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Lissinagroagh
Appropriate Assessment
Screening Report

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1. INTRODUCTION

TOBIN was commissioned by FuturEnergy Ireland to prepare a report to inform the screening for Appropriate Assessment (AA) for submission to An Coimisiún Pleanála as part of a planning application for the proposed Lissinagroagh Wind Farm in Co. Leitrim and all associated infrastructure ('the Proposed Project').

1.1 OVERVIEW OF THE PROPOSED PROJECT

A detailed description of the Proposed Project is provided in Appendix 1: EIAR Chapter 2 – Description of the Proposed Project, see Section 2.3).

The Proposed Project comprises:

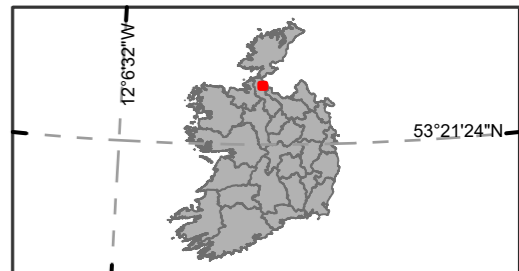
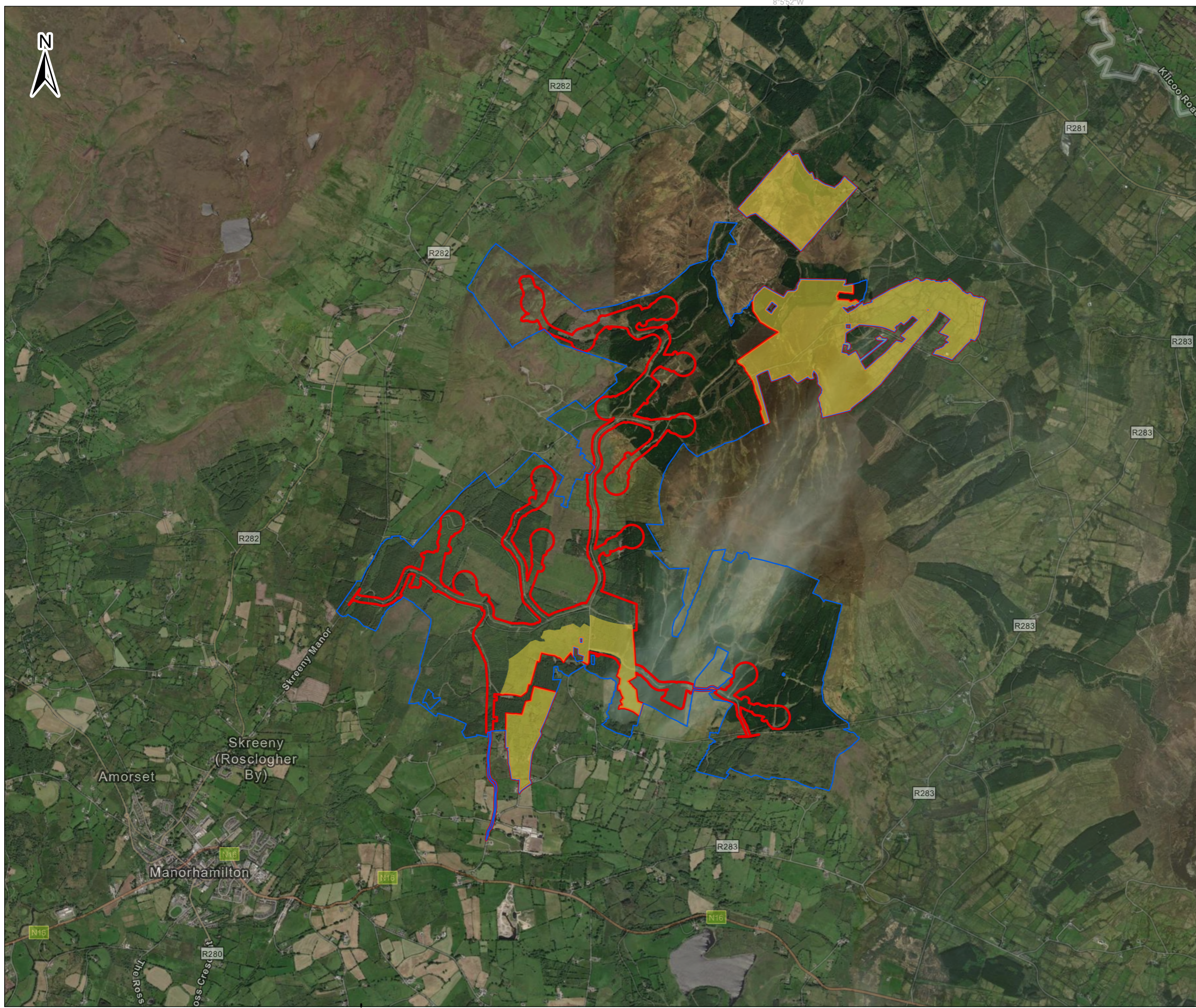
- A proposed wind farm comprising fourteen (14) wind turbines and other ancillary infrastructure including access tracks and drainage;
- An on-site 110kV electrical substation and underground Grid Connection Route (GCR), to connect the wind farm to the National Grid at the existing ESN Srananagh substation in Co. Sligo;
- A proposed Turbine Delivery Route (TDR) comprising accommodations along the public road network between Killybegs, Co. Donegal and the proposed Wind Farm Site to facilitate turbine and construction material delivery.

