marsh (CM2) (in middleground) and large tract of Scrub (WS1) / Dry Siliceous Heath (HH1) extending away to the right.

3.3.3.10 Amenity Grassland (improved) (GA2)

There is a small area of **Amenity grassland (improved) (GA2)** located between the two Údarás na Gaeltachta buildings and adjacent to the most easterly of those buildings. Species variation at this maintained habitat is low and is limited to grasses with the occasional occurrence of broadleaved herb species such as daisy (*Bellis perennis*), dandelion, and plantains (*Plantago* spp.).

3.3.4 Previously Occurring Habitats

A review was carried out of the documents and maps available online for the development's permitted original application (GCC Planning Application: 17/967) and the subsequent application to extend duration of permission for the original application (GCC Planning Application: 23/218) – refer to **Section 1.3**, above, for summaries of each planning application. Also reviewed were the photographic records and information on the various authorised works carried out from 26th January to 10th July 2023 were provided by the client.

3.3.4.1 Baseline Habitats in October 2010 of GCC Planning Applications 17/967 and 23/218

As discussed in **Section 2.4.2**, above, baseline habitat and flora surveys were undertaken in October 2010 to inform the EIAR and the screening for AA Report that accompanied the planning application packs for the construction and operation of the deep water quay near Ros an Mhíl Harbour (17/967) and for the subsequent application for extension of duration (23/218).

A habitat map for the development site and surrounding area was produced after the 2010 surveys and is presented in **Figure 29**, below. As expected, the habitats within and around the development site are similar to those found currently at the site, albeit with some fundamental differences. The main changes involve the land at the proposed deep water quay area which, in 2010, had not yet been reclaimed and was still an area of **Open marine water (MW1)**. Similarly, the northern approach causeway along the western shoreline immediately north of the Údarás na Gaeltachta buildings had also not been created and instead was classified as **Dry-humid acid grassland (GS3)**. Additionally, the artificial area southwest of Pier 1 had the same classification in 2010 as it does today - **Buildings and artificial surfaces (BL3)** – but was in use as a carpark/yard rather than the unused, cleared area it is today.

Most of the **Sea walls, piers and jetties (CC1)** stretching northwards along the coast to the top of Pier 1 were also present in 2010 as were the various pockets of **Scrub (WS1)**, although with perhaps less dense vegetation. A

notable change, however, is the larger size of the **Lagoon and saline water (CW1)** region within the centre of the study area when compared to the same location today which supports only small slivers of pools but does possess a minimal area of **Upper salt marsh (CM2)** which the 2010 site did not.

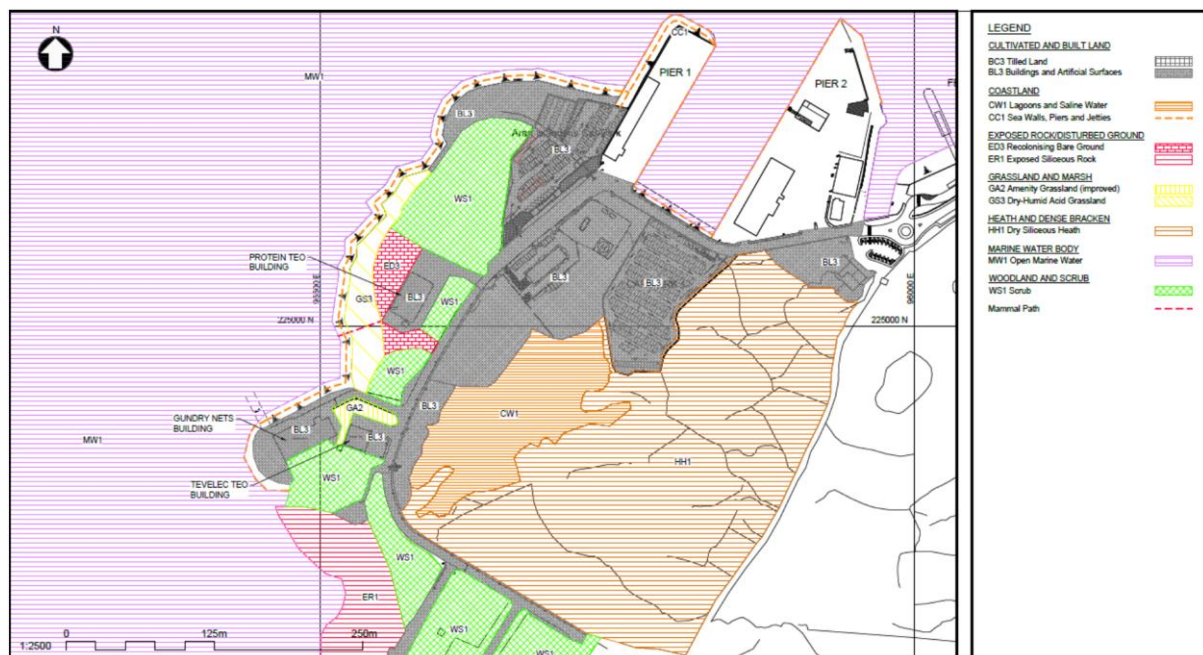


Figure 29: Habitat map produced following habitat surveys carried out on-site in October 2010 prior to any works occurring [adapted from Chapter 9, Terrestrial Ecology (Mott MacDonald, 2017)].

3.3.4.2 Habitats of Development Site After Authorised Works Ended on 10th July 2023

The differences between the habitats occurring on-site after cessation of the authorised works on 10th July 2023 - refer to map in **Figure 30**, below - and the habitats occurring on-site after cessation of the unauthorised works on 20th May 2024 is minimal – refer to map in **Figure 28**, above.

The most significant difference is that the protective berm had not yet been constructed at the western side of the site at the proposed deep water quay location with instead only the first small blasting platform present, also classified as **Sea walls, piers and jetties (CC1)**. Additionally, a small pocket of **Lagoon and saline lakes (CW1)** was present within the centre of the reclaimed area during the authorised works but was filled in after 10th July 2023 during the unauthorised works. Other minor differences between **Figure 28**, above, and **Figure 30**, below, include the width of **Sea walls, piers and jetties (CC1)** south of the Údarás na Gaeltachta buildings.

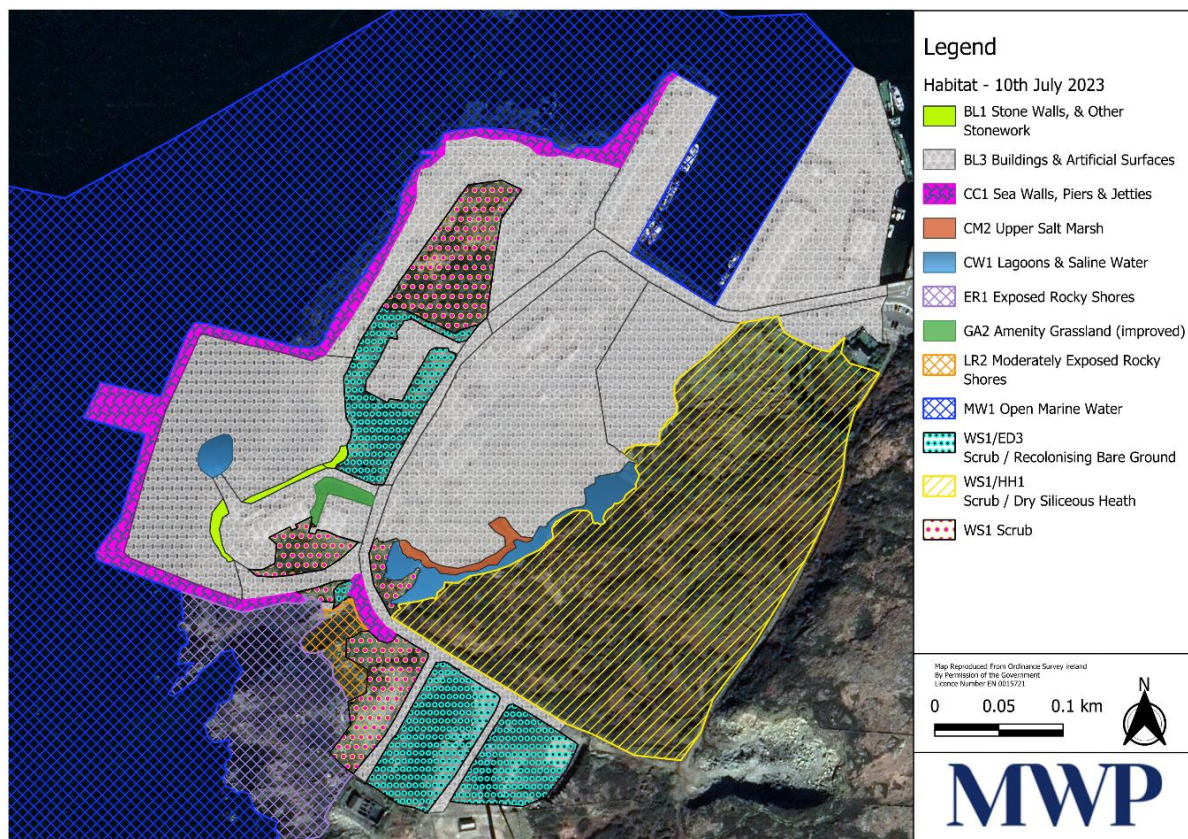


Figure 30: Map of habitats at the development site near Ros an Mhíl Harbour on 10th July 2023 (the date authorised works finished).

3.3.5 Ornithology

The desktop study determined that, in the context of the Connemara Bog Complex SPA (refer also to **Section 3.5**, below, for more SPA details), the NBDC holds records for all four qualifying bird species, namely cormorant (*Phalacrocorax carbo*), merlin (*Falco columbarius*), golden plover (*Pluvialis apricaria*), and common gull (*Larus canus*) for the hectad L92 encompassing the development site. In relation to waterbird species more generally, within the last ten years for the 2-kilometre grid square encompassing the development site (L92M), the NBDC holds records for kingfisher (*Alcedo atthis*), oystercatcher (*Haematopus ostralegus*), shag (*Phalacrocorax aristotelis*), and great-crested grebe (*Podiceps cristatus*).

The data received via the data request to NPWS for protected and threatened species records for hectad L92 listed two records of Greenland white-fronted goose (*Anser albifrons flavirostris*) from 1989/90 at a lake approximately five kilometres northeast of the development site.

North of Cashla Bay, the inner reaches of Clynagh Bay form the I-WeBS sub-site 'Clynagh Bay - 0G421' which extends southwards around Tóin na hAird towards Ros an Mhíl, finishing approximately 1.6 kilometres northeast of the development site. There is no recent data available for this sub-site but a review of the I-WeBS data received from BirdWatch Ireland, determined that cormorant, mute swan (*Cygnus olor*), shelduck (*Tadorna tadorna*), wigeon (*Mareca penelope*), teal (*Anas crecca*), mallard (*Anas platyrhynchos*), red-breasted merganser (*Mergus serrator*), little grebe (*Tachybaptus ruficollis*), grey heron (*Ardea cinerea*), oystercatcher, ringed plover (*Charadrius hiaticula*), dunlin (*Calidris alpina*), curlew (*Numenius arquata*), and redshank (*Tringa totanus*) were recorded within the hectad during the 1999/2000 and 2001/02 count periods.

During previous ecological surveys undertaken at the development site in 2010 by a separate consultancy on behalf of the Applicant, the only waterbirds recorded were black-headed gull (*Chroicocephalus ridibundus*) and herring gull (*Larus argentatus*), both observed flying over marine waters.

During the MWP walkover survey on 15th April 2025, four waterbird species were recorded within the redline boundary of the development, summaries of which are presented in **Table 2**, below. Other bird species noted at the site include various corvid species spotted throughout, two willow warbler (*Phylloscopus trochilus*) within a central area of scrub, and one rock pipit (*Anthus petrosus*) observed and heard calling from rocks at the shoreline.

Table 2. Waterbird species observed during site walkover undertaken on April 15th, 2025.

Bird Species	Number Observed	Location	Behaviour	QI of Connemara Bog Complex SPA
Black-headed gull (<i>Chroicocephalus ridibundus</i>)	3	Lagoons in centre of site	Foraging	No
Mallard (<i>Anas platyrhynchos</i>)	2 (male & female)	Lagoons in centre of site	Foraging, roosting	No
Little egret (<i>Egretta garzetta</i>)	1	Rocks west of lighthouse	Foraging	No
Cormorant (<i>Phalacrocorax carbo</i>)	3	Out in bay on rocks at various locations	Spreading wings in sun, swimming	Yes

3.3.6 Otter (*Lutra lutra*)

There are no documented records of otter held by the NBDC for within the development site and records for the species within hectad L92 overall are limited to three³⁰. The nearest otter record was reported across the bay at ‘Carraroe’ approximately one kilometre northwest of the development site and comprised a live sighting of two otters in November 2011. An otter spraint was observed on a ‘grassy stream bank’ at ‘Stream/Bay/Bridge over stream/bay near Carrowroe’ approximately 3.3 kilometres northwest of the development site in 2005. Finally, a live otter sighting was recorded in 2011 at ‘Bealadangan Quay’ approximately 6.3 kilometres northwest of the development site.

Previous surveys undertaken at the development site in 2010 on behalf of the Applicant identified a mammal trail within dry-humid grassland at the centre of the site leading to the shoreline – refer to **Figure 29**, above. The surveyors could not definitively identify which species was responsible for the path but ‘given the surrounding habitats’ they deemed it was ‘likely to be otter’ (Chapter 9, Terrestrial Ecology (Mott MacDonald, 2017)).

No evidence of otter was recorded during the MWP April 2025 ecological field survey of the development site and surrounding areas. No potential or confirmed otter breeding or resting sites were identified within the study area nor were any prints or spraints found.

3.3.7 Marine Mammals

3.3.7.1 Harbour Seal (*Phoca vitulina*)

There are no documented records of harbour seal held by the NBDC for within the development site, however, there are numerous records for the species within the overall hectad L92. Several of these records concern sightings at Ros an Mhíl Harbour itself³¹. One and two harbour seal were recorded in October 2017 and September 2018, respectively, at a location approximately 355 metres northeast of the temporary office compound area, while in February 2015, five harbour seal were observed near the small craft harbour approximately 325 metres

³⁰ <https://maps.biodiversityireland.ie/Map> Accessed: 23rd May 2025

³¹ <https://maps.biodiversityireland.ie/Map> Accessed: 23rd May 2025

from the development site. The data received via the data request to NPWS for protected and threatened species records for hectad L92 listed the same records as the NBDC database for otter records.

The aquatic range of harbour seal for foraging and/or commuting between sites can extend into continental shelf waters, however, when ‘hauling out’ ashore to complete important life history functions such as breeding, moulting and resting, the species favours sheltered bays, inlets and estuaries (NPWS, 2014). The inner parts of Cashla Bay, particularly Clynagh Bay, are known seal haul out sites and there are numerous NBDC records within the area. The nearest of these records to the proposed development site occurred approximately two kilometres to the northeast and involved 26 moulting seals observed during an aerial thermal imaging survey in August 2011.

No sightings of harbour seal or evidence of their presence were recorded during the April 2025 MWP ecological survey of the proposed development site and surrounding areas.

3.3.7.2 Harbour Porpoise (*Phocoena phocoena*)

There is one documented record on the NBDC database for harbour porpoise within hectad L92 and it concerns the stranding of an individual encountered in 2020 at a location approximately 1.4 kilometres (4.4 river kilometres) southeast of the development site on the opposite side of the Ros an Mhíl peninsula. All other records for the species occurred further out to sea within the North Atlantic Ocean with the nearest to the development site occurring approximately seven kilometres to the southwest of the deep water quay location.

3.4 Identification of Other Plans, Projects and Activities

3.4.1 Plans

With regards to the potential for in-combination effects, the Galway County Development Plan (CDP) (2015 - 2021)³² and the Galway County Development Plan (CDP) (2022 – 2028)³³ were both considered. The latter plan came into effect on 20th June 2022 and covered the entire period during which both the authorised and unauthorised works took place.

A review of the Galway CDP (2022-2028) determined that the harbour at Ros an Mhíl ‘is the largest and busiest port in County Galway with a number of key functions that are pivotal to the success of the marine sector’. The CDP also notes the importance of the continued development of County Galway’s Marine and Coastal Economy and makes specific reference to the expansion of Ros an Mhíl ‘as a port of significance and to ensure its development potential is fully realised in accordance with environmental considerations.’ This was a sentiment echoed in the previous CDP (2015 – 2021) where Objective TI24 set out continued ‘support for the development of Ros an Mhíl harbour as a deep water port, and support and facilitate improvements and maintenance to other harbours including Inis Oírr and Inis Meáin’.

3.4.2 Permitted and Proposed Developments in the Locality

A search of the Galway County Council (GCC) online planning enquiry system³⁴ for granted or on-going planning applications for the townland of Rossaveel (‘Ros an Mhíl’ and ‘Rossaveal’ were also used as search terms) was undertaken to identify other developments in the locality which may have had the potential to interact with the construction phase or present phase of the development. On a precautionary basis, the search period used to

³² [Galway County Council](#) Accessed: 16th July 2025

³³ [Galway County Council](#) Accessed: 24th May 2025

³⁴ [Select Search Type \(eplanning.ie\)](#) Accessed: 30th May 2025

inform this desktop exercise was from 11th July 2018 (to account for five years prior to the start date of the unauthorised development works) to 30th May 2025.

In relation to the townland of Rossaveel (Ros an Mhíl and Rossaveal), the on-line search yielded a substantial number of previously permitted and outstanding development applications. The vast majority of these pertained/pertain to construction/renovation/modification of private dwellings. A minor number of granted/outstanding permissions pertain to construction/modification of agricultural buildings. There were also several previously permitted applications for other minor works at the development site such as the Small Craft Harbour and refurbishment of an existing slipway.

3.4.3 EPA Licenced/Registered Facilities

A review of the EPA mapping tool determined that there is one EPA licensed facility within the immediate vicinity of the proposed development, namely Rossaveel Harbour Development (Waste Licence No. W0172-01) located within the footprint of the development site with a licence status of 'Ceased (Never Commenced))'³⁵. There are no IPPC, IPC or IEL³⁶ actively licensed facilities within the surrounding areas of the subject site – the nearest is Galoptical Teo (IEL Licence No. P0210-01) located in Casla almost three kilometres north of the development site.

Other EPA licenced facilities comprise Carraroe³⁷ Urban Wastewater Treatment (UWWT) plant located across the bay at Sruthán Pier approximately one kilometre northwest of the development site. This wastewater treatment system discharges untreated wastewater to Cashla Bay, and the building of a new treatment plant is considered by the EPA to be a priority action³⁸. Uisce Éireann is proposing to construct a new Carraroe wastewater treatment plant but has been unable to acquire all the necessary lands on a voluntary basis and is, therefore, endeavouring to purchase the required lands by way of a Compulsory Purchase Order (CPO)³⁹.

3.4.4 Existing Land-uses – Commercial Forestry and Peat Extraction

Commercial forestry and peat extraction are the chief land-uses within the Cashla_SC_010 sub-catchment that may have acted in combination with the development to negatively affect water quality. Other land-uses include domestic wastewater from one-off housing and village settlements such as Casla, Ros an Mhíl, and Baile na hAbhann. On-going activities occurring within the sub-catchment are mainly those associated with recreational and touristic activities at Cashla Bay and Ros an Mhíl and are discussed in **Section 3.4.5**, below.

Within the Cashla_SC_010 sub-catchment, the Cashla_010 River Waterbody which drains into Cashla Bay has a WFD (2016–2021) ecological status of 'Good' water quality but has been classified as being 'At risk'⁴⁰ (EPA, 2024). Refer to **Figure 31**, below.

³⁵ [Licence Profile | LEAP Online](#) Accessed: 30th June 2025

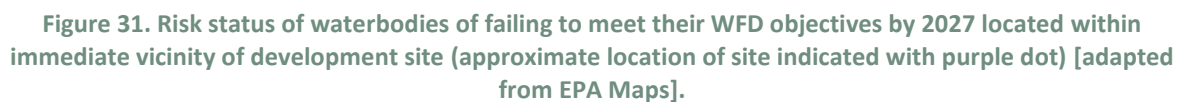
³⁶ Integrated Pollution Control (IPC) Licence (formerly IPPC Licence), and Industrial Emissions Licence (IEL)

³⁷ Active License Number: D0388-01

³⁸ [Priority-areas-for-website-April-2025.pdf](#) Accessed: 30th May 2025

³⁹ [Carraroe Sewerage Scheme | Projects | Uisce Éireann \(formerly Irish Water\)](#) Accessed: 30th May 2025

⁴⁰ *At risk* - either the waterbody is currently not achieving its WFD environmental objective of Good or High Ecological Status or that there is an upward trend in nutrients/ammonia and if this trend continues the waterbody Status will decline by the end of Cycle 3 and will fail to meet its environmental objective (EPA, 2021).