References to the Proposed Project in the EIAR relate to the entire project (i.e. wind farm, on-site substation, GCR, temporary/permanent accommodations along the TDR). The definitions of the following terms will provide clarity throughout the report:

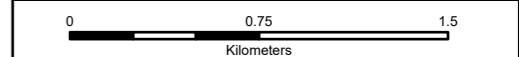
- The proposed Wind Farm Site refers only to the site of the wind farm as delineated by the Red Line Boundary in Figure 1. It does not include the GCR and TDR.
- The proposed Wind Farm Site includes 11 watercourse crossings which will be executed using 10 clear span bridges and one bottomless culvert extension.
- The Survey Area for the proposed Wind Farm Site is delineated by the Blue Line Boundary in Figure 1, and was determined through land ownership folios. It is of relevance to the baseline environment discussed in this chapter.
- The Points of Interest (POIs) along the TDR refers to locations where accommodations are proposed to allow the delivery of oversize loads, such as where vegetation clearance is required, as shown in Figure 2.
- The GCR relates to the route for the proposed underground cable between the on-site substation and the existing Srananagh substation near Sligo, as shown in Figure 3.
- The proposed GCR involves two off-road HDD watercourse crossings.

The project design, layout and construction methodologies are presented in full in Appendix 1: EIAR Chapter 2 – Description of the Proposed Project, see Section 2.5 and 2.6.





- Legend**
- proposed Wind Farm Site
 - Survey Area of the proposed Wind Farm Site
 - Enhancement lands



Spatial Reference
Datum: IRENET95
EPSG: 2157

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Rev	Date	Description	By	Chkd.
A	19/02/2026	First issue	S.P	S.R

Client: **FuturEnergy Ireland**

Project: **Lissinagroagh Wind Farm**

Title: **Figure 1:
Proposed Wind Farm Site, Survey Area
of the proposed Wind Farm Site,
and Enhancement Lands**