On-going activities within the immediate vicinity of the development site that may have had, or currently do have, the potential to cumulatively interact with the development are mainly those associated with recreational/touristic pursuits and services, and commercial fishing.

Vehicular parking areas are located opposite the southern ends of Piers 1 and 2 while the Irish Coast Guard building with helipad lies south of Pier 1. Across from the ferry pontoons there is the Rossaveel Small Craft Harbour which caters for small open deck vessels on its pier and berths with an associated two-storey Amenity Building completed in 2023 that provides welfare facilities and administrative offices. On-going activities associated with these facilities comprise typical boating and other operational activities associated with marinas, boatyards, piers, quays and water-based recreational activities.

The fish processing plant Iasc Mara Teoranta lies immediately southeast of the Small Craft Harbour while adjacent to the plant, the Galway and Aran Fisherman's Co-op operates a Fishery Harbour Centre with a fully automatic ice plant, administrative offices, chill rooms and auction hall from where most of the catch is sold (mainly whitefish and shellfish)⁴¹.

The small settlement of Ros an Mhíl village to the northeast of the development site is characterised generally by one-off private dwellings and holiday homes, schools, bars, and small retail outlets in conjunction with the high recreational and amenity land-uses associated with Cashla Bay and the surrounding shoreline. Within the wider area, other recreational, tourism and cultural offerings include accommodation, various marinas and quays, RTÉ Radió na Gaeltachta studios, art galleries, and private marinas/harbours present along the shorelines of Cashla Bay and the North Atlantic Ocean.

3.4.6 Potential for Significant In-combination Effects

Due to the nature, scale and location of the development, based on the precautionary principle, the potential for significant in-combination effects to have occurred in conjunction with plans, projects, existing land-use and other on-going activities cannot be ruled out. Therefore, the potential for significant in-combination effects is discussed further in **Section 3.7.7**, below.

3.5 Identification of European Sites Located Within the Zone of Potential Impact

3.5.1 Zone of Influence

The Zone of Impact (ZOI) for the development is the geographical area over which there is potential for the Qualifying Interests (QI) of a European site to be affected by biophysical changes arising from development in its construction/current phase. To establish which European sites are located within the ZOI, the Source-Pathway-Receptor (SPR) model is applied during screening stage of AA, since according to the Office of the Planning Regulator guidelines (OPR, 2021), 'a European site will only be at risk from likely significant effects where the Source-Pathway-Receptor link exists between the proposed development and the European site'.

The SPR model firstly considers the nature, size and location of the proposed development and then identifies characteristics that may provide a source of direct (e.g. water, noise, habitat loss) or indirect (e.g. impact to prey species of a QI) ecological impacts. Secondly, any pathways (e.g. watercourses) that exist linking the proposed development site to the European site(s) are identified, before, finally, establishing 'the location, nature and sensitivities of the qualifying species and habitats, the ecological conditions underpinning their survival and conservation objectives specified to maintain/restore favourable conservation status' (OPR, 2021).

The precautionary principle has been adopted in identifying potentially affected European sites. These sites are characterised in the context of the rationale for designation and the qualifying features (see **Section 3.5.2**, below). The European sites identified at this stage may or may not have been significantly impacted upon by the development.

The test for the remedial screening for Appropriate Assessment is to assess, in view of best scientific knowledge, if the development, individually or in combination with other plans/projects, is likely to have had a significant effect on a European site. If, following the assessment, there are any significant, potentially significant, or uncertain effects, it will be necessary to proceed to Stage 2 Appropriate Assessment and a remedial NIS prepared – refer to **Section 4**, below, for Stage 2 remedial assessment.

⁴¹ [Fishery Harbour Centres](#) Accessed: 31st May 2025

3.5.2 Characteristics of European Sites within the Potential Zone of Impact (ZOI)

Designated SACs and SPAs within the potential ZOI of the development in relation to the subject site are shown on a map in **Figure 32**, below, while **Table 3**, below, lists the proximity of the designated sites to the development site and the Qualifying Interests (QI) species and/or habitats of each site.

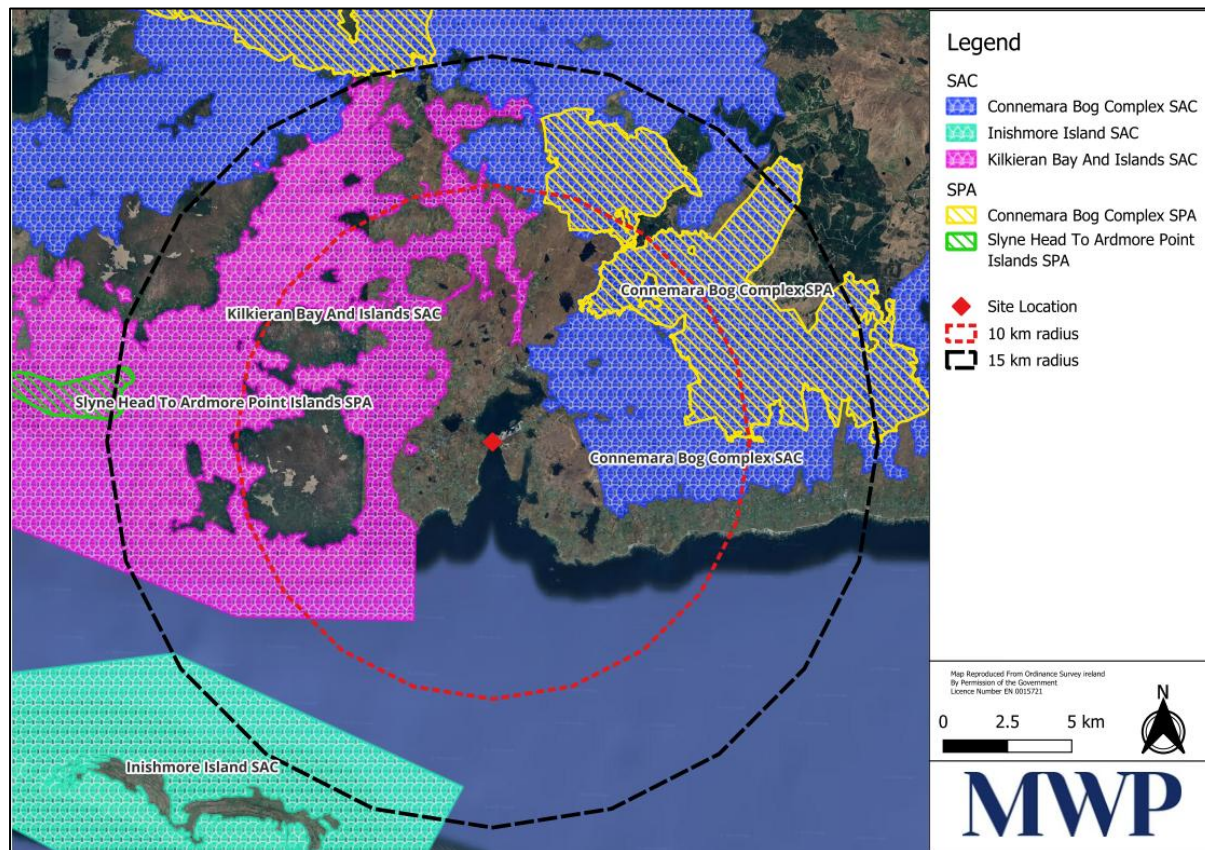


Figure 32: European sites located within a potential zone of impact influence of the development site near Ros an Mhíl Harbour in County Galway.

Table 3. European sites located within potential ZOI of development with details of associated qualifying interest (QI) species and/or habitats, and approximate distance of each designated site from the development boundary.

Designated site & code	Qualifying features of conservation interest ⁴²	Approximate distance from nearest point of development site ⁴³
Connemara Bog Complex SAC (002034)	- Coastal lagoons* [1150] - Reefs [1170] - Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) [3110] - Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i> [3130] - Natural dystrophic lakes and ponds [3160] - Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260] - Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] - European dry heaths [4030] <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) [6410] - Blanket bogs (* if active bog) [7130] - Transition mires and quaking bogs [7140] - Depressions on peat substrates of the Rhynchosporion [7150] - Alkaline fens [7230] - Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] - Marsh Fritillary (<i>Euphydryas aurinia</i>) [1065] - Salmon (<i>Salmo salar</i>) [1106] - Otter (<i>Lutra lutra</i>) [1355] - Slender Naiad (<i>Najas flexilis</i>) [1833]	SAC is 1.8 km to the northeast

⁴² Asterisk (*) denotes a priority habitat considered to be in danger of disappearance.

⁴³ Straight line distance in kilometres from the nearest point of the proposed development site boundary (unless otherwise specified).

Designated site & code	Qualifying features of conservation interest ⁴²	Approximate distance from nearest point of development site ⁴³
Kilkieran Bay and Islands SAC (002111)	▪ Mudflats and sandflats not covered by seawater at low tide [1140] ▪ Coastal lagoons* [1150] ▪ Large shallow inlets and bays [1160] ▪ Reefs [1170] ▪ Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330] ▪ Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] ▪ Machairs (* in Ireland) [21A0] ▪ Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i> [3130] ▪ Lowland hay meadows (<i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i>) [6510] ▪ Harbour Porpoise (<i>Phocoena phocoena</i>) [1351] ▪ Otter (<i>Lutra lutra</i>) [1355] ▪ Harbour Seal (<i>Phoca vitulina</i>) [1365] ▪ Slender Naiad (<i>Najas flexilis</i>) [1833]	SAC is 2.5 km to the northwest SAC is 6.3 river km to the southwest
Connemara Bog Complex SPA (004181)	▪ Cormorant (<i>Phalacrocorax carbo</i>) [A017] ▪ Merlin (<i>Falco columbarius</i>) [A098] ▪ Golden Plover (<i>Pluvialis apricaria</i>) [A140] ▪ Common Gull (<i>Larus canus</i>) [A182]	SPA is 6 km to the northeast
Inishmore Island SAC (000213)	▪ Coastal lagoons* [1150] ▪ Reefs [1170] ▪ Perennial vegetation of stony banks [1220] ▪ Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] ▪ Embryonic shifting dunes [2110] ▪ Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] ▪ Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] ▪ Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>) [2170] ▪ Humid dune slacks [2190] ▪ Machairs (* in Ireland) [21A0] ▪ European dry heaths [4030] ▪ Alpine and Boreal heaths [4060]	SAC is 12.8 river km to the southwest

Designated site & code	Qualifying features of conservation interest ⁴²	Approximate distance from nearest point of development site ⁴³
	▪ Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210] ▪ Lowland hay meadows (<i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i>) [6510] ▪ Limestone pavements* [8240] ▪ Submerged or partially submerged sea caves [8330] ▪ Narrow-mouthed Whorl Snail (<i>Vertigo angustior</i>) [1014] ▪ Harbour Porpoise (<i>Phocoena phocoena</i>) [1351]	
Slyne Head to Ardmore Point Islands SPA (004159)	▪ Barnacle Goose (<i>Branta leucopsis</i>) [A045] ▪ Sandwich Tern (<i>Sterna sandvicensis</i>) [A191] ▪ Arctic Tern (<i>Sterna paradisaea</i>) [A194] ▪ Little Tern (<i>Sterna albifrons</i>) [A195]	SPA is 14.3 km to the west

3.5.3 Conservation Objectives

According to the Habitats Directive, the *conservation status of a natural habitat* will be taken as 'favourable' within its biogeographical range when:

- its natural range and the areas covered within that range are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable as defined below.

According to the Habitats Directive, the *conservation status of a species* means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as 'favourable' within its biogeographical range when:

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

The conservation objectives for each individual site listed in **Table 3**, above, were accessed on 29th May 2025 and, together with other designated site information, are available on <http://www.npws.ie/protectedsites/>. Management plans are not currently available for any of these designated sites.

Site-specific conservation objectives were available for the following sites:

- Connemara Bog Complex SAC (002034). Version 1. Produced October 2015.
- Kilkieran Bay and Islands SAC (002111). Version 1. Produced February 2014.
- Connemara Bog Complex SPA (004181). Version 1. Produced January 2023.
- Inishmore Island SAC (000213). Version 2. Produced December 2024.

First Order Site-specific Conservation Objectives⁴⁴ were available for the following site:

- Slyne Head to Ardmore Point Islands SPA (004159). First Order Site-specific Conservation Objectives Version 1.0. Produced October 2022.

3.6 Identification of Potential Impacts

Potential likely direct, indirect or secondary ecological impacts which may have occurred, which are presently occurring, or which can be expected to occur as a result of the development (either alone or in combination with other plans or projects) are identified in this section. For identification of potential impacts of the development, both authorised and unauthorised works are considered together in this section.

⁴⁴ Generic Conservation Objectives Documents are replaced by First Order Site-specific Conservation Objectives documents.

Table 4. Description of likely/potential elements of the project which may have given or be giving rise to potential ecological impacts.

Construction Phase (within/adjacent to aquatic zone)
- Site set-up and mobilisation. - Construction of major on-site temporary features, namely office compound, and aggregate storage areas. - Importation of approximately 390,000 tonnes of engineering fill for land reclamation from existing shore to line of proposed new quay wall. - Construction of rock revetment and temporary protective stone berm. - Drilling and blasting operations of seabed. - Excavation and dredging of seabed for berthing pocket and quay wall foundations. - Establishment of a temporary on-site concrete batching plant. - Delivery and storage on-site of small proportion of required pre-cast concrete caissons, ground beams, L-wall units. - Installation of four pairs of quay wall foundation ground beams using liquid concrete. - Presence and sustained use of machinery at variable rates during daylight hours for duration of works. - Use of fuels/oils/lubricants, concrete and other such substances considered harmful to the aquatic environment. - Human presence: Sustained increase in human activity at variable rates/numbers during for duration of works. - Increased light, noise and air emissions associated with construction activity. - Temporary storage of excavated spoil/material. - Generation of waste/spoil/construction run-off. - Clearance of works site and erection of fencing and signage.
Current Phase
- Increased storm water run-off from reclaimed land. - Increased levels of dust due to unfinished surfaces.

Table 5. Direct, indirect or secondary ecological impacts of construction and current phases (either alone or in combination with other plans/projects) which have potential to have resulted in significant effects.

Construction Phase
- There is no spatial overlap between any element of the development and any European site, and therefore, there was no direct loss/alteration/land-take within any European site. - There is a tenuous direct hydrological and/or ecological connection between subject site and five European sites listed in Table 3, above, via the marine environment of Cashla Bay. - Water quality impacts may have potentially occurred via ingress of sediment/silt to surface water from disturbed ground, reclaimed areas, material stockpiles, plant and machinery etc. - Water quality impacts may have arisen via run-off/direct discharge and/or ingress of fuels/oils or other substances via overland flow, or effluent/wastewater from on-site temporary toilets and/or washing facilities. - Use of cement in water to partially construct the quay foundations may have adversely impacted water quality. - Blasting, drilling, and dredging may have had the potential to impact water quality via increased turbidity within the water column impacting on prey availability. - Direct species disturbance/displacement impacts may have occurred due to construction activity such as fugitive noise/air emissions or vibrations from machinery and activities such as blasting, and human activity. - Loss/alteration of breeding/resting/foraging habitat (aquatic and terrestrial), water quality impairment and/or prey availability impacts resulting in indirect species disturbance/displacement may have potentially occurred.
Current Phase
- Impacts to water quality of Cashla Bay may potentially have occurred/be occurring via increased run-off of silt, sediment or other pollutants. - The alteration of breeding/resting/foraging habitat (aquatic and terrestrial) of value to QI species may potentially have occurred/be occurring due to potential impairment of water quality. - Species disturbance/displacement impacts may potentially have occurred/be occurring via: - increased human presence/activity - impacts on prey availability - indirect alteration of breeding/resting/foraging habitat (aquatic and terrestrial).

3.7 Assessment of Significance of Potential Impacts

This section considers the list of sites identified in **Table 3**, above, together with the potential ecological impacts identified in **Table 4**, above, and determines whether the development was likely to have had significant effects or significant effects are on-going on European sites. As discussed in **Section 3.5.1**, above, European sites are only considered relevant where a credible or tangible Source-Pathway-Receptor (SPR) link exists between the development and a protected species or habitat type. The evaluation takes cognisance of the scope, scale, nature and size of the project, its location relative to the European sites listed in **Table 3**, above, and the degree of connectedness that exists between the project and each European site's potential ecological receptors.

To allow for a complete assessment of the potential impacts of the development, both authorised and unauthorised works are considered together.

3.7.1 European Sites Outside the Zone of Potential Impact after Application of SPR Model

With regards to the development works relevant for this remedial screening for AA report, it is considered that one European site is located outside the likely ZOI due to the absence of plausible impact pathways. The works are considered not to have included any element that had the potential to significantly affect the conservation objectives for which this site is designated due to the absence of plausible impact pathways when the SPR model was applied. Therefore, it is objectively concluded that significant effects on the conservation objectives of the site listed in **Table 6**, below, were/are not reasonably foreseeable as a result of either the construction phase or current phase of the development.

Further details on the rationale to exclude this SPA from further assessment are set out in **Sections 3.7.1.1** and **3.7.1.2**, below.

Table 6. European site excluded from further assessment after application of SPR model and rationale for exclusion.

Designated site code	site and	Approximate distance from development site	Rationale for exclusion from further assessment
Slyne Head to Ardmore Point Islands (004159)	SPA	14.3 km to the west	- Designated for wintering barnacle goose and three species of breeding tern. - No spatial overlap of SPA with the proposal site. - No tern recorded at the development site. - Nature, scale, and location of the proposed development and intervening distance of more than 14 km to SPA. - No plausible impact pathway linking development site to SPA.

3.7.1.1 Barnacle Goose (*Branta leucopsis*)

The SPA is designated for wintering barnacle goose of which the islands within the site support an internationally important population such as at St. Macdara's Island, Birmore Island, Illaunacroagh More, and Illaunacroagh Beg. An aerial survey in 2003 recorded 875 birds at the site which was representative of approximately 10% of the national total (NPWS, 2011) while between 1993 and 2018, the national population of wintering barnacle goose has increased by 102% as monitored by the International Census of Greenland Barnacle Goose (NPWS, 2025).

Barnacle geese are grazing herbivores, feeding on the leaves, stems, rhizomes, roots and seeds of grasses and sedges in open coastal pasture of improved and semi-improved agricultural grasslands and offshore islands. The maximum foraging distance for wintering barnacle geese is approximately seven kilometres (Doyle *et al*, 2023). For roosting, the species uses open habitats (mainly pastureland) with good sightlines adjacent to waterbodies, such as offshore islands.

Barnacle goose populations can often make extensive use of suitable foraging and/or roosting habitats located outside the SPA boundary, therefore, the extent, availability and quality of these supporting habitats can play an important role in ensuring the overall robustness of the SPA population (NPWS, 2025). However, as set out in **Section 2.4**, above, the habitats at the development site did not (and do not) constitute optimal foraging or roosting habitat for the species since their preference is for coastal pasture grassland of which there is/was none within the development boundary or adjacent areas. Furthermore, the distance intervening from the development site to the nearest point of the SPA is over fourteen kilometres, more than double the maximum foraging distance for wintering barnacle geese. Considering this and the scale and scope of the development, it is concluded that there is no plausible impact pathway to link the barnacle goose population of Slyne Head to Ardmore Point Islands SPA to the deep water quay works site near Ros an Mhíl Harbour.

3.7.1.2 Arctic Tern (*Sterna paradisaea*), Sandwich Tern (*Thalasseus sandvicensis*), and Little Tern (*Sternula albifrons*)

The SPA is designated for the nationally important breeding populations of three tern species, namely Arctic tern, sandwich tern, and little tern. Each tern species usually breeds colonially on barren or sparsely vegetated beaches, islands and spits of sand or shingle, rocky calcareous islets or sand dunes (Eglington & Perrow, 2014). Nests are shallow scrapes on the ground preferably far from upright vegetation and with easy access to extensive, sheltered, clear waters (NPWS, 2024c). No evidence of any breeding tern colonies or any habitat suitable for the establishment of a tern colony was recorded at the development site during any of the site surveys as described in **Section 2.4**, above.

The open marine waters at the development site provide suitable foraging grounds for the SPA's three tern species since all are largely piscivorous, preying on fish from the Clupeidae (herring), Gadidae (cod, pollock) and Ammodytidae (sand eels) families (NPWS, 2024c) by diving headlong into the water, and since they feed entirely on the wing, they can also pick small crustaceans or insects from the surface of the water (Cabot & Nisbet, 2013). The nearest potentially suitable location for a tern colony within the SPA is the tiny, uninhabited Birmore (Bior Mór) Island situated almost fifteen kilometres west of the development site which is outside the mean foraging ranges from the nest site during breeding season for all three tern species – Arctic tern (6 kilometres), little tern (3.5 kilometres), and Sandwich tern (9 kilometres) (Woodward *et al*, 2019).

Considering the scale and scope of the development, the absence of any suitable tern nesting/breeding habitat at the development site, and the intervening distance of nearly fifteen kilometres between the nearest potentially suitable breeding location and the development site thereby placing the development site outside the mean foraging range for all three tern species, it is concluded that there is no plausible impact pathway to link the Arctic tern, little tern, or the Sandwich tern populations of Slyne Head to Ardmore Point Islands SPA to the deep water quay works site near Ros an Mhíl Harbour.

3.7.2 European Sites Within the Zone of Potential Impact after Application of SPR Model

The assessment of significance of potential effects that follows focuses on the four remaining European sites identified in **Table 3**, above. When the SPR framework discussed in **Section 3.5.1**, above, is applied, these sites are deemed to have/had the potential to be impacted by the works described in **Sections 3.2.2** and **3.2.3**, above, due to the existence of plausible, if tenuous, impact pathways linking the development site (source) to the Qualifying Interest (QI) species and/or habitats (receptors) of the European sites. The rationale for inclusion for further consideration and assessment for these sites is outlined in **Table 7**, below.

Table 7. European sites within likely zone of impact after application of the SPR model and the rationale for their inclusion for further assessment.

Designated site	Approximate distance from development site	Rationale for inclusion for assessment
Connemara Complex (002034)	Bog SAC SAC is 1.8 km to the northeast	- Designated for wide variety of aquatic and terrestrial habitats and species, including otter and salmon. - No spatial overlap but a tenuous hydrological link between development site and SAC via the waters of Cashla Bay. - Otter is a highly mobile species and could potentially occur or have occurred in the vicinity of the development site. - Similarly, salmon could potentially migrate or have migrated through Cashla Bay. - Plausible source-impact-pathway exists. - Based on the precautionary principle and the nature/location of the works completed, further assessment is required.
Kilkieran Bay and Islands (002111)	SAC SAC is 2.5 km to the northwest SAC SAC is 6.3 river km to the southwest	- Designated for variety of aquatic and terrestrial habitats and species, including harbour porpoise, otter and harbour seal. - No spatial overlap but there is a hydrological link between development site and SAC via the waters of Cashla Bay: - Harbour porpoise and harbour seal are mobile marine species that utilise marine waters of Cashla Bay. - Similarly, otter is a highly mobile species which could potentially occur or may have occurred in the vicinity of the development site. - Plausible source-impact-pathway exists. - Based on precautionary principle and the nature/location of the works completed, further assessment is required.
Connemara Complex (004181)	Bog SPA SPA is 6 km to the northeast	- Designated for nationally important breeding populations of cormorant, merlin, golden plover, and common gull. - Development site is outside optimal foraging range for breeding merlin (5 km) (SNH, 2016) and golden plover (4 km) (NPWS, 2023), and no suitable nesting habitat for either species occurs or did occur within the development boundary. - No spatial overlap but there is a hydrological link between development site and SPA via the waters of Cashla Bay. - Cormorant was recorded during site survey (Section 3.3.3, above). - Cashla Bay has potentially suitable foraging grounds within mean foraging distance of breeding cormorant (7.1 km) (Woodward <i>et al</i>, 2019) and common gull (up to 50 km)⁴⁵ (NPWS, 2023; Thaxter <i>et al</i>, 2012), thus, further evaluation required with regard potential ex-situ impacts on breeding cormorant and common gull. - Plausible source-impact-pathway exists. - Based on the precautionary principle and the nature/location of the works completed, further assessment is required.
Inishmore Island SAC (000213)	SAC SAC is 12.8 river km to the southwest	- Designated for variety of aquatic and terrestrial habitats and species, including harbour porpoise. - No spatial overlap but a tenuous hydrological link between development site and SAC via the waters of Cashla Bay.

⁴⁵ The foraging range of 'up to 50 kilometres' from the nest for breeding common gull is taken from Woodward *et al* (2019) and Thaxter *et al* (2012). Both these papers base this foraging range estimate on a single boat survey in the southeastern North Sea (Garthe, 1997) as 'no newer studies are available'. Consequently, poor confidence is assigned to this 50-kilometre estimate, as both papers acknowledge.

Designated site	Approximate distance from development site	Rationale for inclusion for assessment
		- Harbour porpoise is a mobile marine species which could utilise the marine waters of Cashla Bay. - Plausible source-impact-pathway exists. - Based on the precautionary principle and the nature/location of the works completed, further assessment is required.

The potential impacts that are likely to have arisen from the development have been identified in **Section 3.6**, above, while in **Table 7**, above, it was determined, using the precautionary principle, whether there is a risk that the effects identified were or had the potential to be significant. As per guidance (refer to **Section 2.1**, above), the likelihood of effects and their significance is assessed in the sections hereunder based on the following indicators:

- Water quality;
- Habitat loss/alteration;
- Disturbance and/or displacement of species; and,
- Habitat or species fragmentation.

The likelihood of significant in-combination effects is assessed in **Section 3.7.7**, below.

3.7.3 Water Quality

As summarised in **Table 7**, above, there is/was a hydrological link, via the marine waters of Cashla Bay, between the development site and four European sites, namely Connemara Bog Complex SAC (002034), Kilkieran Bay and Islands SAC (002111), Connemara Bog Complex SPA (004181) and Inishmore Island SAC (000213). However, there is/was no spatial overlap of the development site and any European site.

Consequently, due to the location and nature of the works undertaken within/adjacent to the aquatic zone including the use of heavy plant/machinery and concrete, blasting and dredging of the seafloor, and generation of effluent/wastewater (detailed in **Sections 3.2.2** and **3.2.3**, above), and considering the potentially increased levels of surface water run-off of the site in its current phase, there is potential that the construction phase of the development and, to a lesser extent, its current phase resulted in, or is presently resulting in, some degree of localised impact on water quality within the four European sites listed in **Table 7**, above.

Consequently, and based on the precautionary principle, potentially significant water quality effects on Connemara Bog Complex SAC (002034), Kilkieran Bay and Islands SAC (002111), Connemara Bog Complex SPA (004181) and Inishmore Island SAC (000213) because of the works undertaken, while unlikely, cannot be ruled out at this stage and, therefore, further assessment is required.

3.7.4 Habitat Loss and Alteration

There is no spatial overlap between the subject site and any European site and, therefore, there was/is no direct loss/alteration of any qualifying habitats of conservation interest. With regard to the potential for indirect habitat alteration of aquatic habitats (via impairment of water quality), it has been concluded in **Section 3.7.3**, above, that significant water quality impacts within the European sites listed in **Table 7**, above, during either the construction phase or current phase of the development, while unlikely, cannot currently be discounted.

Consequently, and based on the precautionary principle, potentially significant indirect aquatic habitat loss/alteration effects on Connemara Bog Complex SAC (002034), Kilkieran Bay and Islands SAC (002111),

Connemara Bog Complex SPA (004181) and Inishmore Island SAC (000213) because of the works undertaken cannot be ruled out at this stage and, therefore, further assessment is required.

3.7.5 Disturbance and/or Displacement of Species

The QI species of the four European sites listed in **Table 7**, above, have been identified as being at risk of having been or are currently being significantly disturbed/displaced because of the construction and/or current phases of the development. A significant majority of the QI species are either fully dependent (e.g. harbour seal, harbour porpoise, and salmon) or semi-dependent (e.g. otter, cormorant, and common gull) on the marine environment for different stages of their life cycles including foraging, nesting/breeding, and migrating. However, as already established in **Section 3.7.3**, above, significant water quality impacts during either the construction or current phase of the development cannot be ruled out and, therefore, significant disturbance/displacement effects to QI species via the impairment of water quality also cannot be ruled out at this stage and will require further scrutiny.

Additionally, increased levels of anthropogenic activity and noise that may have arisen because of drilling, blasting, and dredging works during the construction phase of the development was likely to have created the possibility of significant disturbance/displacement effects to QI species particularly the marine mammal species of harbour seal and harbour porpoise which both utilise acoustic techniques to communicate and navigate. Further assessment is necessary to ascertain whether the development may have had physical (auditory), perceptual and/or behavioural effects on harbour porpoise and harbour seal which may have led to indirect disturbance/displacement effects as a result.

Consequently, potentially significant disturbance/displacement effects on the QI species of the Connemara Bog Complex SAC (002034), Connemara Bog Complex SPA (004181), Kilkieran Bay and Islands SAC (002111) and/or Inishmore Island SAC (000213) listed in **Section 3.7.2**, above, arising from the works undertaken, while unlikely, cannot be ruled out at this stage and, therefore, further assessment is required.

3.7.6 Habitat or Species Fragmentation

Habitat fragmentation has been defined as the ‘reduction and isolation of patches of natural environment’ (Franklin *et al.*, 2002; Morrison *et al.*, 2012) which results in spatial separation of habitat areas which had previously been in a state of greater continuity. Adverse effects of habitat fragmentation on species include the increased isolation of populations which can detrimentally impact upon the resilience or robustness of the populations.

The preceding **Sections 3.7.3**, **3.7.4**, and **3.7.5** have concluded that water quality impacts, habitat loss and alteration impacts, and disturbance/displacement impacts because of the works described in **Sections 3.2.2** and **3.2.3**, above, cannot be ruled out at this stage for the Connemara Bog Complex SAC (002034), Kilkieran Bay and Islands SAC (002111), Connemara Bog Complex SPA (004181), and Inishmore Island SAC (000213). Therefore, the potential for significant habitat or species fragmentation impacts on these European sites also cannot be ruled out at this stage and further assessment is required.

3.7.7 Cumulative/In-combination Effects

As well as singular effects, the potential for in-combination effects also need to be considered. A cumulative impact arises from incremental changes caused by other past, present or reasonably foreseeable future actions in conjunction with a development.

As set out in the preceding **Sections 3.7.3** to **3.7.6**, there is potential that the development resulted in (or is currently resulting in) water quality impacts, indirect habitat loss/alteration, disturbance/displacement of species,

and/or habitat/species fragmentation impacts to the QI species and habitats for which four European sites are designated, namely Connemara Bog Complex SAC (002034), Kilkieran Bay and Islands SAC (002111), Connemara Bog Complex SPA (004181), and Inishmore Island SAC (000213) (refer to **Section 3.7.2**, above). However, as established in **Section 3.7.1**, above, no plausible pathways exist to connect any of these four sites to the one other European site located within the zone of potential impact, namely Slyne Head to Ardmore Point Islands SPA (004159) (refer to **Table 6** and **Sections 3.7.1.1** and **3.7.1.2**, above, for rationale) and, therefore, the potential for cumulative impacts with other European sites is negligible.

The deep water quay development was considered in combination with other relevant plans, projects and activities in the area, identified in **Section 3.4**, above. Given the potential/likely impacts identified in **Section 3.6**, above, it is considered that the development had the potential to result in significant cumulative or in-combination effects in conjunction with other plans, permitted/proposed developments and existing land-uses and on-going activities associated with Cashla Bay, and thus further assessment is required with regard to the Connemara Bog Complex SAC (002034), Kilkieran Bay and Islands SAC (002111), Connemara Bog Complex SPA (004181), and Inishmore Island SAC (000213).

3.8 Conclusion of Screening Stage

There are five European sites located within a potential ZOI of the development. It has been concluded, based on objective information, that the development, either individually or in combination with other plans or projects, is not likely to have had significant effects on the following European site:

- Slyne Head to Ardmore Point Islands SPA (004159)

However, it is concluded that significant effects, which may potentially have ensued or are likely to have ensued from potential impacts associated with the development, identified in **Section 3.6**, above, cannot be precluded at this stage for the following European sites:

- Connemara Bog Complex SAC (002034)
- Kilkieran Bay and Islands SAC (002111)
- Connemara Bog Complex SPA (004181)
- Inishmore Island SAC (000213)

Therefore, further remedial assessment is required to determine whether the development is likely to have adversely affected the integrity of these European sites (see **Section 4**, below).

4. Stage 2: Remedial Natura Impact Statement (rNIS)

4.1 Introduction

The Stage 1: remedial screening for Appropriate Assessment carried out in **Section 3**, above, determined that a full remedial Appropriate Assessment of the deep water quay works is required as it could not be excluded based on objective information that the development, individually or in combination with other plans or projects, did not (or does not) have a significant impact on any European site(s), in view of the sites' conservation objectives. The conservation objectives of European sites are site specific and based on the ecological requirements of the species and/or habitats present. They define the desired conservation condition of certain species and habitat types for the site. Conservation objectives are defined using attributes and targets that are based on parameters

as set out in the Habitats Directive for defining favourable status, namely area, range, structure and function. The conservation objectives may be either to maintain or restore the favourable conservation condition of a habitat/species.

The Stage 1: remedial screening for AA (**Section 3**, above) concluded that significant effects are potentially occurring, are likely to have ensued or could not be ruled out, in relation to impacts associated with the deep water quay development near Ros an Mhíl, on the following four European sites:

- Connemara Bog Complex SAC (002034)
- Kilkieran Bay and Islands SAC (002111)
- Connemara Bog Complex SPA (004181)
- Inishmore Island SAC (000213)

Since Article 6(3) of Directive 92/43/EEC stipulates that certain projects and plans must be subjected to an “appropriate assessment” of their effects on the integrity of European site(s), and as it could not be excluded on the basis of objective information that the development, individually or in combination with other plans or projects, did not have significant effects on these four European sites, in view of each sites’ conservation objectives, a full remedial AA of the development is required and a remedial Natura Impact Statement (rNIS) must be prepared.

4.1.1 Remedial Natura Impact Statement (rNIS) – Legislative Context

Section 177G of the Planning and Development Act 2000 (as amended) requires that a remedial Natura Impact Statement (rNIS) shall contain the following:

- (a) A statement of the significant effects, if any, on the relevant European sites which have occurred, or which are occurring, or which can reasonably be expected to occur because the development the subject of the application for substitute consent was carried out;
- (b) Details of —
 - (i) any appropriate remedial or mitigation measures undertaken or proposed to be undertaken by the applicant for substitute consent to remedy or mitigate any significant effects on the environment or on the European site;
 - (ii) the period of time within which any such proposed remedial or mitigation measures shall be carried out by or on behalf of the applicant;
- (c) Such information as may be prescribed under section 177N;
- (d) And may have appended to it, where relevant, and where the applicant may wish to rely upon same:
 - (i) a statement of imperative reasons of overriding public interest;
 - (ii) any compensatory measures being proposed by the applicant.

The rNIS has been prepared by MWP on behalf of the Applicant in accordance with the Planning and Development Act 2000 (as amended) and is a scientific examination of evidence and data, carried out by competent persons, to identify and classify any implications (ecological effects) for the four European sites listed in **Section 4.1**, above, in view of the sites’ conservation objectives, as a result of the development as described in **Sections 3.2.2** and **3.2.3**, above.

The rNIS will accompany the application to An Coimisiún Pleanála (ACP) - the competent authority for Substitute Consent for the development - to assist them in applying Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC

and provide ACP with sufficient information on which to base their own remedial Appropriate Assessment of the development.

4.2 Selection of Qualifying Features for Impact Assessment

The focus of this remedial AA is to now determine whether the development had adverse effects on the features of interest of the four European sites selected for further assessment listed in **Section 4.1**, above. This assessment identifies the environmental aspects of the development that may have previously interacted with, or are presently interacting with, the ecological requirements or sensitivities of the QI species and habitat/species complex of the four selected European sites. An assessment of these aspects then determines whether they may have resulted in potentially adverse impacts or were likely to have resulted in potentially adverse impacts that may have hindered or prevented achievement of the sites' conservation objectives and, thereby, significantly impacting the integrity of the European site(s).

When European sites are selected for Stage 2 assessments, all the qualifying features of conservation interest must be included in that stage of the assessment. However, when assessing the impact, qualifying features are only considered relevant where a credible or tangible source-pathway-receptor link exists between the development and a protected species or habitat type (see **Section 3.5.1**, above). Identifying a risk that could, in theory, cause an impact does not automatically mean that the risk event will occur, or that it will cause or create an adverse impact. However, identification of the risk does mean that there is a latent possibility of ecological or environmental damage occurring, with the level and significance of the impact depending upon the nature of the risk, the extent of the exposure to the risk and the characteristics of the receptor.

This section will provide a brief description of each of the four European sites listed in **Section 4.1**, above, before an evaluation is made based on the factors to determine which QI species/habitat comprised/comprises plausible ecological receptors for potential impacts of the development. The characteristics of each QI species/habitat selected for impact assessment will then be briefly set out.

4.2.1 Connemara Bog Complex SAC (002034)

4.2.1.1 Brief Description of SAC

The following text summarises the Natura 2000 Standard Data Form for the site⁴⁶. The SAC overlaps with Connemara Bog Complex SPA (004181) described below in **Section 4.2.3**.

Connemara Bog Complex SAC is a large site of almost 50,000 hectares that covers vast swathes of the southern Connemara lowlands and is designated for fourteen habitats listed on Annex I of the EU Habitats Directive and four species listed on Annex II of the same Directive – refer to **Table 3**, above.

The primary interests of the SAC are the large tracts of lowland Atlantic blanket bog and associated habitats of quaking bog, flushes, transition mires, *Rhynchosporion* vegetation, dystrophic bog pools and alkaline fens that cover approximately 70% of the site. Much of the land within the SAC is relatively intact and provides one of the best examples of unmodified lowland blanket bog habitat in Ireland. Excellent examples of lagoons within the site support hugely diverse assemblages of flora and fauna while oligotrophic lakes are also dotted throughout. Habitat diversity of the SAC is further increased through the presence of smaller areas of other important habitats including deciduous woodland, wet and dry heaths, scrub, semi-improved grassland, wet grassland and river habitats.

⁴⁶ [Natura 2000 SDF - IE0002034](#) Accessed: 6th June 2025

The SAC is also designated for four Annex II species including otter and Atlantic salmon. The site is particularly important for salmon with excellent grilse and spring salmon rivers and lakes and extensive spawning habitat throughout. The Cashla and Ballynahinch systems are good examples of western acidic spate rivers which support salmon and have good spawning and nursery grounds for the species.

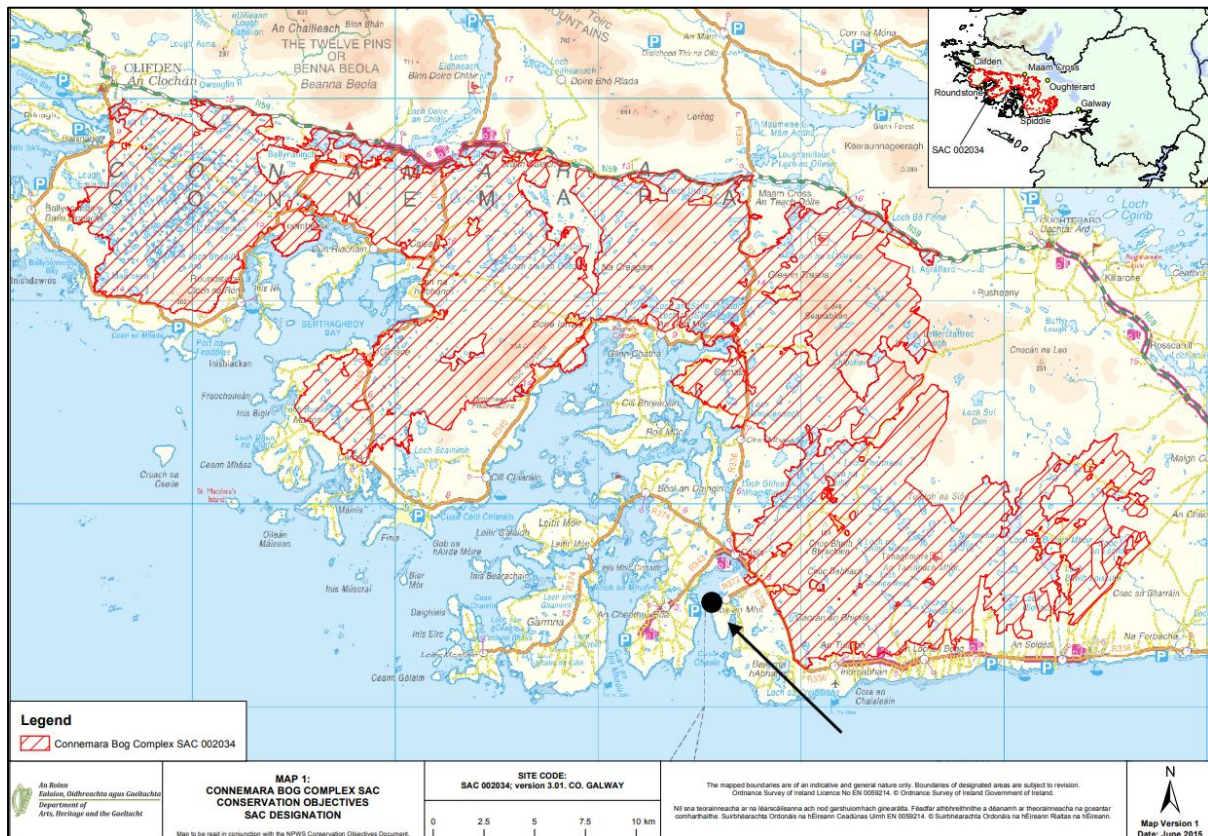


Figure 33: Extent of Connemara Bog Complex SAC (002034) and approximate location of development site (black circle and arrow) [adapted from NPWS, 2015].