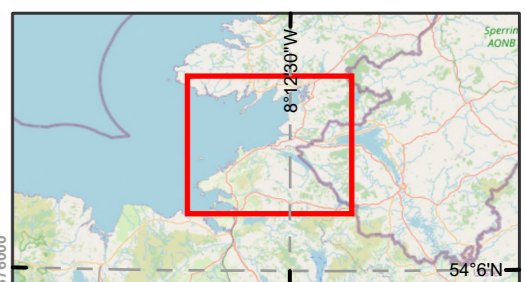
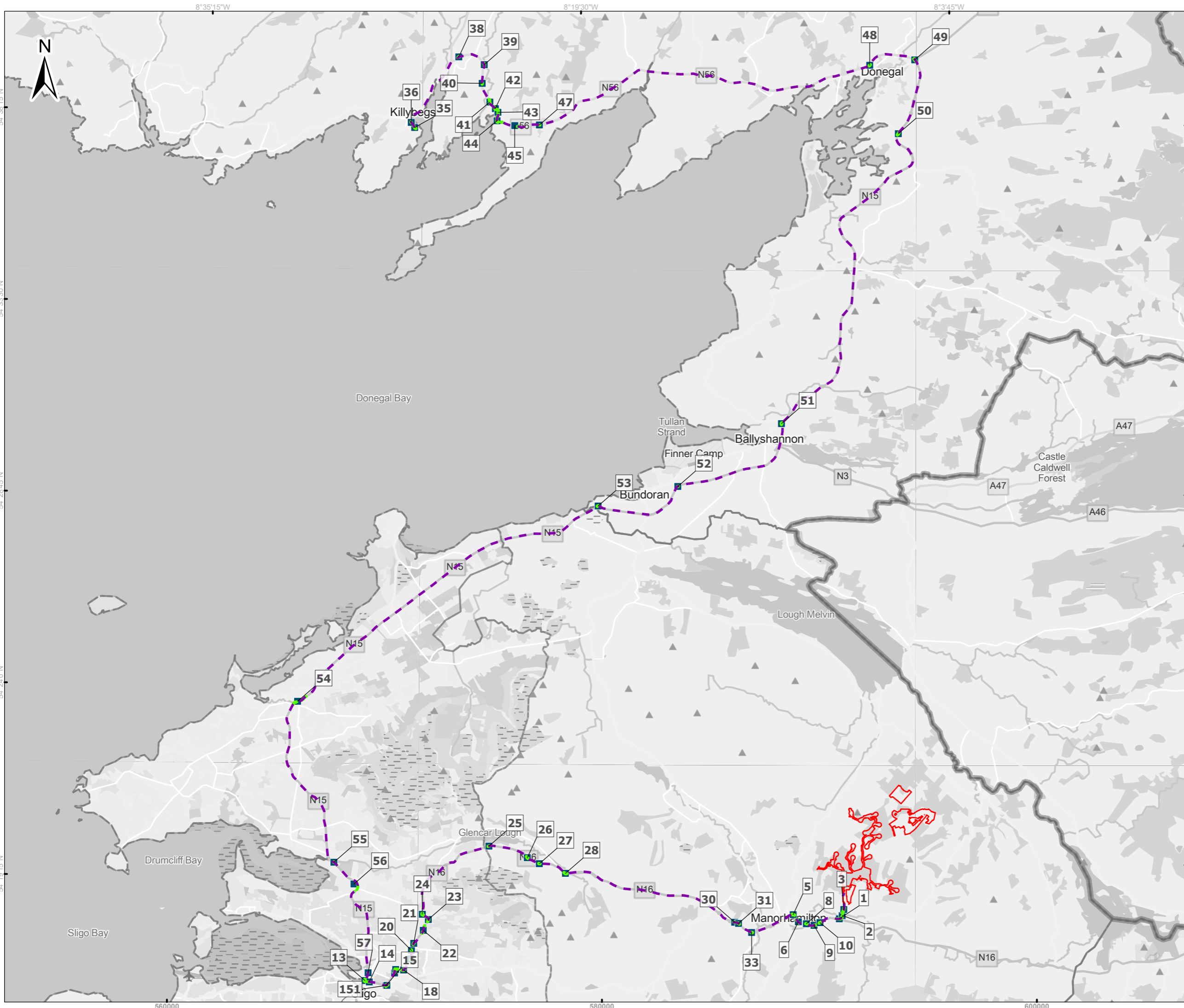
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Prepared by: S.Pezzetta Checked by: S.Ryan Date: February 2026

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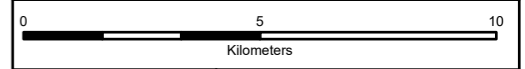
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Email: info@tobin.ie
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Map Ref: 10955-001.AA-P.App.BO-AE-TOB-A Draft: **A**



Legend

- proposed Wind Farm Site
- Turbine Delivery Route
- TDR
- Point of Interest - Locations



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A	04/03/2026	First issue	S.P	S.R

Client:

Project:
 Lissinagroagh Wind Farm

Title:
 Figure 2:
 Turbine Delivery Route from Killybegs,
 Co Donegal to the proposed
 Wind Farm Site Co. Leitrim