4.2.1.2 Selection of Qualifying Features for Impact Assessment

The following **Table 8** lists the qualifying features of the Connemara Bog Complex SAC and evaluates through a scientific examination of evidence and data whether these features should or should not be selected for impact assessment in the rNIS.

Table 8. Selection of qualifying features of the Connemara Bog Complex SAC (002034) for impact assessment.

Qualifying features of conservation interest ⁴⁷	Potential for Impact	Rationale
Coastal lagoons* [1150]	No	There are four coastal lagoons within the SAC, namely Loch Doire Bhanbh, Loch an tSáile, Loch Conaortha, and Ardbear Salt Lake (NPWS, 2015). Coastal lagoons are areas of shallow, coastal salt water, wholly or partially separated from the sea by sandbanks, shingle, peat and/or rocks. Given the intervening distance of more than 30 rkm between the development site and the nearest area of this habitat at Loch an tSáile, and because this habitat type is confined to coastline above the high tide mark, it is, therefore, considered to be outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development. Therefore, 'coastal lagoons' is not considered to be (or have been) a plausible ecological receptor for any potential impacts of the development and will not be considered further in the rNIS.
Reefs [1170]	No	There are two mapped reef areas within the SAC – the <i>Serpula vermicularis</i> -dominated community complex at Ardbear Salt Lake nearly 40 km from the development site, and the intertidal reef community complex in Bertraghboy Bay more than 20 km (50 rkm) from the development site – and both are exposed or moderately exposed to wave action and subject to moderate tidal streams (NPWS, 2015a). Given the intervening distances of at least 50 rkm between the development site and the nearest area of this habitat at Bertraghboy Bay, and because of the high degree of mixing and dilution that would occur naturally within the enormity of the waterbody intervening, this habitat is/was outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development. Therefore, 'reefs' is not considered to be (or have been) a plausible ecological receptor for any potential impacts of the development and will not be considered further in the rNIS.

⁴⁷ Asterisk (*) denotes a priority habitat considered to be in danger of disappearance.

Qualifying features of conservation interest ⁴⁷	Potential for Impact	Rationale
Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>) [3110] Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i> [3130] Natural dystrophic lakes and ponds [3160] Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260] Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] European dry heaths [4030] <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) [6410] Blanket bogs (*if active bog) [7130] Transition mires and quaking bogs [7140] Depressions on peat substrates of the <i>Rhynchosporion</i> [7150] Alkaline fens [7230] Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0]	No	These are freshwater habitats [3110] to [3260], temperate heath habitats [4010] and [4030], grassland [6410], bogland [7130] to [7230], and woodland [91A0] and all located upstream/upgradient of the development site and therefore, are/were outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development. Therefore, these twelve habitat types are not considered to be (or have been) plausible ecological receptors for any potential impacts of the development and will not be considered further in the rNIS.
Marsh Fritillary (<i>Euphydryas aurinia</i>) [1065] Slender Naiad (<i>Najas flexilis</i>) [1833]	No	Marsh fritillary is a terrestrial species whose population structure usually consists of a central population surrounded by outlying colonies that are connected via migration. Breeding colonies are entirely dependent upon the presence of the required larval food plant Devil's bit scabious (<i>Succisa pratensis</i>). Marsh fritillary can be found on a range of (usually lowland) terrestrial habitats, including sand dunes, fens, cutover raised bogs,

Qualifying features of conservation interest ⁴⁷	Potential for Impact	Rationale
		blanket bogs, heaths, and grasslands. The presence of marsh fritillary has not been mapped in this SAC, so current distribution is unknown (NPWS, 2015). Slender naiad is a small, annual, submerged macrophyte of clear-water, lowland lakes. It is a fragile, short, permanently submerged species typically found on flat to gently sloping areas of lakebed with soft substrates such as fine sand, silt and mud. It occurs at all depths between 0.5 m and 10 m but frequently associated with lower depths of macrophyte growth, with scattered plants gradually giving way to bare mud/silt (Preston & Croft, 2001; Roden, 2002). Most mapped slender naiad records within the SAC are located at the extreme northwest of the site with the nearest record to the development site at Loch Bó Finne more than 20 km to the north. The lifecycles of both these species are entirely terrestrial/freshwater and, therefore, their populations within the SAC are/were outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development. Therefore, marsh fritillary and slender naiad are not considered to be (or have been) plausible ecological receptors for any potential impacts of the development and will not be considered further in the rNIS.
Salmon (<i>Salmo salar</i>) [1106]	Yes	Salmon is an anadromous species, living in freshwater for at least the first two/three years of life before migrating to sea. The Cashla catchment provides/provided good spawning habitat for salmon - adults can occur, or may have occurred, within Cashla Bay prior to returning to natal streams to spawn while smolts can, and likely did, occur within the bay on their journey from influent rivers to the sea (NPWS, 2015). Consequently, it is considered that there is/was potential for effects on the migrating salmon populations of the SAC via direct/indirect disturbance/displacement impacts and potential impairment of water quality during either the construction phase or current phase of the development and further assessment is required.
Otter (<i>Lutra lutra</i>) [1355]	Yes	Otter has a widespread distribution throughout Ireland and can be found in a variety of aquatic habitats such as lakes, rivers, streams, estuaries, and along the coast. They are mainly solitary animals and highly territorial. No evidence of otter (apart from a trail made by an unidentified mammal) was recorded during the ecological field surveys in 2010 or 2025, and the nearest NBDC record for otter is at least one kilometre from the development site (see Section 3.3.6, above). However, given that otter is a highly mobile, semi-aquatic species with a diet comprised mainly of fish, it is considered that there is/was potential for effects on otter populations of the SAC via direct/indirect disturbance/displacement impacts and potential impairment of water quality and subsequent prey resource reduction during either the construction phase or current phase of the development and further assessment is required.

It has been determined **Table 8**, above, that the construction phase and/or the current phase of the development as described in **Sections 3.2.2** and **3.2.3**, above, had/has potential to result in significant effects to the conservation objectives of the following Qualifying Interests (QIs) of the Connemara Bog Complex SAC and, therefore, these QIs will be further assessed:

- Salmon (*Salmo salar*) [1106]
- Otter (*Lutra lutra*) [1355]

4.2.2 Kilkieran Bay and Islands SAC (002111)

4.2.2.1 Brief Description of SAC

The following text summarises the Natura 2000 Standard Data Form for the site⁴⁸.

Kilkieran Bay and Islands SAC is located at the northwesternmost shores of Galway Bay and encompasses almost 21,400 hectares with 86% of the habitat made up marine areas – see **Figure 34**, below. The SAC is designated for nine habitats listed on Annex I of the EU Habitats Directive and four species listed on Annex II of the same Directive – refer to **Table 3**, above.

The SAC is comprised of several islands and rocky islets with a coastline indented with numerous bays, channels and islets that are all subject to strong prevailing southwesterly winds and tidal streams. The marine and intertidal habitats of the SAC are of a particularly high conservation importance and are made up of extensive and varied communities of maërl beds, and circalittoral reef communities of sponges, anemones, and ascidians (sea squirts). Lagoons within the site are excellent examples of saline lake lagoons situated in peat which are rare in Europe and the SAC contains a significant proportion of the most important lagoonal habitat in the country. Relatively high numbers of protected flora species are found within the lagoons, in addition to numerous lagoonal specialist species, algal communities, and rich fauna. Salt marshes, both Atlantic and Mediterranean, are well-represented with some of the largest areas of salt marsh on peat in the country found within the SAC. Lowland hay meadows and low quality machair also feature within the SAC, furthering increasing terrestrial habitat diversity of the site.

The SAC is also designated for four Annex II species including otter, harbour seal and harbour porpoise. Habitat at the site is optimal for otter and the species occur commonly throughout the SAC. The numerous islands, bays, and rocky coastline of the SAC provide many suitable haul-out sites for harbour seal - necessary for the various stages of the species' life cycle – and the SAC supports an important population of harbour seal. Waters around the SAC support groups of harbour porpoise and, thus far, the species has been recorded within the SAC during the summer months only.

⁴⁸ [Natura 2000 SDF - IE0002111](#) Accessed: 6th June 2025

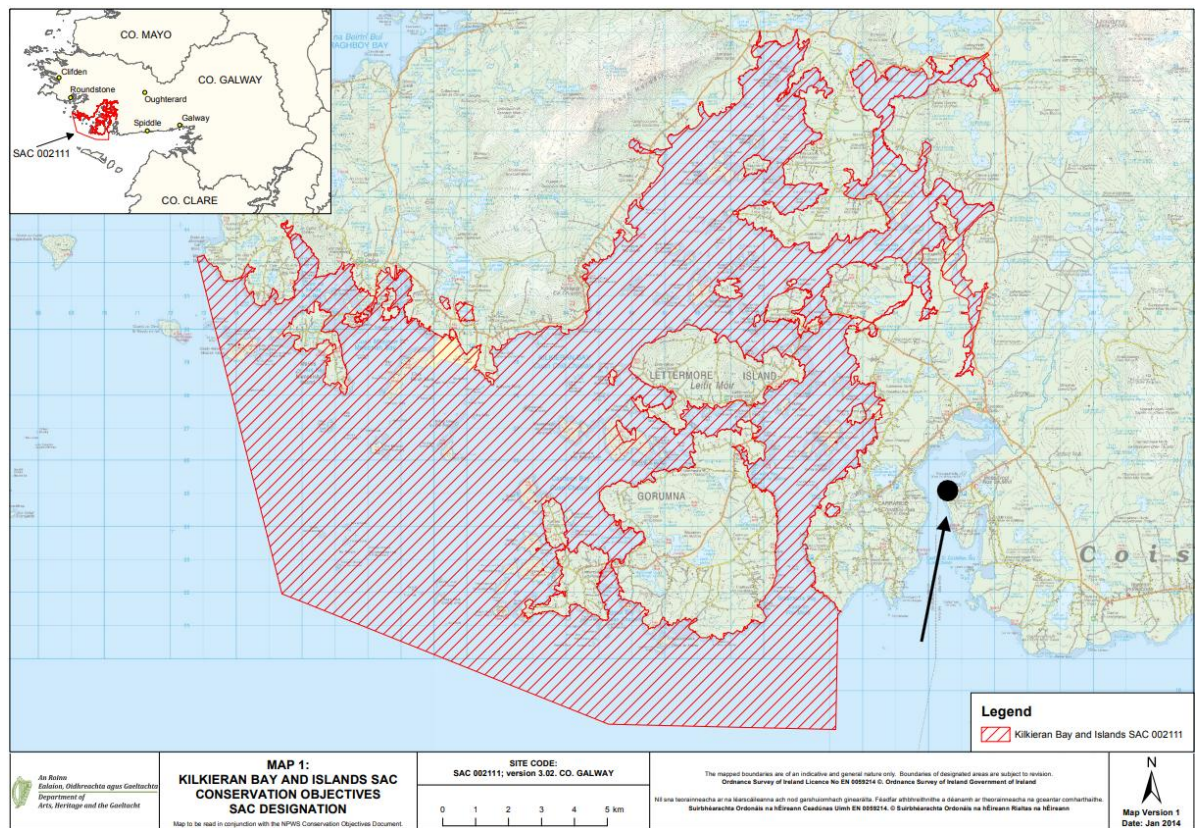


Figure 34: Extent of Kilkieran Bay and Islands SAC (002111) and approximate location of development site (black circle and arrow) [adapted from NPWS, 2014].

4.2.2.2 Selection of Qualifying Features for Impact Assessment

Table 9, below, lists the qualifying features of the Kilkieran Bay and Islands SAC and evaluates through a scientific examination of evidence and data whether these features should or should not be selected for impact assessment in the rNIS.

Table 9. Selection of qualifying features of the Kilkieran Bay and Islands SAC (002111) for impact assessment.

Qualifying features of conservation interest ⁴⁹	Potential for Impact	Rationale
Mudflats and sandflats not covered by seawater at low tide [1140]	No	These intertidal sediment habitats are found between the low water and mean high water tide marks and are, therefore, submerged at high tide and exposed at low tide. These sediments are often rich in nutrients as finer silt and clay sediments are usually dominant in mudflats with larger sand particles found in areas exposed to greater wave forces. Given the intervening distance of more than 9 rkm from the development site to the nearest example of this habitat type at Coral Strand in an entirely separate bay on the western side of the Carraroe peninsula and because of the high degree of mixing and dilution that would occur naturally within the enormity of the waterbody intervening, this habitat type is/was outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development. Therefore, 'Mudflats and sandflats not covered by seawater at low tide' is not considered to be (or have been) a plausible ecological receptor for any potential impacts of the development and will not be considered further in the rNIS.
Coastal lagoons* [1150]	No	There are eleven coastal lagoons or coastal lagoon groups within the SAC and the site is generally regarded as being the best site in the country for this habitat type (NPWS, 2014a). Coastal lagoons are areas of shallow, coastal salt water, wholly or partially separated from the sea by sandbanks, shingle, peat and/or rocks, and within this SAC there are excellent examples of a particularly rare type of saline lake lagoon situated on peat which supports complex communities of diverse flora and fauna with at least five being lagoonal specialists (NPWS, 2014). Coastal lagoons are concentrated mainly to the east of the SAC towards the development site; however, all are upstream/upgradient of the development site with the nearest being Loch Cara Fionnla, located approximately 4 km to the north. Bearing this in mind, and because this habitat type is confined to coastline above the high tide mark and, therefore, is/was outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development, 'coastal lagoons' is not considered to be (or have been) a plausible ecological receptor for potential impacts of the development and will not be considered further in the rNIS.

⁴⁹ Asterisk (*) denotes a priority habitat considered to be in danger of disappearance.

Qualifying features of conservation interest ⁴⁹	Potential for Impact	Rationale
Large shallow inlets and bays [1160] Reefs [1170]	No	The habitat ‘large shallow inlets and bays’ is a large physiographic feature that may wholly or partly incorporate other Annex I habitats including reefs, sandbanks, and mudflats and sandflats within its area. In contrast to estuaries, large shallow inlets and bays have limited freshwater influence. The SAC supports approximately 18,760 ha of this habitat with almost all the SAC’s marine elements mapped as large shallow inlets and bays (NPWS, 2014). There are approximately 9,084 ha of reefs mapped throughout the marine area of the SAC supporting at least five different benthic community complexes - intertidal reef, subtidal sponge and ascidian, deep water faunal crust and sponge, exposed to moderately exposed subtidal reef, and <i>Laminaria</i>-dominated (NPWS, 2014b). The nearest mapped examples of both these habitat types are more than 6 rkm from the development site. Given this, and the highly localised nature of the development works and because of the high degree of mixing and dilution that would occur naturally within the enormity of the waterbody intervening, these habitats are/were outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development. Therefore, both these habitats are not considered to be (or have been) plausible ecological receptors for any potential impacts of the development and will not be considered further in the rNIS.
Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330] Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]	No	‘Atlantic salt meadows’ (ASM) generally occupy the widest part of a saltmarsh gradient and develop when halophytic vegetation colonises soft intertidal sediments of mud and sand in areas protected from strong wave action. The vegetation forms the middle and upper reaches of saltmarshes where tidal inundation still occurs but with decreasing frequency and duration. ‘Mediterranean salt meadows’ (MSM) occupy the upper zone of a saltmarsh and usually occur adjacent to a site’s boundary with terrestrial habitats. MSM are widespread on the Irish coastline; however, they are not as extensive as Atlantic salt meadows. Within this SAC, most stretches of coastline have a thin fringe of saltmarsh particularly in the many sheltered bays with the low-growing ASM appearing to be the more common type. However, between Cinn Mhara and Casla there are especially well-developed and extensive areas of MSM (NPWS, 2024a) and, although located approximately 4.5 km from the development site, all mapped areas of these habitat types are located upstream/up-gradient of the development site. Consequently, both these habitats are/were outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development and, therefore, are both not considered to be (or have been) plausible ecological receptors for any potential impacts of the development and will not be considered further in the rNIS.

Qualifying features of conservation interest ⁴⁹	Potential for Impact	Rationale
Machairs (* in Ireland) [21A0] Oligotrophic to mesotrophic standing waters with vegetation of the <i>Littorelletea uniflorae</i> and/or <i>Isoeto-Nanojuncetea</i> [3130] Lowland hay meadows (<i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i>) [6510]	No	Machairs are highly specialised and complex dune habitats with herbaceous vegetation and highly calcareous systems. Within the SAC, mapped areas of machairs are limited to western regions with the nearest to the development site located nearly 15 km to the northwest. The remaining two habitat types [3130] and [6510] are a freshwater habitat and a grassland habitat, respectively, and are entirely ecologically and hydrologically unconnected to the development site. Consequently, these three Annex I habitats for which the SAC is designated are/were outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development. Therefore, these three habitat types – [21A0], [3130], and [6510] - are not considered to be (or have been) plausible ecological receptors for any potential impacts of the development and will not be considered further in the rNIS.
Harbour Porpoise (<i>Phocoena phocoena</i>) [1351]	Yes	Harbour porpoise is the smallest cetacean in Irish waters and feeds primarily on small fish and squid. Robust, long-term data on this species is generally unavailable but recent sightings are indicative of a widespread distribution within Irish coastal waters and in waters of the continental shelf and continental slope. The most recent assessment of overall conservation status for harbour porpoise has been determined as ‘Favourable’ (NPWS, 2019). Coastal shelf waters around the SAC and deeper offshore waters further out into the North Atlantic Ocean support groups of this species. Although no live records of harbour porpoise have been reported within the vicinity of the development site or Cashla Bay (see Section 3.3.7.2, above), it is a highly mobile species that may have used, or currently uses, the waters of the SAC as foraging grounds. Furthermore, construction activities such as drilling and blasting may have led to indirect disturbance/displacement effects by impacting the species’ ability to communicate and navigate properly. Consequently, it is considered that there is/was potential for effects on harbour porpoise via direct/indirect disturbance/displacement impacts and potential impairment of water quality during either the construction phase or current phase of the development and further assessment is required.
Otter (<i>Lutra lutra</i>) [1355]	Yes	Otter has a widespread distribution throughout Ireland and can be found in a variety of aquatic habitats such as lakes, rivers, streams, estuaries, and along the coast. They are mainly solitary animals and highly territorial. No evidence of otter (apart from a trail made by an unidentified mammal) was recorded during the ecological field surveys in 2010 or 2025, and the nearest NBDC record for otter is at least one kilometre from the development site (see Section 3.3.6, above). However, given that otter is a highly mobile, semi-aquatic species with a diet comprised mainly of fish, it is considered that there is/was potential for effects on SAC’s otter population via direct/indirect

Qualifying features of conservation interest ⁴⁹	Potential for Impact	Rationale
		disturbance/displacement impacts and potential water quality impairment and subsequent prey resource reduction during either the construction phase or current phase of the development, and further assessment is required.
Harbour Seal (<i>Phoca vitulina</i>) [1365]	Yes	Harbour seal breeds widely around the Irish coast inhabiting both inshore and offshore waters and predated on a wide variety of aquatic fish and other marine species. The species requires intertidal and terrestrial sites, known as haul-out sites, throughout its life cycle to complete important functions such as breeding, moulting, resting, and socialising. There are known haul-out sites within Cashla Bay that are utilised year-round by harbour seals while the waters of the bay and within the vicinity of the development site are likely to be used or were used as harbour seal hunting grounds. Furthermore, construction activities such as drilling and blasting may have led to indirect disturbance/displacement effects by impacting the species' ability to communicate and navigate properly. Consequently, it is considered that there is/was potential for effects on harbour seal via direct/indirect disturbance/displacement impacts and potential impairment of water quality during either the construction phase or current phase of the development and further assessment is required.
Slender Naiad (<i>Najas flexilis</i>) [1833]	No	Slender naiad is a small, annual, submerged macrophyte of clear-water, lowland lakes. It is a fragile, short, permanently submerged species typically found on flat to gently sloping areas of lakebed with soft substrates such as fine sand, silt and mud. It can occur at all depths between 0.5 m and 10 m but is frequently associated with the lower depths of macrophyte growth, with scattered plants gradually giving way to bare mud or silt (Preston & Croft, 2001; Roden, 2002). Mapped records of slender naiad within the SAC are located mainly at the western side of the site with the nearest record to the development site situated at Lough Natawnymore more than 4 km to the west. This species occupies freshwater habitats only and, therefore, its population within the SAC is/was outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development. Therefore, slender naiad is not considered to be (or have been) a plausible ecological receptor for any potential impacts of the development and will not be considered further in the rNIS.

It has been determined **Table 9**, above, that the construction phase and/or the current phase of the development as described in **Sections 3.2.2** and **3.2.3**, above, had/has potential to result in significant effects to the conservation objectives of the following QIs of the Kilkieran Bay and Islands SAC and, therefore, these QIs will be further assessed:

- Harbour Porpoise (*Phocoena Phocoena*) [1351]
- Otter (*Lutra lutra*) [1355]
- Harbour Seal (*Phoca vitulina*) [1365]

4.2.3 Connemara Bog Complex SPA (004181)

4.2.3.1 Brief Description of SPA

The following text summarises the Natura 2000 Standard Data Form for the site⁵⁰.

Connemara Bog Complex SPA is a large site encompassing nearly 20,000 hectares and consisting of three separate areas within the south Connemara lowlands of County Galway – an area north of Roundstone, a second south of Recess, and a third north-west of Spiddal. The SPA is made up of a wide range of diverse habitats including large swathes of western blanket bog - approximately 70% of total habitat type within SPA is bog and associated habitats such as fens and marshes - in addition to heath, woodland, lakes, rivers and streams.

The SPA is designated for nationally important breeding populations of four bird species, namely cormorant, merlin, golden plover, and common gull. Of particular note are the SPA's populations of golden plover and merlin which represent 18% and 1.8% to 3.6%, respectively, of the all-Ireland totals for each species. Small flocks of Annex I-listed wintering Greenland white-fronted goose (*Anser albifrons flavirostris*) also visit the SPA at various locations such as Roundstone Bog and the bogs between Recess and Maam Cross.

4.2.3.2 Selection of Qualifying Features for Impact Assessment

Table 10, below, lists the qualifying features of the Connemara Bog Complex SPA and evaluates through a scientific examination of evidence and data whether these features should or should not be selected for impact assessment in the rNIS.

⁵⁰ [Natura 2000 SDF - IE0004181](#) Accessed: 6th June 2025



Table 10. Selection of qualifying features of the Connemara Bog Complex SPA (004181) for impact assessment.

Qualifying features of conservation interest ⁵¹	Potential for Impact	Rationale
Cormorant (<i>Phalacrocorax carbo</i>) [A017]	Yes	The SPA is designated for breeding cormorant which breeds colonially nesting on the ground or in trees on the many small lake islands within the SPA. Cormorant are a piscivorous diving species with a diet that consists almost entirely of benthic and/or pelagic fish usually obtained over shallow waters. At the development site, there are/were no suitable areas for establishment of a cormorant breeding colony. However, during the site survey in 2025, cormorant was seen several times at various locations within the bay near the development site (see Section 3.3.3, above). Given that the mean foraging distance for breeding cormorant is 7.1 km (Woodward <i>et al</i>, 2019) from the colony, the intervening distance of more than 6 km between the SPA and development site, and the presence of potentially suitable foraging grounds at Cashla Bay, it is considered that there is/was potential for effects on breeding cormorant via indirect disturbance/displacement impacts due to a potential impairment of water quality and prey resource during either the construction phase or current phase of the development and further assessment is required.
Merlin (<i>Falco columbarius</i>) [A098]	No	Merlin had traditionally been a ground-nesting species utilising heather in moorland and peatland; however, they are largely tree-nesting now and often use old nests of other species, often in forestry plantations adjacent to moorland. In upland areas, they feed on open-habitat prey species like small passerines such as meadow pipit (<i>Anthus pratensis</i>) and skylark (<i>Alauda arvensis</i>), typically catching them in mid-air during high-speed attacks. Moths and April woodland birds are also part of their diets. Merlin territories are traditional and are used repeatedly from year to year by successive generations of birds, though the exact location of the nest does vary (Hardey <i>et al</i>. 2013). Given that there is/was no suitable merlin nesting habitat at the development site and because the development site is/was more than 6 km from the SPA and beyond the optimal foraging range of 5 km for breeding merlin (SNH, 2016), the SPA's merlin population is/was outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development. Therefore, merlin is not considered to be (or have been) a plausible ecological receptor for any potential impacts of the development and will not be considered further in the rNIS.

⁵¹ Asterisk (*) denotes a priority habitat considered to be in danger of disappearance.

Qualifying features of conservation interest ⁵¹	Potential for Impact	Rationale
Golden Plover (<i>Pluvialis apricaria</i>) [A140]	No	In Ireland, the distribution of breeding golden plover is limited to the uplands of the northwest in open habitats such as blanket bogs, heather moorlands, acidic grasslands, and peatlands where they nest on the ground within short vegetation or dense, tufted clumps of grass. The diet of golden plover consists almost exclusively of soil and surface-living invertebrates such as beetles and earthworms foraged from blanket bogs and peatland habitats, although during the breeding season, the species can forage at grasslands and lake shores. Given that there is/was no suitable golden plover nesting habitat at the development site and because the development site is/was at least 6 km from the SPA and beyond the optimal foraging range of 4 km for breeding golden plover (NPWS, 2023), the SPA's golden plover population is/was outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development. Therefore, golden plover is not considered to be (or have been) a plausible ecological receptor for any potential impacts of the development and will not be considered further in the rNIS.
Common Gull (<i>Larus canus</i>) [A182]	Yes	Common gull breeds throughout the SPA on islands within the large lakes and is a ground-nesting species, primarily breeding colonially but they can also breed in isolated pairs. The species is omnivorous with a broad diet that includes terrestrial and aquatic invertebrates, insects, bird's eggs, fish, offal and rubbish. At the development site, there are/were no suitable areas of common gull breeding/nesting habitat. However, breeding common gull are opportunistic feeders with a broad diet and can forage up to 50 km from the breeding colony (see footnote in Section 3.7.2, above, in relation to common gull foraging distance estimate) which places the potentially suitable foraging grounds at Cashla Bay within their foraging range since there is an intervening distance of more than 6 km between the SPA and development site. Therefore, it is considered that there is/was potential for effects on breeding common gull via indirect disturbance/displacement impacts due to a potential impairment of water quality and prey resource availability during either the construction phase or current phase of the development and further assessment is required.

It has been determined **Table 10**, above, that the construction phase and/or the current phase of the development as described in **Sections 3.2.2** and **3.2.3**, above, had/has potential to result in significant effects to the conservation objectives of the following QIs of the Connemara Bog Complex SPA and, therefore, these QIs will be further assessed:

- Cormorant (*Phalacrocorax carbo*) [A017]
- Common Gull (*Larus canus*) [A182]

4.2.4 Inishmore Island SAC (000213)

4.2.4.1 Brief Description of SAC

The following text summarises the Natura 2000 Standard Data Form for the site⁵².

Inishmore Island SAC is located at the mouth of Galway Bay and surrounds the largest of the three Aran Islands, Inishmore, situated approximately eight kilometres off the south County Galway coast. Measuring nearly 14,500 hectares with 86% consisting of marine areas, the SAC is designated for sixteen habitats listed on Annex I of the EU Habitats Directive and two species listed on Annex II of the same Directive – refer to **Table 3**, above.

The site is extremely exposed to powerful wave action and contains excellent examples of a broad and diverse range of habitats including marine, coastal, limestone, heath and grassland. Reef communities around the island have excellent representativity and are species rich with some of Ireland's best examples of such habitats. Sea urchins, mixed kelp forests, diverse red algal species, soft corals, sea fans and anemones make up infralittoral reef communities while in deeper waters, there are communities of rare sponges. Submerged sea caves on the southeast coast host a diverse range of fauna that includes species of soft corals, sponges, nudibranchs, and echinoderms. The SAC also supports high quality sea cliffs, several sand dune habitats, coastal grasslands, and a variety of karstic lagoons that contain lagoonal specialist species of flora.

The SAC is also designated for two Annex II species - narrow-mouthed whorl snail and harbour porpoise. The narrow-mouthed whorl snail occurs at three different locations within the SAC which are the only known island populations of the species in Ireland (NPWS, 2024b). Waters around the SAC support groups of harbour porpoise and the species has been reported across all seasons within the SAC and surrounding waters indicating that it has a relatively widespread distribution.

⁵² <https://natura2000.eea.europa.eu/Natura2000/sdf/#/sdf?site=IE0000213> Accessed: 6th June 2025

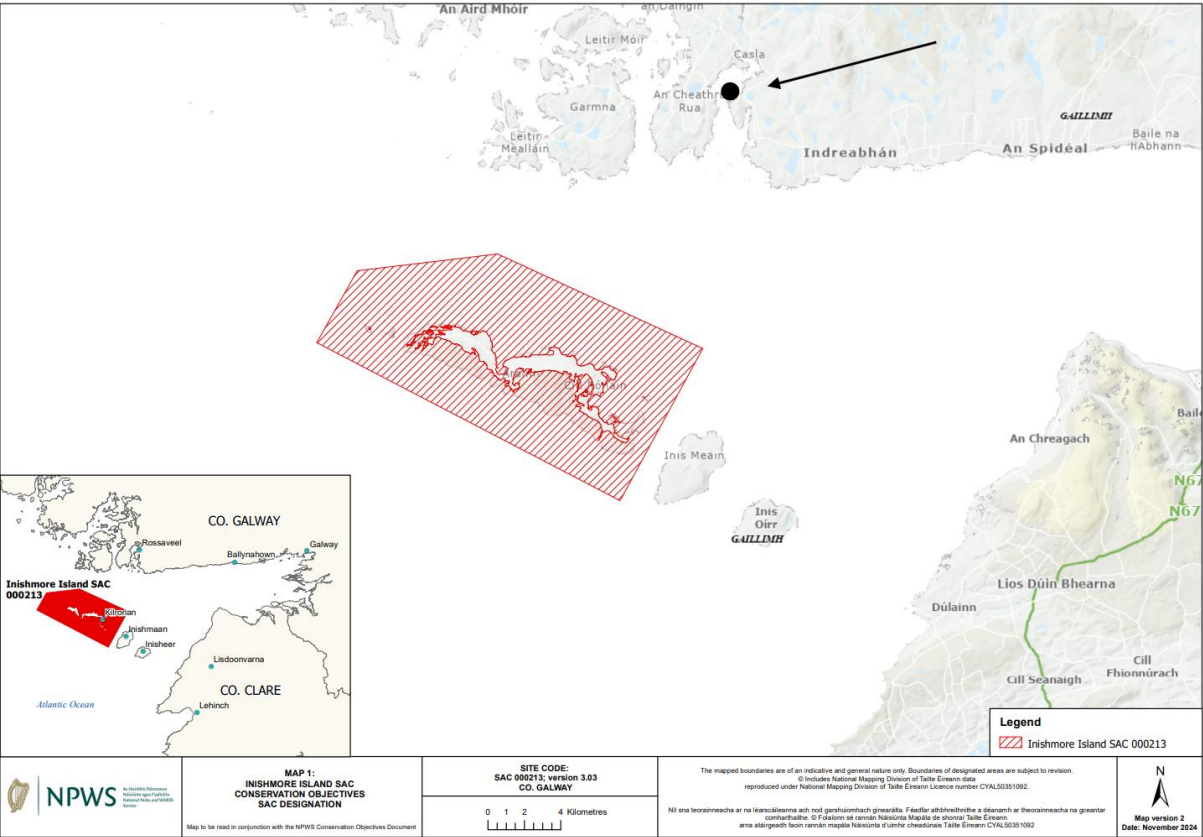


Figure 36: Extent of Inishmore Island SAC (000213) and approximate location of development site (black circle and arrow) [adapted from NPWS, 2024b].

4.2.4.2 Selection of Qualifying Features for Impact Assessment

Table 11, below, lists the qualifying features of the Inishmore Island SAC and evaluates through a scientific examination of evidence and data whether these features should or should not be selected for impact assessment in the rNIS.

Table 11. Selection of qualifying features of the Inishmore Island SAC (000213) for impact assessment.

Qualifying features of conservation interest ⁵³	Potential for Impact	Rationale
Coastal lagoons* [1150]	No	There are four coastal lagoons within the SAC, namely Loch Dearg, Loch Phort Chorrúch, Loch an Chara, and Loch an tSáile, and all four are examples of good quality karstic lagoons that are in a relatively natural state (NPWS, 2024b) containing typically lagoonal flora, some being lagoonal specialist species. Given the intervening distance of more than 16 km between the development site and the nearest area of this habitat at Loch Phort Chorrúch, and because this habitat type is confined to coastline above the high tide mark and, therefore, is/was outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development. Therefore, ‘coastal lagoons’ is not considered to be (or have been) a plausible ecological receptor for any potential impacts of the development and will not be considered further in the rNIS.
Reefs [1170]	No	There are large areas of good quality submerged reefs around Inishmore – the most extensive being the <i>Laminaria</i>-dominated community complex extending northwards from the island’s northern coastline surrounded by thinner belts of subtidal reef community complexes. Small slivers of intertidal reef community complexes separate the <i>Laminaria</i>-dominated reefs from the shoreline (NPWS, 2024b). The nearest mapped examples of this habitat type are nearly 13 rkm from the development site. Given this, and the highly localised nature of the development works and because of the high degree of mixing and dilution that would occur naturally within the enormity of the waterbody intervening, this habitat is/was outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development. Therefore, ‘reefs’ is not considered to be (or have been) a plausible ecological receptor for any potential impacts of the development and will not be considered further in the rNIS.

⁵³ Asterisk (*) denotes a priority habitat considered to be in danger of disappearance.

Qualifying features of conservation interest ⁵³	Potential for Impact	Rationale
Perennial vegetation of stony banks [1220] Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]	No	Perennial vegetation of stony banks is comprised of vegetation, dominated by perennial species, occurring at or above the mean high water spring tide mark on shingle beaches. The first colonisers of the shingle are annuals or short-lived perennials with an ability to tolerant periodic displacement or periodic wave overtopping (NPWS, 2015b). The vegetated shingle habitat on Inishmore Island is associated with lowland karst, intertidal shingle, lagoon and sand dunes, and although the current area and distribution of this habitat on the island is unknown, shingle deposits have historically been recorded along the island's northern and northeastern coastlines (NPWS, 2024b). The steep vegetated sea cliffs of the SAC measure up to 80 m high and occur entirely along the southern coastline of Inishmore where they support typical cliff flora and maritime annual vegetation that are extremely exposed to the force of the North Atlantic Ocean. Consequently, the vegetation of the cliffs and cliff top are heavily influenced by various marine elements such as salt spray and exposure to coastal winds. Given that the nearest possible site for shingle deposits is nearly 13 km from the development site and that the vegetated sea cliffs are located on the island's southern shoreline, and considering the highly localised nature of the development works and the high degree of mixing and dilution that would occur naturally within the enormity of the waterbody intervening, both these habitats are/were outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development. Therefore, both these habitats are not considered to be (or have been) plausible ecological receptors for any potential impacts of the development and will not be considered further in the rNIS.
Embryonic shifting dunes [2110] Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120] Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>) [2170] Humid dune slacks [2190] Machairs (* in Ireland) [21A0]	No	These are sand dune habitats [2110] to [21A0], heathland habitats [4030] and [4060], grassland habitats [6210] and [4060], and limestone pavement found mainly in upland areas at the southern side of the island. Therefore, these habitats are/were outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development. Therefore, these eleven habitat types are not considered to be (or have been) plausible ecological receptors for any potential impacts of the development and will not be considered further in the rNIS.

Qualifying features of conservation interest ⁵³	Potential for Impact	Rationale
European dry heaths [4030] Alpine and Boreal heaths [4060] Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210] Lowland hay meadows (<i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i>) [6510] Limestone pavements* [8240]		
Submerged or partially submerged sea caves [8330]	No	Large, submerged sea caves - some extending back for 20 to 30 metres – are located on the southeastern coast of Inishmore and have an extremely high level of species-richness including such diverse fauna as soft corals, anemones, bryozoans, nudibranchs, echinoderms, and sponges (NPWS, 2024b). Given that the two mapped sea caves within the SAC - Poll na bPéist, and Glassan Cave – are both on the southern side of the island, at least 20 km from the development site and considering the highly localised nature of the development works and the high degree of mixing and dilution that would occur naturally within the enormity of the waterbody intervening, this habitat is/was outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development. Therefore, ‘submerged or partially submerged sea caves’ is not considered to be (or have been) a plausible ecological receptor for any potential impacts of the development and will not be considered further in the rNIS.
Narrow-mouthed Whorl Snail (<i>Vertigo angustior</i>) [1014]	No	The narrow-mouthed whorl snail favours damp habitats such as dunes, coastal grassland, fen, marsh, and floodplains where they live primarily in moss, leaves and decaying vegetation. Distribution of the species in Ireland is generally limited to western counties where it is mainly found on the Atlantic facing dune systems from Kerry to Donegal. The most recent assessment of overall conservation status for narrow-mouthed whorl snail has been determined as ‘Inadequate’ (NPWS, 2019). Given that this species occupies terrestrial habitats only and that the nearest SAC record to the development site is more than 18 km away, the population of this species within the SAC is/was outside the zone of influence of any potential impacts that may have arisen during either the construction phase or current phase of the development.

Qualifying features of conservation interest ⁵³	Potential for Impact	Rationale
		Therefore, narrow-mouthed whorl snail is not considered to be (or have been) a plausible ecological receptor for any potential impacts of the development and will not be considered further in the rNIS.
Harbour Porpoise (<i>Phocoena phocoena</i>) [1351]	Yes	Harbour porpoise is the smallest cetacean in Irish waters and feeds primarily on small fish and squid. Robust, long-term data on this species is generally unavailable but recent sightings are indicative of a widespread distribution within Irish coastal waters and in waters of the continental shelf and continental slope. The most recent assessment of overall conservation status for harbour porpoise has been determined as 'Favourable' (NPWS, 2019). Coastal shelf waters around the SAC and deeper offshore waters further out into the North Atlantic Ocean support groups of this species. Although no live records of harbour porpoise have been reported within the vicinity of the development site or Cashla Bay (see Section 3.3.7.2, above), it is a highly mobile species that may have used, or currently uses, the waters of Cashla Bay as foraging grounds. Furthermore, construction activities such as drilling and blasting may have led to indirect disturbance/displacement effects by impacting the species' ability to communicate and navigate properly. Consequently, it is considered that there is/was potential for effects on harbour porpoise via direct/indirect disturbance/displacement impacts and potential impairment of water quality during either the construction phase or current phase of the development and further assessment is required.

It has been determined in **Table 11**, above, that the construction phase and/or the current phase of the development as described in **Sections 3.2.2** and **3.2.3**, above, had/has potential to result in significant effects to the conservation objectives of the following QI of the Inishmore Island SAC and, therefore, this QI will be further assessed:

- Harbour Porpoise (*Phocoena Phocoena*) [1351]

4.3 Assessment of Potentially Significant Effects

There follows an evaluation of potentially significant effects which may have arisen because of the development on the QI species that have been selected for impact assessment in **Sections 4.2.1** to **4.2.4**, above, in light of the potential effects identified in **Section 3.6**, above. The effects of the development on these QI species are then assessed against the site-specific measures designed to achieve the Conservation Objectives for each species in its respective European site. Following this, a determination is made as to whether the development was likely to have had adverse effects on the integrity of the European sites selected for assessment as listed in **Table 7**, above.

The likelihood of adverse effects to a European site from the development has been determined based on the following indicators:

- Water quality;
- Habitat loss or alteration;
- Disturbance and/or displacement of species; and
- Habitat or species fragmentation.

The likelihood of significant cumulative/in-combination effects is assessed in **Section 4.8**, below.

4.3.1 Water Quality

As detailed in **Section 3.3.2**, above, and illustrated in **Figure 27**, above, there were/are no watercourses traversing the footprint of the development site or within close proximity to it nor is there any spatial overlap of the development site and any European site, thereby ensuring no direct adverse effects to the water quality of any European site during either the construction phase or current phase of the development. However, the development site itself is located within the waters of Cashla Bay and along the bay's shoreline which potentially created a hydrological link between the development site and the designated aquatic or semi-aquatic habitats/species of the European sites within the zone of impact.

As set out in **Sections 4.2.1.2**, **4.2.2.2**, **4.2.3.2** and **4.2.4.2**, above, the ecological receptors of the hydrological pathways linking the development site to each of the four European sites are limited to certain aquatic (harbour seal, salmon, harbour porpoise) and semi-aquatic (otter, cormorant, common gull) species. There are no credible or tangible source-pathway-receptor links (direct or indirect) connecting the development to the QI habitats of the four relevant European sites, namely Connemara Bog Complex (002034), Kilkieran Bay and Islands SAC (002111), Connemara Bog Complex SPA (004181), and Inishmore Island SAC (000213).