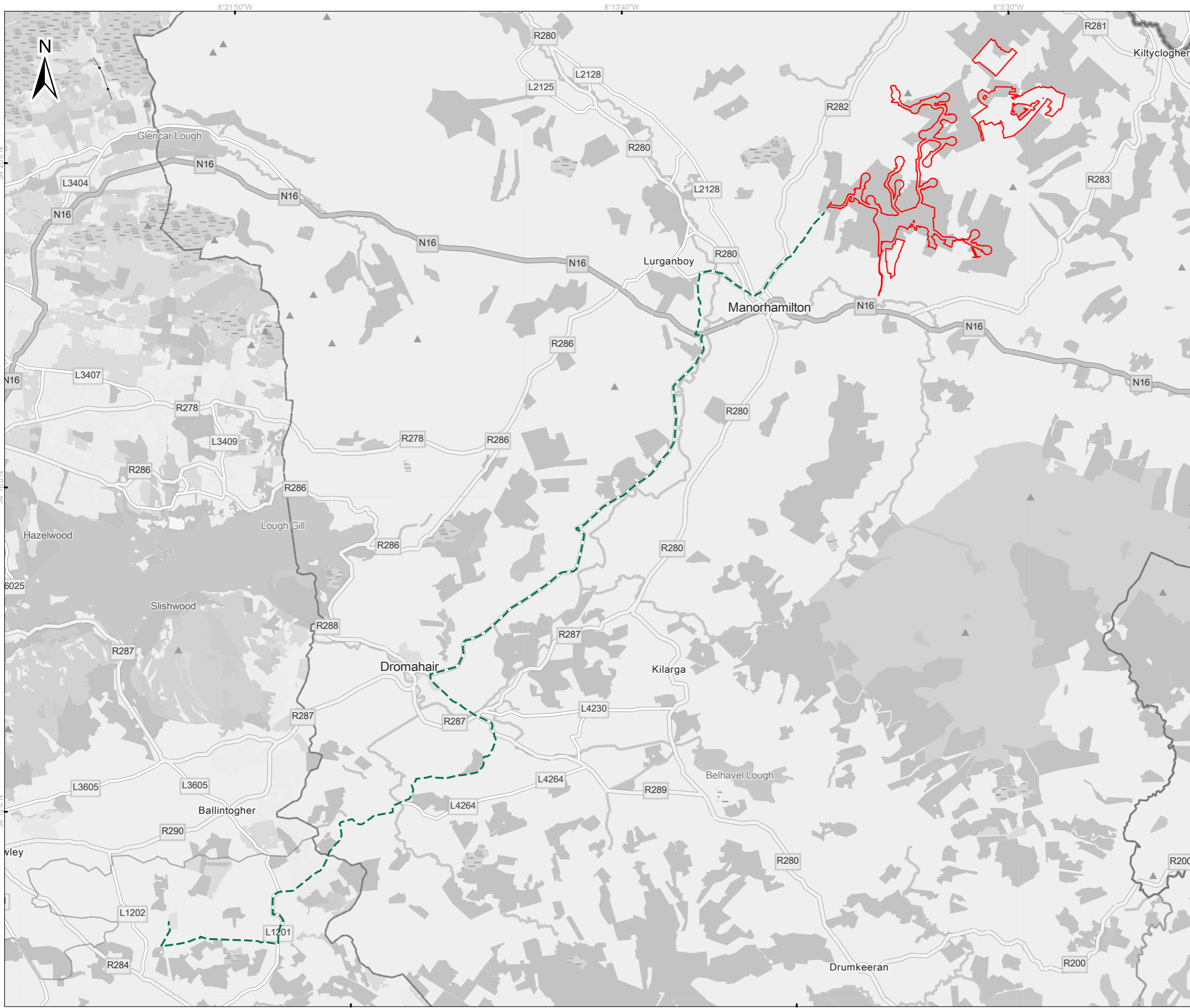
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Prepared by: S.Pezzetta
 Checked by: S.Ryan
 Date: March 2026

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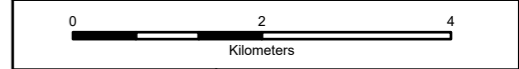
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Map Ref: 10955-002.AA-TDR-P.App.BO-TOB-A
 Draft: A



Legend

- proposed Wind Farm Site
- Grid Connection Route



Spatial Reference
 Datum: IRENET95
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Rev	Date	Description	By	Chkd.
A	19/02/2026	First issue	S.P	S.R

Client:

FuturEnergy Ireland

Project:

Lissinagroagh Wind Farm

Title:

**Figure 3:
 Grid Connection Route from the
 proposed Wind Farm Site Co. Leitrim to
 Sranagh Substation Co. Sligo**

Scale @ A3: 1:80,000

Prepared by: S.Pezzetta Checked by: S.Ryan Date: February 2026

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Map Ref: 10955-003.AA-GCR-P.App.BO-TOB-A Draft: **A**

1.2 DESCRIPTION OF THE PROPOSED PROJECT SITE

A detailed description of the Proposed Project is provided in Appendix 1: EIAR Chapter 2 – Description of the Proposed Project, see Section 2.4 Proposed Project Location.

1.3 PURPOSE OF THIS REPORT

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive) as amended, and the Birds Directive 2009/147/EC as amended are transposed into Irish law through the European Communities (Bird and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) whereby European sites comprise Special Areas of Conservation (SAC) and Special Protection Areas (SPA) (this definition is also outlined in EHLG (2009).

The purpose of this report is to provide supporting information to assist the competent authority, in this case An Coimisiún Pleanála to carry out screening for likely significant effects on European sites arising from the Proposed Project.

1.4 RELEVANT LEGISLATION

The main pieces of relevant legislation are as follows:

- The Habitats Directive 92/43/EEC as amended;
- The Birds Directive 2009/147/EC as amended;
- European Communities (Birds and Natural Habitats) Regulations 2011 – 2021 as amended; and
- Planning and Development Acts 2000 to 2024 - PART XAB as amended.

The Habitats Directive provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000 network.

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European Sites (Annex 1.1). Article 6(3) establishes the requirement for AA:

‘Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site’s conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.’

Article 6(4) states:



'If, in spite of a negative assessment of the implications for the [Natura 2000] site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Where the site concerned hosts a priority natural habitat type and / or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.'

The provision for an AA is transposed into Irish law by Part XAB of the Planning and Development Act 2000 (as amended). Section 177U (4) of the said Acts provides for screening for Appropriate Assessment as follows:

'The competent authority shall determine that an appropriate assessment of a draft Land use plan or a proposed development, as the case may be, is required if it cannot be excluded, on the basis of objective information, that the draft Land use plan or proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site.

An AA should be based on best scientific knowledge and the competent authority should ensure that expertise such as ecological, geological, and hydrological are utilised, where relevant.

The Court of Justice of the European Union (CJEU) has made a number of rulings in relation to AA, regarding when it is required, its purpose, and the standards it should meet (e.g. *'People over Wind and Peter Sweetman v Coillte'*). The evolution in interpretation and application of the relevant directives and national legislation arising from jurisprudence of the European and Irish courts has been factored into this appropriate assessment screening report.



2. METHODS

The approach taken in preparing this document is in accordance with standard methods and best practice guidance, as listed below:

- European Commission (European Commission, 2000). Communication from the Commission on the Precautionary Principle;
- European Commission (European Commission, 2006). Nature and biodiversity cases: Ruling of the European Court of Justice. Office for Official Publications of the European Communities, Luxembourg;
- European Commission (European Commission, 2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission;
- European Commission (European Commission, 2013) Interpretation Manual of European Union Habitats. Version EUR 28;
- European Commission (European Commission, 2019) Managing Natura 2000 Sites – The provisions of Article 6 of the Habitats Directive 92/43/EEC;
- European Commission (European Commission, 2021a). Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission;
- European Commission (European Commission, 2021b). Guidance document on the strict protection of animal species of Community interest under the Habitats Directive. Publications Office of the European Union, Luxembourg;
- Appropriate Assessment of Plans and Projects in Ireland, Guidance for Planning Authorities, Department of the Environment, Heritage and Local Government (DoEHLG, 2010);
- Applications for Approval for Local Authority Developments made to An Bord Pleanála under 177AE of the Planning and Development Act, 2000, as amended (Appropriate Assessment) – Guidelines for Local Authorities (An Bord Pleanála, 2013);
- Fossitt (2000). A Guide to Habitats in Ireland. The Heritage Council, Kilkenny; and
- Office of the Planning Regulator (OPR, 2021). Appropriate Assessment Screening for Development Management.