4.3.1.1 Construction Phase

Construction of the deep water quay occurred adjacent to and within the waters of Cashla Bay. While there is/was no spatial overlap of the development site and any of the four European sites selected for further assessment (and listed in **Section 4.1**, above), there is potential that the waters of Cashla Bay and Ros an Mhíl Harbour were/are used by some or all of the aquatic or semi-aquatic QI species for which the European sites are designated and, therefore, any reduction in water quality at the development site had/has the potential to adversely affect the conservation objectives for those QIs. Construction works in general can pose a risk to the aquatic

environment via several mechanisms including ingress of chemicals/concrete/fuels, increased sediment/silt concentrations, and ingress of wastewater generated by use of the temporary welfare facilities.

However, a project-specific Construction and Environmental Management Plan (CEMP) was devised before works commenced and was updated as needed throughout the construction phase. During construction, adherence to guidelines for minimising impacts of water quality and fisheries included but was not limited to, CIRIA C532 - *Control of water pollution from construction sites: Guidance for consultants and contractors*, and relevant guidelines from Inland Fisheries Ireland and TII.

A Surface Water Management Plan for the construction site was also implemented and an Environmental Manager was appointed to ensure the adequacy and efficacy of water quality protection procedures.

4.3.1.1.1 *Sediment-Laden Run-off*

With regards the various construction phase aspects of the development that may potentially have generated sediment-laden run-off resulting in the overland transport of sediments and silts, these included preliminary groundworks, excavation works or other ground disturbances, importation of backfill, construction of reclaimed areas, or movement of construction vehicles/plant. Where run-off makes its way to drainage features/receiving waterbodies, it can result in ingress of sediment to aquatic systems, which can result in siltation of the aquatic environment..

However, it is noted that during the authorised and unauthorised works described in **Sections 3.2.2** and **3.2.3**, above, respectively, various mitigative measures were employed to reduce or eliminate any potential risk of sediment-laden run-off from entering the waters of Cashla Bay such the bunding and segregation of stockpile areas. Monitoring buoys were also deployed to measure turbidity and dissolved oxygen and relay information to the onshore station. These were be fitted with alarms to notify the Contractor and Harbour Master should the limits be exceeded.

Given that standard industry best-practice measures pertaining to protection of water quality were implemented during construction, and considering the temporary nature of the works, the possibility that significant ingress of sediment to the marine environment occurred during construction is considered to be low.

4.3.1.1.2 *Fuel, Oils, Lubricants and Other Hydrocarbons*

Use of plant and machinery poses a risk of accidental ingress of fuel, oils, lubricants, and hydraulic fluids to the aquatic environment, as does on-site storage of these and other such substances considered harmful to aquatic life. Use of concrete and other cementitious materials, generation of washout and use of chemicals also poses a risk to water quality. Such materials can enter the aquatic environment via direct discharges to waterbodies/drainage features, overland flow and/or leaching to groundwater in the event of a spillage/leakage. Use of temporary on-site welfare facilities will result in the generation of effluent/wastewater which also poses a risk to water quality in the event of improper storage and/or disposal.

With regards the deep water quay works near Ros an Mhíl, machinery and plant were present at the foreshore for the minimum time necessary for delivery of materials, placing of back-fill, and berm/revetment construction. Similarly, for the drilling, blasting and the partial construction of the deep water quay foundations, all plant operating on or within the water was on-site only as required. There was no storage of fuels or refuelling of machinery on-site so the total volume of fuel present on site at any one time was restricted to the maximum capacity of the fuel tanks of the various items of machinery.

It is also noted that a management procedure for the appropriate handling, storage and disposal of hydrocarbons was used during the construction phase as set out in the CEMP. All fuels, oils, lubricants and other similar substances were stored only within the temporary site compound in specific, secure fuel storage areas bunded

to 110% of fuel storage volume. All plant was refuelled by competent and trained personnel within the site compound and, as per normal operating procedures, drip trays were fitted to any stationary plant working on the shoreline.

Given that standard industry best-practice measures pertaining to protection of water quality were implemented during construction and in-line with the project's CEMP, the temporary nature of the works, and because adequate mitigative measures were implemented in relation to the handling and storage of fuels, oils, lubricants and hydraulic fluid, the possibility that significant ingress of fuels, oils and lubricants to the marine environment occurred during construction is considered to be negligible.

4.3.1.1.3 Dredging and Sediment Release

Regarding the release of sediment into the water column brought about by the drilling and blasting of granite bedrock and the subsequent dredging of the blasted material, it is anticipated that only small amounts of fine material were released into the water column. A backhoe dredger with a large excavator arm fitted with a clamshell closed bucket was used to deliver the dredged material to a waiting hopper barge that then transported the material to the quayside where it was used to construct the reclamation area. After the initial grab with the bucket, material became suspended from the seabed. Further suspension was generated due to sediment overflow from the bucket as it was lifted through the water column with overflow also occurring as the bucket broke free of the water surface and drained freely. However, only fine sediment (<63µm) was considered "lost" (i.e. suspended into the water column) while coarser sediment fell straight to the bottom and was then recovered by subsequent dredge operations.

In 2004, water quality monitoring was carried out by DAFM at three locations during a dredging and disposal campaign within Ros an Mhíl Harbour. The monitoring found that dredging and disposal activities could not be correlated to any significant changes in water quality, either in terms of an improvement or deterioration in water quality across the range of parameters measured (EirEco, 2015)⁵⁴ cited in '*Rossaveel Harbour: Deep Water Quay Development. Environmental Impact Statement. Chapter 10: Marine Ecology and Water*' (Mott MacDonald, 2017).). Bearing in mind the above information, the temporary nature of the works, the intervening hydrological distances of at least six river kilometres between the development site and the European sites listed in **Section 4.1**, above, and the degree of mixing and dilution which would occur naturally within the enormity of the waterbody intervening, it is considered that any localised temporary increases in suspended sediments were not of the concentrations or duration that would potentially have been detrimental to the QIs of the designated sites.

4.3.1.1.4 Concrete

Wet concrete is silty and very alkaline (high pH) and can have a serious effect on watercourses and aquatic life if ingress occurs with the potential to significantly affect some or all of the QI species for which the European sites listed in **Section 4.1**, above, are designated.

Liquid concrete was used directly within the marine waters of Cashla Bay for installation of the first four pairs of ground beams as part of the quay wall foundations which created potential for concrete residues/wastes to accidentally enter the marine environment. However, placing of the liquid concrete was carried out by underwater divers using a tremie pipe to precisely direct concrete flow into the correct areas under highly managed and controlled circumstances. There was constant communication via radios between the divers and the land-based concrete pump operator to ensure that, if necessary, the flow of concrete could be stopped immediately. Additionally, tremie pipes are made to a specific design to ensure they are highly watertight when delivering the wet concrete.

⁵⁴ Cited in '*Rossaveel Harbour: Deep Water Quay Development. Environmental Impact Statement. Chapter 10: Marine Ecology and Water*' (Mott MacDonald, 2017)

Furthermore, a programme of mitigation measures for the appropriate containment and management of concrete was set out in the CEMP and applied on-site during the construction phase to reduce or eliminate any potential risk of liquid concrete from entering surface water drains or the marine environment. These measures ensured that placing of the liquid concrete was carried out by an experienced and trained operator(s) under the supervision of the Construction Manager and senior site engineer.

A quick-setting concrete mix was used and pouring of the concrete was not permitted during periods of heavy rainfall or if heavy rainfall was forecasted. Temporary concrete washouts were provided adjacent to concrete-pouring areas (but set back from the water's edge) in the form of polyethene-lined skips or polythene-lined washout pits. Any waste/wash-down water generated was contained and allowed dry out before the concrete was removed for recycling on site. Washout was not permitted at any other location on site. At the loading points of the concrete skips and pumps, control measures in the form of lined polyethene areas prevented concrete spilling from trucks and contaminating the ground.

Given that standard industry best-practice measures pertaining to the use of concrete and the protection of water quality were implemented during construction and in-line with the project's CEMP, the temporary nature of the works, and because appropriate mitigative measures were implemented in relation to the handling, use and washout of concrete, the possibility that significant ingress of concrete to the marine environment occurred during construction is considered to be negligible.

4.3.1.1.5 *Temporary Site Welfare Facilities*

Effluent/wastewater produced from the on-site toilet/welfare facilities located within the temporary construction compound was stored in a small wastewater holding tank within the compound. The tank was maintained accordingly throughout the works period by an approved and licenced waste contractor who disposed of wastes to a licenced facility, as is standard industry and environmental practice. This ensured no adverse impacts to the water quality of Cashla Bay occurred because of the temporary facilities on-site during the construction phase of the development.

4.3.1.2 Present Phase

The development site in its present phase is dominated by the impermeable surfaces/habitats of the reclaimed land and northern approach causeway (refer to **Section 3.3.3**, above) and is, therefore, potentially a source of surface water run-off when compared with the site in the pre-construction phase. However, the magnitude of these potential water quality impacts is considered to be low since the overall scale of the development in its current phase is small. Furthermore, the intervening hydrological distances between the development site and the European sites listed in **Section 4.1**, above, are considered to be of a sufficiently large distance to ensure that a significant degree of mixing and dilution naturally occurs within the intervening waters to negate any potential detrimental effects that may arise due to surface water run-off from the site in its current state.

4.3.1.3 Water Quality – Conclusion

Standard industry best-practice measures pertaining to protection of water quality were implemented at the site along with a programme of mitigation measures set out in the development's CEMP. Accordingly, any impacts to the water quality of Cashla Bay arising during the construction phase of the development or arising from the site in its present state are not considered likely to have had the potential to be of such a scale as to adversely affect the integrity of the European sites listed in **Section 4.1**, above with respect to each sites' ecological structure and function, and in view of the sites' conservation objectives

4.3.2 Habitat Loss and Alteration

There is/was no spatial overlap between the subject site and any European site and, therefore, there was no direct loss/alteration of any qualifying habitats of conservation interest. With regard to the potential for indirect habitat alteration of QI aquatic habitats (via impairment of water quality) or indirect effects on otter foraging habitat and salmon migration routes (also via impairment of water quality), it has been concluded in **Section 4.3.1**, above, that significant water quality impacts within the European sites listed in **Section 4.1**, above, are unlikely to have occurred during the construction phase of the development while, similarly, there are no on-going (current) water quality impacts within the European sites because of the development's current phase.

As no significant impacts to the water quality of any European site have been determined as a result of any phase of the development, it is objectively concluded that significant effects on the European sites listed in **Section 4.1**, as a result of either direct/indirect habitat loss or alteration are unlikely to have arisen as a result of any phase of the development.

4.3.3 Disturbance and/or Displacement of Species

In this section, otter, salmon, harbour porpoise, harbour seal, cormorant and common gull will be assessed for potentially significant disturbance/displacement effects with regards the development described in **Sections 3.2.2** and **3.2.3**, above. The species will be discussed individually in relation to potential disturbance because of water quality impacts and/or increased levels of anthropogenic activity before harbour porpoise and harbour seal are assessed collectively with regards potential disturbance/displacement effects that may have occurred because of the drilling, blasting, and dredging works.

4.3.3.1 Otter (*Lutra lutra*) - Connemara Bog Complex SAC and Kilkieran Bay and Islands SAC

Otters are a widespread species found in a variety of habitats such as lakes, rivers/streams, estuaries, marshland, canals and along the coast. Otter are solitary animals and a highly mobile species with large territory ranges and distributions where they typically occur at very low population densities. The home range of a female otter is around 20 kilometres while a male's is usually about 32 kilometres, although it can be as large as 35 kilometres⁵⁵. Given the proximity of the Connemara Bog Complex SAC and Kilkieran Bay and Islands SAC from the development site – approximately 1.8 kilometres and 2.5 kilometres, respectively – there is potential that the development was (or is currently) disturbing/displacing the otter populations for which both these SACs are designated.

As detailed in **Section 3.3.6**, above, a survey of the development site in 2010 encountered a 'likely' otter trail within a central area of the site, however, no evidence of otter was found during the MWP 2025 site survey and there are no documented NBDC record of the species for within the proposed development site. However, since the species has a diet that is 'dominated by fish' particularly 'wrasse and rockling in coastal waters' (NPWS, 2014), the waters of Cashla Bay may potentially be used by each SAC's otter population as foraging grounds. Therefore, there is potential that otter was indirectly disturbed or displaced due to adverse water quality effects impacting their prey resource. However, as set out in **Section 4.3.1**, above, no significant impacts to the water quality of Cashla Bay are likely to have occurred as a result of either phase of the development and, therefore, the likelihood that any significant indirect disturbance/displacement effects of otter occurred via potentially impaired water quality is low.

With regards otter and potentially significant disturbance/displacement effects due to increased noise and anthropogenic activity during construction of the development, it is noted that the terrestrial habitats present within and around the development site were largely unsuitable for breeding or resting otter (see **Section 3.3.4**, above). Although there was some potential for foraging or commuting otter to occur at the site, any disturbance

⁵⁵ <https://cieem.net/wp-content/uploads/2019/07/natural-information-otters-and-development-2011.pdf> Accessed: 1st June 2025

or displacement impacts that arose due to fugitive noise emissions from machinery and/or human activity during either phase of the development were temporary and restricted to the footprint of the development site and dredging areas. Furthermore, the wide availability of similar suitable habitat in the vicinity of the works and because the site is of relatively little ecological value to otter, any disturbance/displacement impacts that may have occurred are deemed to have been limited given the localised and temporary nature of the works.

Furthermore, Ros an Mhíl Harbour was and still is a busy and successful Fishery Centre with frequent boat traffic moving through the bay - it has been the primary harbour for ferry passengers to the Aran Islands for many years. There was, therefore, an existing ambient level of anthropogenic noise that foraging/commuting otter could reasonably be expected to have acquired some level of habituation to, and any increased noise/activity levels that may have occurred because of the development are considered to have been negligible in the context of existing general day-to-day human activity levels at this popular and busy harbour and bay.

Bearing the above factors in mind, it is not envisaged that any significant disturbance/displacement impacts to otter occurred (or are still occurring) during either phase of the development, and it is objectively concluded that significant effects to the conservation objectives of the Connemara Bog Complex SAC and Kilkieran Bay and Islands SAC with regard to otter are not likely to have occurred because of the development.

4.3.3.2 Atlantic Salmon (*Salmo salar*) - Connemara Bog Complex SAC

Native to Ireland, Atlantic salmon is listed under Annex II of the EU Habitats Directive and occurs in many of the rivers within the Connemara Bog Complex SAC. The species' most recent assessment of overall conservation status has been determined as 'Inadequate' (NPWS, 2019). Good examples of spawning and nursery grounds for the species can be found within the Cashla river system (western acidic spate rivers) that ultimately drains into Cashla Bay (NPWS, 2015).

Adult salmon spawn in rivers in areas of well-oxygenated loose gravel, usually between November and January. The fertilised eggs are deposited and buried within redds on the riverbed where they are protected from predators and river debris. The just-hatched fish are known as alevins before they develop into fry, then parr, and finally smolts. When they are one to three years old, smolts migrate down river to the feeding grounds of the North Atlantic where they spend at least one year feeding on fish species such as Atlantic herring (*Clupea harengus*) and sand eels⁵⁶ before returning to their natal rivers to spawn.⁵⁷

There is potential that salmon was indirectly disturbed or displaced due to adverse water quality effects impacting their migration routes through Cashla Bay. However, as set out in **Section 4.3.1**, above, the likelihood that any potentially significant water quality impacts arose because of either phase of the development is low and, therefore, significant indirect disturbance/displacement of Atlantic salmon via potentially impaired water quality is unlikely to have occurred.

4.3.3.3 Harbour Porpoise (*Phocoena phocoena*) - Kilkieran Bay and Islands SAC, and Inishmore Island SAC

Kilkieran Bay and Islands SAC and Inishmore Island SAC are both designated for the protection of harbour porpoise, the smallest cetacean species of Irish waters and Ireland's only species of porpoise. While the species can prove difficult to see, particularly offshore, they are still the most frequently recorded cetacean around Irish coasts (Berrow *et al.*, 2010). Throughout its range, harbour porpoise is largely associated with continental shelf waters, although in Ireland, as is the case elsewhere within its European range, harbour porpoise often visits relatively shallow bays, estuaries, and tidal channels, and may occur in waters that are less than twenty metres

⁵⁶ Sand eel is a generic term for different species of small eel-like fish that swim in large shoals within shallow inshore waters [Sand eel | Scottish Wildlife Trust](#) Accessed: 17th July 2005.

⁵⁷ [Salmon Life Cycle | Marine Institute](#) Accessed: 7th July 2025.

deep (Ó Cadhla *et al.*, 2003). Foraging areas are often associated with strong tidal currents, especially off headlands or between islands.

Harbour porpoise is a widely distributed species throughout the year around the Irish coast with highest concentrations of sightings occurring off southern and southwestern coasts. As set out in **Section 3.3.7.2**, above, apart from a stranded individual in 2020, there are no documented records on the NBDC database for harbour porpoise within hectad L92. Sightings of the species off the south Galway coast have been most frequent within Galway Bay and further west of Cashla Bay, at least seven kilometres from the development site, according to the NBDC database⁵⁸.

Kilkieran Bay and Islands SAC and Inishmore Island SAC are located approximately 6 river kilometres and 12.8 river kilometres, respectively, from the development site, but given that harbour porpoise is a highly mobile species that may have used Cashla Bay as foraging grounds for ‘a wide variety of fish, cephalopod and crustacean species’ (NPWS, 2024), there is potential that the species was indirectly disturbed or displaced due to adverse water quality effects impacting their prey resource. However, as set out in **Section 4.3.1**, above, the likelihood that any potentially significant water quality impacts arose because of the development is low and, therefore, significant indirect disturbance/displacement of harbour porpoise via potentially impaired water quality is unlikely to have occurred.

4.3.3.4 Harbour Seal (*Phoca vitulina*) - Kilkieran Bay and Islands SAC

Harbour seal, also known as common seal, are found throughout Ireland’s coastal waters and their most recent assessment of overall conservation status has been determined as ‘Favourable’ (NPWS, 2019). They have a wide habitat range and are a highly mobile species occurring in estuarine, coastal and marine areas. However, they also require terrestrial ‘haul-out’ sites to breed, moult, and rest, and as discussed in **Section 3.3.7.1**, above, there have been frequently-used harbour seal haul-out sites within the inner reaches of Cashla Bay for many years. Harbour seals are highly successful aquatic predators and feed on a wide variety of fish, crustacean and cephalopod species (NPWS, 2014)

Although Kilkieran Bay and Islands SAC is located approximately 6.3 river kilometres from the development area, the aquatic range for harbour seal is wide and, therefore, there is potential that the SAC harbour seal population utilised the haul-out areas within Cashla Bay and/or the waters of the bay as foraging grounds and, because of the development, were indirectly disturbed/displaced.

A reduction in quality of the bay’s waters may have had the potential to significantly reduce the availability and quality of prey biomass upon which harbour seal rely, thereby, potentially causing indirect disturbance/displacement of the SAC’s harbour seal population. Additionally, any impact to the water quality of the bay may have adversely affected the quality of the habitat at the seal’s favoured haul-out spots further within the bay. However, as set out in **Section 4.3.1**, above, significant water quality impacts that may have arisen from the development are considered unlikely to have occurred and, in any case, would have reduced in significance with distance owing to the dilution factor of the sea. Consequently, significant indirect disturbance/displacement of harbour seal via potential impairment of water quality is unlikely to have occurred because of either phase of the development described in **Sections 3.2.2** and **3.2.3**, above.

4.3.3.5 Drilling, Blasting and Dredging

4.3.3.5.1 Marine Mammals

Many marine mammals, including harbour porpoise and harbour seal, utilise acoustic techniques to communicate and navigate and, therefore, there is potential that the noise associated with the drilling, blasting and dredging

⁵⁸ [Maps - Biodiversity Maps](#) Accessed: 2nd June 2025

works of the development may have had physical (auditory), perceptual (e.g. masking of communication with con-specifics) and/or behavioural (e.g. stranding/beaching, displacement from an area) effects on harbour porpoise and harbour seal which may have led to indirect disturbance/displacement effects as a result.

Pulsed sounds created by coastal or underwater explosions have been reported to contain significantly high sound pressure levels (SPLs) and high sound exposure levels (SELs) (Richardson *et al.*, 1995) and are recognised as being among the highest energy, man-made sounds that can be introduced into the marine environment. Consequently, there is the potential that the drilling and/or blasting works completed as part of the berthing pocket and new quay wall foundations construction may have significantly disturbed/displaced the harbour porpoise and/or harbour seal populations of Kilkieran Bay and Islands SAC and/or Inishmore Island SAC that may have been using Cashla Bay.

However, it is noted that standard industry best-practice measures contained within the Department of Arts, Heritage and the Gaeltacht's *'Guidance to Manage the Risk to Marine Mammals from Man-made Sound Sources in Irish Waters'* (DAHG, 2014) were consulted and implemented during the blasting, drilling and dredging activities. The guidelines set out recommended risk minimisation measures in relation to anthropogenically created underwater noise with the primary mitigative measure involving the presence of a dedicated marine mammal observer (MMO)⁵⁹ on the work vessel before and during any blasting, drilling, or dredging works.

For the deep water quay works described in **Sections 3.2.2** and **3.2.3**, above, an experienced, qualified MMO was present for drilling, blasting and dredging events carried out between 26th June 2023 and 20th May 2024, equating to more than 142 hours of visual monitoring for marine mammals. The MMO carried out a thirty-minute pre-watch of a 'mitigation zone' (500m, 500m, and 1,000m around the sound source for drilling, dredging, and blasting, respectively) prior to commencement of any drilling, blasting or dredging activities, and if any marine mammals were detected, the MMO advised a delay in the commencement of operations. Across all monitoring events, a total of 132 individual harbour seals were recorded (70% of total sightings of all species) while there were no reports of any harbour porpoise sightings (GDG, 2024).

While all blasting pre-watches were carried out in compliance with the NPWS guidelines by the MMO for a minimum of thirty minutes before the MMO relocated and blasting began, on several occasions there was a delay reported between the end of the pre-watch period and commencement of blasting activities. Health and safety protocols required the relocation of the MMO to a secure area at the end of each thirty-minute pre-watch period before blasting commenced. Consequently, there were several occasions where short windows of time lasting from three to fifteen minutes arose between the end of pre-watches and commencement of blasting whereby only restricted monitoring was possible.

Although the possibility of a marine mammal entering the mitigation zone during these short windows of time cannot be excluded, it is considered unlikely. The on-site MMOs maintained their watches to the best of their abilities within these intervening periods with no marine mammal sightings reported during these periods nor immediately after the blasts occurred. Furthermore, the density of marine mammals in Cashla Bay is low for all cetacean species, including harbour porpoise, while the at-sea population of harbour seal within the zone of impact was calculated at 2.4 individuals. Therefore, any potential impacts that may have arisen during the short windows of restricted mammal monitoring are highly unlikely to have been of a magnitude that would have significantly disturbed/displaced either harbour seal or harbour porpoise from the area.

It is therefore determined that significant disturbance/displacement effects on the harbour seal population of Kilkieran Bay and Islands SAC or the harbour porpoise populations of Kilkieran Bay and Islands SAC or Inishmore Island SAC did not occur during the development's construction phase.

⁵⁹ In the context of the DAHG (2014) guidance, a qualified MMO is defined as a visual observer who has undergone formal marine mammal observation and distance estimation training (JNCC MMO training course or equivalent) and has a minimum of six weeks full-time marine mammal survey experience at sea over a 3-year period within European waters.

4.3.3.5.2 **Atlantic Salmon**

Fish species can detect and respond to a wide range of underwater sounds that can be used for an array of functions including communication, prey/predator detection, mating behaviour, orientation and migration. In the case of Atlantic salmon, they are often referred to as ‘hearing generalists’ or hearing ‘non-specialists’ as they have a narrower bandwidth of hearing (Popper & Hastings, 2009) and, although they have a swim bladder, it does not appear to have a role in hearing, therefore, salmon are sensitive only to particle motion, not sound pressure (Popper & Hawkins, 2019). Consequently, underwater sounds created via anthropogenic activities such as blasting have the potential to interfere with the ability of salmon to adequately detect and react to acoustic cues.

The Cashla River network contains important salmon spawning and nursery grounds with the species migrating through Cashla Bay annually. Smolts transit through the bay in spring while adults return throughout the summer months and, since the Cashla River system is located almost entirely within the Connemara Bog Complex SAC – refer to **Figure 37**, below - the salmon moving through the bay are almost certainly part of the SAC’s salmon population. Therefore, there is the potential that the noise produced by blasting activities undertaken during the development’s construction phase, may have led to indirect disturbance/displacement effects on any salmon transiting through the bay and consequently, on the salmon population of Connemara Bog Complex SAC.

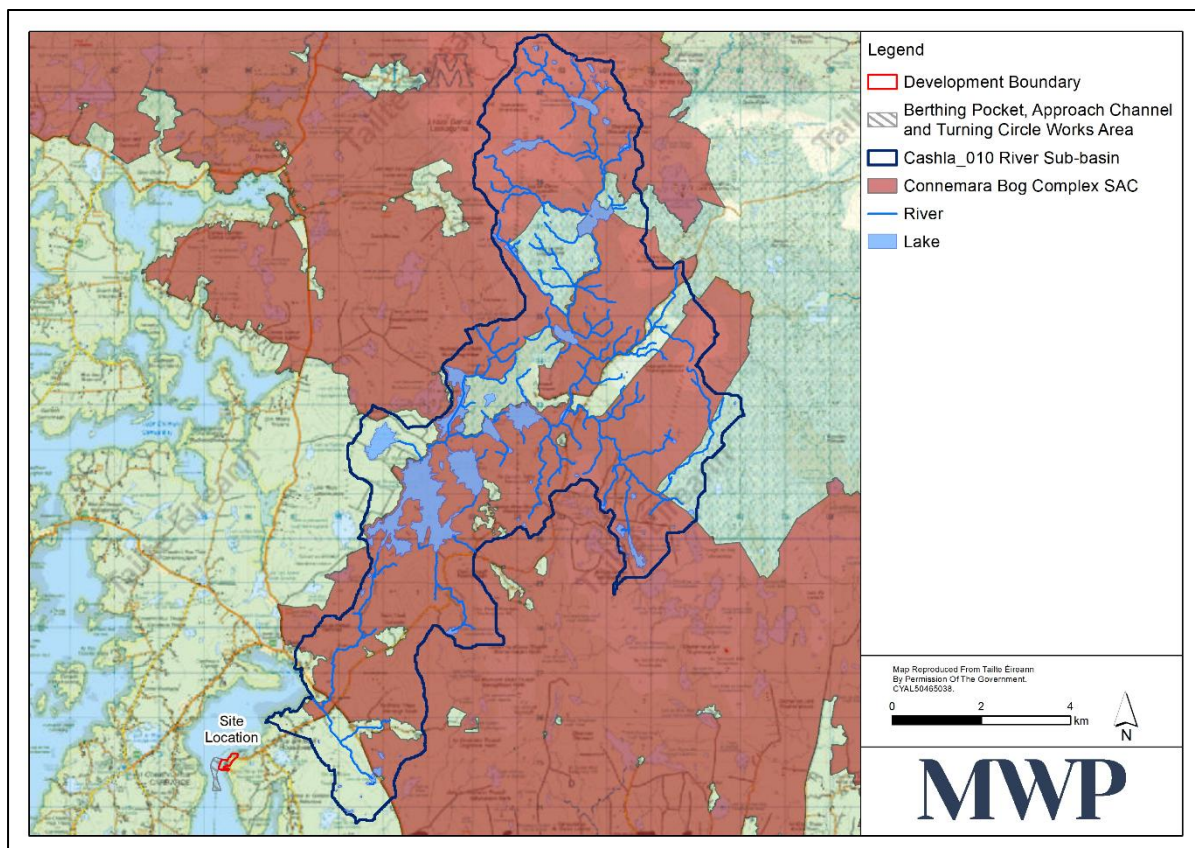


Figure 37: Extent of overlap of the Cashla River system with the Connemara Bog Complex SAC (002034) relative to the development site and Cashla Bay.

Within the development’s permitted original 2017 application’s EIS (GCC Planning Application: 17/967), it was recommended with regards salmon that “*blasting not be carried out between April and July as this is the time of year when adult fish will be passing through Cashla Bay on their way up to the Cashla River to spawn and juveniles (smolts) will be passing southwards on their way to sea*”. This recommendation would have limited the exposure of salmon to noise disturbance/displacement, however, blasts were undertaken on three occasions within this recommended restriction period, namely 6th June, 7th July, and 17th July 2023.

To investigate the likelihood that migrating salmon were present within the bay during these blasting events, salmon migration data from the River Erriff was interrogated. The River Erriff system in County Mayo, situated approximately 41 kilometres north of the development site, is a prestigious salmon fishery flowing into Killary Harbour fjord and is designated as the National Salmonid Index Catchment (NSIC). Inland Fisheries Ireland (IFI) manages a dedicated research facility on the river that supports a wide range of scientific research and monitoring activities for the river's salmonid populations. According to the '*National Salmonid Index Catchment Erriff Annual Report 2023*' (Kelly *et al*, 2025), the out-migration of the river's salmon smolts occurred throughout April 2023 and was largely finished by the first week of May. With regards returning spring adults and upstream migration, there was an initial small run of "spring fish" between April and May 2023, while the grilse run commenced proper in mid-June and peaked in July and August as later returns continued to occur from September through to December 2023.

During the construction phase of the deep water quay works, no blasting activities were carried out in April or May 2023, thus, avoiding the peak smolt migration period reported from the River Erriff. However, blasting events were conducted on 6th June, 7th July, and 17th July 2023 which coincided with the adult up-stream migration of returning salmon grilse. Daily counts of up to fifty returning salmon grilse were reported at the River Erriff in 2023. Consequently, it is likely that adult salmon were present within Cashla Bay during the three blasting events in June and July 2023. However, since the blasting area was minimal in size relative to the total area of available habitat within the bay and because the duration of blasting impact was a matter of milliseconds, the likelihood that returning adult salmon were significantly disturbed/displaced during the blasting events of 6th June, 7th July, and 17th July 2023 is considered low.

4.3.3.6 Breeding Cormorant (*Phalacrocorax carbo*) and Breeding Common Gull (*Larus canus*) – Connemara Bog Complex SPA

Cormorant is a resident species in Ireland that breeds in colonies which, within the SPA, has involved nesting both on the ground and in trees on island loughs. The diet of cormorant consists almost entirely of fish caught by diving over shallow waters of less than 20 metres deep, and during the breeding season, cormorant have an optimal foraging range of 7.1 kilometres from the breeding colony (NPWS, 2023).

Common gull is a ground-nesting species that breeds colonially but in isolated pairs, nesting in a variety of locations such as on cliffs and shingle banks at the coast or on islands of larger inland lakes as is the case within the Connemara Bog Complex SPA. The diet of the species is wide-ranging and includes invertebrates and fish taken from terrestrial freshwater and marine habitats, and during the breeding season, common gull can forage in areas located up to 50 kilometres away from the breeding colony (see **Table 7** in **Section 3.7.2**, above, for a footnote regarding the maximum foraging range estimate for common gull) (NPWS, 2023).

Since both cormorant and common gull have diets consisting of fish species that include those foraged from marine waters, and since the deep water quay works site is located six kilometres from the SPA's closest point and, thereby, located within the foraging range of both breeding species, there was potential for both species to be indirectly disturbed or displaced by any adverse water quality impacts from the development that may have affected the quality/availability of each species' prey resource. However, as set out in **Section 4.3.1**, above, significant water quality impacts arising because of the development are not likely to have occurred and, therefore, significant indirect disturbance/displacement of the breeding populations of cormorant and common gull via potential impairment of water quality is not likely to have occurred (or be occurring).

Bearing the above factors in mind, significant disturbance/displacement impacts to breeding cormorant and common gull are not likely to have occurred as a result of the deep water quay development, and it is objectively concluded that significant effects to the conservation objectives of the Connemara Bog Complex SPA with regard to breeding cormorant and common gull as a result of the proposal were unlikely to have occurred (or be occurring).

4.3.4 Habitat or Species Fragmentation

Habitat fragmentation has been defined as ‘reduction and isolation of patches of natural environment’ (Franklin *et al.*, 2002; Morrison *et al.*, 2012) usually due to an external disturbance that alters the habitat and ‘create[s] isolated or tenuously connected patches of the original habitat’ (Wiens, 1989). This results in spatial separation of habitat units which had previously been in a state of greater continuity. Negative effects of habitat fragmentation on species or populations can include increased isolation of populations and/or species which can detrimentally impact on the resilience or robustness of the populations, reducing overall species diversity and altering species abundance.

The development did not result in any habitat loss from any of the relevant European sites - Connemara Bog Complex SAC, Kilkieran Bay and Islands SAC, Connemara Bog Complex SPA, and Inishmore Island SAC - and, therefore, no significant habitat or species fragmentation impacts which would have had the potential to adversely impact on the integrity of any of these European sites are considered likely to have occurred due to the nature, scale and location of the development and the likely or potential ecological impacts identified.

4.4 Assessment of Effects on the Conservation Objectives of Connemara Bog Complex SAC [002034]

An evaluation was undertaken to determine which of the Qualifying Interests (QIs) of the Connemara Bog Complex SAC (see **Section 4.2.1**, above) may have potentially been impacted by the development and required further assessment in the rNIS. This was done through a scientific examination of ecological evidence and data as well as the results of the ecological field survey.

In this case, certain qualifying aquatic/water-dependant species were selected for further assessment. The remaining QI habitats and species were deemed to have been (or currently still are) outside of the zone of influence of the development and were not selected for further assessment in the rNIS. The effects of the project on the qualifying interests potentially within the zone of influence of the proposed development have been assessed against the measures designed to achieve the conservation objectives of the site. The outcome of the assessment has been presented in the following sections.

4.4.1 Atlantic Salmon (*Salmo salar*) [1106]

The conservation objective for Atlantic salmon was ‘to restore the favourable conservation condition of Atlantic salmon in the Connemara Bog Complex SAC’ (NPWS, 2015). The specific species Attributes and Targets for Atlantic salmon defined in relation to the achievement of the Conservation Objectives for the SAC are presented in **Table 12**, below. An assessment of the effects of the project against these measures is also included.

Table 12. Assessment of effects on site-specific conservation objectives attributes and targets of Atlantic salmon for the Connemara Bog Complex SAC (002304) (NPWS, 2015).

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Distribution: extent of anadromy/ % of river accessible	100% of river channels down to 2 nd order streams accessible from estuary	No plausible impact-pathways through which the achievement of specified attributes and targets for salmon could have been negatively affected have been identified.	No
Adult spawning fish/ Number	Conservation Limits (CL) for each system consistently exceeded		
Salmon fry abundance/ Number of fry/ 5 minutes electrofishing	Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry/5 minutes sampling	Due to the nature, scale and location of the works, and the likely/potential ecological impacts which have been identified, impacts on the conservation condition of salmon within	

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Out-migrating smolt abundance/ Number	No significant decline	the Connemara Bog Complex SAC are not considered to have occurred or be occurring because of the development.	
Number and distribution of redds/ Number and occurrence	No decline in number and distribution of spawning redds due to anthropogenic causes		
Water quality/ EPA Q value	At least Q4 at all sites sampled by EPA		

4.4.2 Otter (*Lutra lutra*) [1355]

The conservation objective for otter was ‘to maintain the favourable conservation condition of Otter in Connemara Bog Complex SAC’ (NPWS, 2015). The specific species Attributes and Targets for otter defined in relation to the achievement of the Conservation Objectives for the SAC are presented in **Table 13**, below. An assessment of the effects of the project against these measures is also included.

Table 13. Assessment of effects on site-specific conservation objectives attributes and targets of otter for the Connemara Bog Complex SAC (002304) (NPWS, 2015).

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Distribution/ percentage positive survey sites	No significant decline	No plausible impact-pathways through which the achievement of specified attributes and targets for otter could have been negatively affected have been identified.	No
Extent of terrestrial habitat/ hectares	No significant decline. Area mapped and calculated as 2,194.8 hectares		
Extent of marine habitat/ hectares	No significant decline. Area mapped and calculated as 139.0 hectares		
Extent of freshwater (river) habitat/ kilometres	No significant decline. Length mapped and calculated as 564 km	Due to the nature, scale and location of the works, and the likely/potential ecological impacts which have been identified, impacts on the conservation condition of otter within the Connemara Bog Complex SAC are not considered to have occurred, or be occurring, because of the development.	
Extent of freshwater (lake/lagoon) habitat/ hectares	No significant decline. Area mapped and calculated as 3,908.6 hectares		
Couching sites and holts/ number	No significant decline		
Fish biomass available/ kilogrammes	No significant decline		

4.5 Assessment of Effects on the Conservation Objectives of Kilkieran Bay and Islands SAC [002111]

An evaluation was undertaken to determine which of the Qualifying Interests (QIs) of the Kilkieran Bay and Islands SAC (see **Section 4.2.1**, above) may have potentially been impacted by the development and required further assessment in the rNIS. This was done through a scientific examination of ecological evidence and data as well as the results of the ecological field survey.

In this case, certain qualifying aquatic/water-dependant species were selected for further assessment. The remaining QI habitats and species were deemed to have been (or currently still are) outside of the zone of influence of the development and were not selected for further assessment in the rNIS. The effects of the project on the qualifying interests potentially within the zone of influence of the proposed development have been assessed against the measures designed to achieve the conservation objectives of the site. The outcome of the assessment has been presented in the following sections.

4.5.1 Harbour Porpoise (*Phocoena phocoena*) [1351]

Harbour porpoise was only added as a Qualifying Interest species for Kilkieran Bay and Islands SAC in 2024 and, as of 18th July 2025, there are no site-specific detailed conservation objectives available for the species at this SAC. Therefore, for the purposes of this assessment, the harbour porpoise conservation objectives for the nearby Inishmore Island SAC (000213) have been used instead and are discussed in **Section 4.7.1**, below.

4.5.2 Otter (*Lutra lutra*) [1355]

The conservation objective for otter was ‘to restore the favourable conservation condition of Otter in Kilkieran Bay and Islands SAC’ (NPWS, 2014). The specific species Attributes and Targets for otter defined in relation to the achievement of the Conservation Objectives for the SAC are presented in **Table 14**, below. An assessment of the effects of the project against these measures is also included.

Table 14. Assessment of effects on site-specific conservation objectives attributes and targets of otter for the Kilkieran Bay and Islands SAC (002111) (NPWS, 2014).

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Distribution/ percentage positive survey sites	No significant decline	No plausible impact-pathways through which the achievement of specified attributes and targets for otter could have been negatively affected have been identified. Due to the nature, scale and location of the works, and the likely/potential ecological impacts which have been identified, impacts on the conservation condition of otter within the Kilkieran Bay and Islands SAC are not considered to have occurred as a result of the development.	No
Extent of terrestrial habitat/ hectares	No significant decline. Area mapped and calculated as 316 ha above high-water mark (HWM); 14 ha along riverbanks/ around ponds		
Extent of marine habitat/ hectares	No significant decline. Area mapped and calculated as 2,996 hectares		
Extent of freshwater (river) habitat/ kilometres	No significant decline. Length mapped and calculated as 4.4 km		
Extent of freshwater (lake/lagoon) habitat/ hectares	No significant decline. Area mapped and calculated as 24 hectares		
Couching sites and holts/ number	No significant decline		
Fish biomass available/ kilogrammes	No significant decline		
Barriers to connectivity/ Number	No significant increase		

4.5.3 Harbour Seal (*Phoca vitulina*) [1365]

The conservation objective for harbour seal was ‘to maintain the favourable conservation condition of harbour seal in Kilkieran Bay and Islands SAC’ (NPWS, 2014). The specific species Attributes and Targets for harbour seal defined in relation to the achievement of the Conservation Objectives for the SAC are presented in **Table 15**, below. An assessment of the effects of the project against these measures is also included.

Table 15. Assessment of effects on site-specific conservation objectives attributes and targets of harbour seal for Kilkieran Bay and Islands SAC (002111) (NPWS, 2014).

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Access to suitable habitat/ Number of artificial barriers	Species range within site should not be restricted by artificial barriers to site use	No plausible impact-pathways through which the achievement of specified attributes and targets for harbour seal could have been negatively affected have been identified.	No
Breeding behaviour/ Breeding sites	Conserve breeding sites in a natural condition		

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Moulting behaviour/ Moulting haul-out sites	Conserve moulting haul-out sites in a natural condition	Due to the nature, scale and location of the works, and the likely/potential ecological impacts which have been identified, impacts on the conservation condition of harbour seal within Kilkieran Bay and Islands SAC are not considered to have occurred, or be occurring, because of the development.	
Resting behaviour/ Resting haul-out sites	Conserve resting haul-out sites in a natural condition		
Disturbance/ Level of impact	Human activities should occur at levels that do not adversely affect the harbour seal population at the site		

4.6 Assessment of Effects on the Conservation Objectives of Connemara Bog Complex SPA [004181]

An evaluation was undertaken to determine which of the Special Conservation Interest (SCI) species of the Connemara Bog Complex SPA (see **Section 4.2.1**, above) may have potentially been impacted by the development and required further assessment within the rNIS. This was done through a scientific examination of ecological evidence and data as well as the results of the ecological field survey.

In this case, certain qualifying SCI species were selected for further assessment. The remaining SCI species were deemed to have been (or currently still are) outside of the zone of influence of the development and were not selected for further assessment in the rNIS. The effects of the project on the SCI species potentially within the zone of influence of the proposed development have been assessed against the measures designed to achieve the conservation objectives of the site. The outcome of the assessment has been presented in the following sections.

4.6.1 Cormorant (*Phalacrocorax carbo*) [A017]

The conservation objective for cormorant was ‘to restore the favourable conservation condition of cormorant in Connemara Bog Complex SPA’ (NPWS, 2023). The specific species Attributes and Targets for cormorant defined in relation to the achievement of the Conservation Objectives for the SPA are presented in **Table 16**, below. An assessment of the effects of the project against these measures is also included.

Table 16. Assessment of effects on site-specific conservation objectives attributes and targets of cormorant for the Connemara Bog Complex SPA (004181) (NPWS, 2023).

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Breeding population size/ Number of Apparently Occupied Nests (AON)	Long-term population is stable or increasing	No plausible impact-pathways through which the achievement of specified attributes and targets for breeding cormorant could have been negatively affected have been identified.	No
Productivity rate/Number of fledged young per AON	Sufficient to maintain a stable or increasing population		
Distribution: extent of available nesting options within the SPA/ Numbers and spatial distribution	Sufficient availability of suitable nesting sites throughout the SPA to maintain a stable or increasing population	Due to the nature, scale and location of the works, and the likely/potential ecological impacts which have been identified, impacts on the conservation condition of breeding cormorant within the Connemara Bog	
Prey biomass available/ Kilogrammes	Sufficient extent of biomass of available prey items across the site to help support the population		
Disturbance at breeding site/ Level of impact	Disturbance occurs at levels that do not significantly impact on cormorant at breeding site		

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Disturbance at freshwater and marine areas immediately adjacent to the colony/ Level of impact	Disturbance occurs at levels that do not significantly impact on breeding cormorant	Complex SPA are not considered to have occurred, or be occurring, because of the development.	
Barriers to connectivity/ Number, location, shape, area (hectares)	No significant increase		

4.6.2 Common Gull (*Larus canus*) [A182]

The conservation objective for common gull was ‘to maintain the favourable conservation condition of common gull in Connemara Bog Complex SPA’ (NPWS, 2023). The specific species Attributes and Targets for common gull defined in relation to the achievement of the Conservation Objectives for the SPA are presented in **Table 17**, below. An assessment of the effects of the project against these measures is also included.

Table 17. Assessment of effects on site-specific conservation objectives attributes and targets of common gull for the Connemara Bog Complex SPA (004181) (NPWS, 2023).

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Breeding population size/ Number of Apparently Occupied Nests (AON)	No significant decline	No plausible impact-pathways through which the achievement of specified attributes and targets for breeding common gull could have been negatively affected have been identified.	No
Productivity rate/Number of fledged young per AON	Sufficient to maintain population		
Distribution: extent of available nesting options within the SPA/ Numbers and spatial distribution	Sufficient availability of suitable nesting sites throughout the SPA to maintain the population		
Prey biomass available/ Kilogrammes	No significant decline	Due to the nature, scale and location of the works, and the likely/potential ecological impacts which have been identified, impacts on the conservation condition of breeding common gull within the Connemara Bog Complex SPA are not considered to have occurred, or be occurring, because of the development.	
Disturbance at breeding site/ Level of impact	Disturbance occurs at levels that do not significantly impact on common gull at breeding site		
Disturbance at areas ecologically connected to the colony/ Level of impact	Disturbance occurs at levels that do not significantly impact on breeding common gull		
Barriers to connectivity/ Number, location, shape, area (hectares)	No significant increase		

4.7 Assessment of Effects on the Conservation Objectives of Inishmore Island SAC [000213]

An evaluation was undertaken to determine which of the Qualifying Interests (QIs) of the Inishmore Island SAC (see **Section 4.2.1**, above) may have potentially been impacted by the development and required further assessment in the rNIS. This was done through a scientific examination of ecological evidence and data as well as the results of the ecological field survey.

In this case, one qualifying aquatic species was selected for further assessment. The remaining QI habitats and species were deemed to have been (or currently still are) outside of the zone of influence of the development and were not selected for further assessment in the rNIS. The effects of the project on the QI potentially within the zone of influence of the proposed development have been assessed against the measures designed to achieve the conservation objectives of the site. The outcome of the assessment has been presented in the following sections.

4.7.1 Harbour Porpoise (*Phocoena phocoena*) [1351]

The conservation objective for harbour porpoise was ‘to maintain the favourable conservation condition of harbour porpoise in Inishmore Island SAC’ (NPWS, 2024b). The specific species Attributes and Targets for harbour porpoise defined in relation to the achievement of the Conservation Objectives for the SAC are presented in **Table 18**, below. An assessment of the effects of the project against these measures is also included.

Table 18. Assessment of effects on site-specific conservation objectives attributes and targets of harbour porpoise for Inishmore Island SAC (000213) (NPWS, 2024b).

Attribute/Measure	Target	Assessment of Potentially Significant Effects	Mitigation Required
Access to suitable habitat/ Number of artificial barriers	Species range within the site should not be restricted by artificial barriers to site use	No plausible impact-pathways through which the achievement of specified attributes and targets for harbour porpoise could have been negatively affected have been identified.	
Disturbance/ Level of impact	Human activities should occur at levels that do not adversely affect the Harbour Porpoise community at the site	Due to the nature, scale and location of the works, and the likely/potential ecological impacts which have been identified, impacts on the conservation condition of harbour porpoise within the Inishmore Island SAC are not considered to have occurred, or be occurring, because of the development.	No

4.8 Assessment of Potentially Significant Cumulative Effects

As well as singular effects, the potential for in-combination or cumulative effects also need to be considered. A cumulative effect arises from incremental changes caused by another past, present or reasonably foreseeable future actions together with the development. The EC (2021) guidelines on the provision of Article 6 of the Habitats’ Directive state that the phrase ‘*in combination with other plans or projects*’ in Article 3(3) of the Habitats Directive refers to the cumulative effects due to plans or projects ‘*that are currently under consideration together with the effects of any existing or proposed projects or plans.*’

The assessments in **Section 4.3**, above, have objectively concluded that no significant direct or indirect impacts are likely to have occurred because of the deep water quay works described in **Sections 3.2.2** and **3.2.3**, above, and, therefore, the potential for significant in-combination effects with other plans or projects is also considered unlikely. However, using a precautionary approach, it is considered that the construction phase and/or current phase of the deep water quay works may have had the potential to result in significant cumulative or in-combination effects in conjunction with existing land-uses and on-going activities. Therefore, an assessment of the potential for significant in-combination effects regarding the European sites listed in **Table 7**, above, is discussed hereunder

Plans and projects relevant to the development which is the focus of this rNIS have been identified in **Section 3.4**, above.

4.8.1 Plans

The Galway County Development Plan (CDP) (2015 - 2021) and the Galway County Development Plan (CDP) (2022 – 2028) (see **Section 3.4.1** above) were both subject to Appropriate Assessments to ensure no adverse effects to the integrity of European sites. The Appropriate Assessments were fully integrated within the various stages of the CDP process to ensure that any ecological implications of the CDPs do/did not adversely affect any areas designated as European Sites. In general, County Development Plans incorporate a range of environmental and

natural heritage policy safeguards. These safeguards, which also apply/applied to the development described in this report, protect the natural environment and ensure no adverse effects to the integrity of European sites.

No significant in-combination effects are predicted to have occurred between the development and the Galway CDP (2022-2028) or associated CDPs which it replaced covering the overall period when works are believed to have taken place.

4.8.2 Permitted and Proposed Developments in the Locality

A review of Galway County Council's online planning enquiry system for granted or on-going planning applications for the townland of Rossaveel ('Ros an Mhíl' and 'Rossaveal' were also used as search terms) was undertaken (see **Section 3.4.2**, above). Most applications for the search period of 11th July 2018 to 30th May 2025 pertained/pertain to construction/renovation/modification of private dwellings and agricultural buildings. Some previously permitted applications related to broadly similar marine/coastal works (such as slipways and boat mooring facilities) or other types of development directly associated with Cashla Bay, such as for the purposes of recreation and amenity.

Given that the deep water quay works did temporarily increase levels of anthropogenic activity at the site and introduce the potentially disturbing noise effects of drilling, blasting and dredging to the marine environment of Cashla Bay, it is considered that cumulative species disturbance/displacement or water quality impacts are the most likely impacts to have arisen as a result of interaction between the deep water quay development and permitted and proposed projects in the locality. However, as set out, respectively, in **Sections 4.3.1** and **4.3.3**, above, no significant water quality impacts or disturbance/displacement effects of any QI species are likely to have arisen because of the construction phase or current phase of the development. Therefore, significant cumulative water quality impacts or disturbance/displacement impacts that could potentially have arisen due to interaction between the development and other nearby permitted/proposed developments are not predicted to have occurred.

4.8.3 EPA Licenced/Registered Facilities

Due to the nature of the EPA licenced/registered facilities identified within the area surrounding the development site (see **Section 3.4.3**, above), it is considered that the most plausible potential pathway through which cumulative impacts could arise would be via in-combination water quality effects on Cashla Bay water quality.

However, it has been concluded that significant water quality impacts are not expected to have occurred, or be occurring, during either the construction phase or current phase of the development. Any water quality impacts which did arise, particularly during the construction phase, are expected to have been both temporary and localised, and significantly decreasing in magnitude with distance from the development site due to the natural diluting effect of the bay and the tidal influences within. Significant cumulative impacts arising from water quality effects due to any phase of the development in combination with EPA licenced/registered facilities in the locality have not been identified.

Due to the nature, location and scale of the works, significant in-combination effects arising due to interaction between the development and any EPA facilities are not predicted to have occurred or be occurring.

4.8.4 Existing Land-use and On-going Activities

Given the nature of the deep water quay works, it is considered that cumulative species disturbance/displacement or water quality impacts are the most likely impacts that may have arisen because of interaction between the development and existing land-use and on-going activities of the surrounding areas.

Peat extraction and agricultural intensification have been identified as pressures on Connemara Bog Complex SAC (Table 19, below), agricultural intensification is a medium threat within Kilkieran Bay and Islands SAC (Table 20, below), Connemara Bog Complex SPA is subject to a mix of pressures including peat extraction and recreational threats (Table 21, below) while similarly, on Inishmore Island SAC the mix of pressures are mainly agricultural and extractive (Table 22, below).

Table 19: Most important threats, pressures and activities with impact on the Connemara Bog Complex SAC (002034) as defined in the associated Natura 2000 Data Form⁶⁰.

Threat Level	Threats and Pressures Code	Reference
High	C01.03.01	Hand cutting of peat
High	C01.03.02	Mechanical removal of peat
High	J01	Fire and fire suppression
Medium	A04.01.02	Intensive sheep grazing

Table 20: Most important threats, pressures and activities with impact on the Kilkieran Bay and Islands SAC (002111) as defined in the associated Natura 2000 Data Form⁶¹.

Threat Level	Threats and Pressures Code	Reference
Medium	A04.01.01	Intensive cattle grazing
Medium	A04.01.02	Intensive sheep grazing
Medium	F01.01	Intensive fish farming, intensification

Table 21: Most important threats, pressures and activities with impact on the Connemara Bog Complex SPA (004181) as defined in the associated Natura 2000 Data Form⁶².

Threat Level	Threats and Pressures Code	Reference
High	B	Silviculture, forestry
Low	D01.02	Roads, motorways
Low	G01.02	Walking, horse-riding, and non-motorised vehicles
Low	I01	Invasive non-native species
Medium	C01.03.02	Mechanical removal of peat
Medium	E01.03	Dispersed habitation

Table 22. Most important threats, pressures and activities with impact on the Inishmore Island SAC (000213) as defined in the associated Natura 2000 Data Form⁶³.

Threat Level	Threats and Pressures Code	Reference
High	A04.03	Abandonment of pastoral systems, lack of grazing
High	D03	Shipping lanes, ports, marine constructions
High	I02	Problematic native species

⁶⁰ [Natura 2000 SDF - IE0002034](#) Accessed: 10th July 2025

⁶¹ [Natura 2000 SDF - IE0002111](#) Accessed: 10th July 2025

⁶² [Natura 2000 SDF - IE0004181](#) Accessed: 10th July 2025

⁶³ [Natura 2000 SDF - IE0000213](#) Accessed: 10th July 2025

Threat Level	Threats and Pressures Code	Reference
High	K04.05	Damage by herbivores (including game species)
Low	A08	Fertilisation
Low	E04.01	Agricultural structures, buildings in the landscape
Medium	A02.01	Agricultural intensification
Medium	C01.07	Mining and extraction activities (other)
Medium	F02.02.02	Pelagic trawling
Medium	H02.07	Diffuse groundwater pollution due to non-sewered population
Medium	J01.01	Burning down
Medium	J02.01.02	Reclamation of land from sea, estuary or marsh

4.8.4.1 Commercial Forestry Plantations

Poorly managed and inappropriately sited commercial forestry operations can adversely affect water quality and aquatic habitats and species. The release of sediment and nutrients, and the impacts of acidification are the most common water quality issues arising from forestry. Forestry plantations may also bring about changes in stream flow regimes caused by associated land drainage (O’Boyle *et al.*, 2019). In the 3rd Cycle Galway Bay North (31) Catchment report⁶⁴, forestry was identified as a significant pressure in one lake waterbody (Seecon) and three river waterbodies (Cashla_010, Invermore_010, and Invermore_020) (EPA, 2024). The Cashla_010 River Waterbody is a large waterbody that stretches over most of the Cashla_SC_010 subcatchment before ultimately draining to Clynagh Bay at a location between Cashla and Ros an Mhíl villages.

The significant issues that may have been posed are a combination of the general forestry pressures of clear-felling and an increased sediment loading. The construction phase of the deep water quay including the drilling, blasting and dredging created the potential for negative water quality impacts within Cashla Bay due to the potential release of sediment. Consequently, when coupled with the abovementioned forestry effects, there was potential for a cumulative adverse impact on water quality of Cashla Bay by way of sediments and other pollutants potentially entering the bay’s waters.

However, it has been concluded that significant water quality impacts are not expected to have occurred, or be occurring, during either the construction phase or current phase of the development. Any water quality impacts which did arise, particularly during the construction phase, are expected to have been both temporary and localised, and decreased significantly in magnitude with distance from the development site due to the natural diluting effect of the bay and the tidal influences within. Significant cumulative impacts arising from water quality effects due to any phase of the development in combination with commercial forestry practises in the locality have not been identified.

Due to the nature, location and scale of the works, significant in-combination effects arising due to interaction between the development and forestry plantations are not predicted to have occurred or be occurring.

⁶⁴ Cycle 3 EPA Characterisation and Assessment is largely based on 2013-2018 WFD monitoring data as this is the latest WFD monitoring assessment period for which all data are available (EPA, 2021).

4.8.4.2 Peat Extraction

Peat extraction and draining of bogland can adversely affect the water quality of various river habitats and waterbodies via the release of ammonium and fine-grained suspended sediments, and by the physical alteration of river habitats. Peatland drainage also results in changes to the hydromorphological condition of rivers. Ecological problems caused by peat extraction include increased erosion rates, siltation and nutrient loss (O'Boyle *et al.*, 2019). Peat drainage and extraction were identified as significant pressures in three river waterbodies (Cashla_010, Invermore_020, and Knockadoagh_010) within the Galway Bay North (31) Catchment resulting in elevated nutrient concentrations and alterations of habitat morphologies due to siltation (EPA, 2021).

The construction phase of the deep water quay including the drilling, blasting and dredging activities created the potential for negative water quality impacts within Cashla Bay due to the potential release of sediment. Consequently, when coupled with the abovementioned effects of peat extraction practices, there was potential for a cumulative adverse impact on water quality of Cashla Bay by way of sediments, nutrients and other pollutants potentially entering the bay's waters.

However, it has been concluded that significant water quality impacts are not expected to have occurred, or be occurring, during either the construction phase or current phase of the development. Any water quality impacts which did arise, particularly during the construction phase, are expected to have been both temporary and localised, and decreased significantly in magnitude with distance from the development site due to the natural diluting effect of the bay and the tidal influences within. Significant cumulative impacts arising from water quality effects due to any phase of the development in combination with peat extraction operations in the locality have not been identified.

Due to the nature, location and scale of the works, significant in-combination effects arising due to interaction between the development and peat extraction are not predicted to have occurred or be occurring.

4.9 Remedial Mitigation Measures and Residual Impacts

Best-practice measures were enforced throughout the construction phase while the programme of mitigative measures set out in the CEMP that accompanied the development's permitted original 2017 application (GCC Planning Application: 17/967) were largely implemented. There were two nonconformities to the recommended mitigation measures.

The first nonconformity is the timing of three blasting events in June and July 2023 which contradicted the recommendation made in the EIS to avoid blasting between April and July. However, as set out in **Section 4.3.3.5.2**, above, the peak smolt migration period was avoided, and while the blasting events did coincide with the up-stream migration of returning salmon grilse, the scale and scope of the works were deemed unlikely to have had an effect of sufficient magnitude as to effect the integrity of the Connemara Bog Complex SAC of which salmon is a QI.

The several reported delays in marine mammal monitoring between the end of the pre-watch period and the occurrence of a blast is the second nonconformity to the recommended mitigation measures that occurred. All pre-blasting watches were carried out for thirty minutes in compliance with NPWS guidelines, and while only restricted monitoring was possible on some occasions within the short window of time while the MMO safely relocated before commencement of blasting, it has been concluded in **Section 4.3.3.5.1**, above, that the blasting works are unlikely to have had an effect of sufficient magnitude as to effect the integrity of Kilkieran Bay and Islands SAC of which harbour seal is a QI, or the integrities of Kilkieran Bay and Islands SAC or Inishmore Island SAC, both of which are designated for harbour porpoise.

Based on the best scientific information available, it has been concluded that the construction phase and current phase of the deep water quay works are unlikely to have had (or currently have) any significant adverse water quality and/or habitat and/or species disturbance/displacement impacts within the European sites considered to be within the ZOI, namely Connemara Bog Complex SAC, Kilkieran Bay and Islands SAC, Connemara Bog Complex SPA, and Inishmore Island SAC. Therefore, no additional actions such as remedial mitigative measures are deemed necessary and significant adverse residual impacts on the conservation objectives of any European site, including the Connemara Bog Complex SAC, Kilkieran Bay and Islands SAC, Connemara Bog Complex SPA, and Inishmore Island SAC can be precluded as a result of the construction phase or current phase of the deep water quay works, either independently or in combination with other plans or projects.

4.10 Conclusion

It has been objectively concluded, following an examination, analysis and evaluation of the relevant information, including in particular the nature of the predicted impacts from the development, that the development did not adversely affect (either directly or indirectly) the integrity of any European site, either alone or in combination with other plans or projects, and there is no reasonable scientific doubt in relation to this conclusion.

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Appendix 1

Stages of Appropriate Assessment

Stage 1 - Screening

This is the first stage of the Appropriate Assessment process and is undertaken to determine the likelihood of significant direct and indirect effects on European sites, in light of their conservation objectives, because of a proposed project or plan, individually or in-combination with other plans or projects. It determines the need for a full Appropriate Assessment.

If it can be concluded that no significant direct and indirect impacts to European Sites are likely, in light of their conservation objectives, either individually or in-combination with other plans or projects, then the assessment can stop here. If not, it must proceed to Stage 2 for a more detailed assessment.

Stage 2 - Natura Impact Statement (NIS)

The second stage of the Appropriate Assessment process assesses the impact of the proposal (either alone or in combination with other projects or plans) on the integrity of the European Site(s) with respect to the conservation objectives of the site(s) and its ecological structure and function. This is a much more detailed assessment than Stage 1. A Natura Impact Statement containing a professional scientific examination of the proposal is required and includes any mitigation measures deemed necessary to avoid, reduce or offset negative impacts.

If the outcome of Stage 2 is negative i.e. adverse impacts to the European site(s) cannot be scientifically ruled out, despite mitigation, the plan or project should proceed to Stage 3 or be abandoned.

Stage 3 - Assessment of alternative solutions

A detailed assessment must be undertaken to determine whether alternative ways of achieving the objective of the project/plan exists.

Where no alternatives exist, the project/plan must proceed to Stage 4.

Stage 4 - Assessment where no alternative solutions exist and where adverse impacts remain

The final stage is the main derogation process examining whether there are imperative reasons of overriding public interest (IROPI) for allowing a plan or project to adversely affect a European Site where no less damaging solution exists.