2.1 SCOPE

The scope of this report is to determine, on the basis of a preliminary assessment and objective criteria, whether the Proposed Project, alone and in-combination with other plans or projects, could have significant effects on a European site in view of the site's conservation objectives.

The approach can be summarised as follows:

- Identify the zone of influence (Zol) of the Proposed Project and European sites, inclusive of candidate SACs and proposed SPAs, within this area;
- Identify the Qualifying Interests (QIs)/ special conservation interests (SCIs) of the European sites within the Zol and review their conservation objectives;



- Review whether there is potential for the QIs/SCIs to be affected by the Proposed Project based on information such as the vulnerabilities of the European site, proximity to the Proposed Project, and the nature and scale of the works associated with the Proposed Project;
- Consider the likelihood of the identified potential impacts occurring based on the information collated and professional judgement; and
- Identify any potential significant effects on European sites.

2.1.1 Study Area and Survey Area

The Study Area generally refers to all areas assessed during the desk study and field surveys for the Proposed Project. It is closely linked with the ZOI (Section 2.1.2). The Survey Area for the proposed Wind Farm Site is the area where ecological field surveys were undertaken by specialists for each ecological feature (Figure 1). The Survey Area for the TDR is defined by the over sail and over run areas as outlined in the Swept Path Analysis Report (EIA Chapter 2 – Appendix 2-1 Turbine Delivery Route Report). The Survey Area along the GCR is comprised of the Aquatic Sites along the GCR where there are existing watercourse crossings or where the two off-road HDD crossings are proposed.

For the desk study, the database hosted by the National Biodiversity Data Centre (NBDC, 2025) was integrated for recent records (since 2015) of species listed in Annex I of the Birds Directive, Annex II of the Habitats Directive as well as habitats listed in Annex I of the Habitats Directive. In addition, recent records of Invasive Alien Species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011. (S.I. No. 477 of 2011) were collated. The desk study area for the proposed Wind Farm Site is the 10km grid square G94. For the GCR, the encompassing 1km grid squares were selected for interrogation (Table 1). Regarding the TDR, a total of 57 Points of Interest (POIs) inclusive of over sail and over run areas are assessed for connectivity to European sites.



Table 1: 1km Grid Squares Selected for Desk Study of GCR

Corresponding 10km Grid Square	Selected 1km Grid Square
G72	G7424, G7524, G7624, G7724, G7425, G7525, G7625, G7725, G7726, G7826, G7827, G7927, G7928,
G82	G8027, G8028, G8128, G8228, G8229
G83:	G8030, G8130, G8320, G8031, G8131, G8132, G8232, G8332, G8333, G8433, G8434, G8435, G8535, G8635, G8636, G8637, G8638, G8738, G8639, G8739, G8839 and G8941*
G84:	G8640, G8740, G8840, G8940, G8941

*G8941 also includes a c. 0.5km section of the Red Line Boundary and associated road widening works for the entrance to the proposed Wind Farm Site.

2.1.2 Zone of Influence

The ZoI is defined by the Chartered Institute of Ecology and Environmental Management (CIEEM) as follows:

“The ‘zone of influence’ for a project is the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries. The zone of influence will vary for different ecological features depending on their sensitivity to an environmental change.” (CIEEM, 2018).

Irish guidance (DoEHLG, 2009) states, for the zone of influence of plans:

“A distance of 15 km is currently recommended in the case of plans derives from UK guidance (Scott Wilson et al, 2006).”

For some projects, the ZoI may limited to less than 100m while others may need to consider the full extent of the upstream and/or downstream catchments (DoEHLG, 2009). As such the ZoI must be evaluated on a case-by-case basis dependant on the “nature, size and location of the project, the sensitivities of the ecological receptors” (DoEHLG, 2009).

The ZoI for the Proposed Project has been identified through a review of European sites, the development location relative to European sites, the qualifying interests of the European sites, the presence of ecological and landscape connectivity between the Proposed Project and the European sites, as well as the known impacts and effects likely to arise (DoEHLG, 2009).

The ZoI of the Proposed Project is discussed in Section 4.1.1 of this report.

2.1.3 Consultation

Consultation with various state agencies and environmental Non-Governmental Organisations (NGOs) was undertaken on the 4th December 2024 to inform this AA Screening Report. The following organisations were contacted during the scoping consultation process with respect to biodiversity:



- Development Application Unit (DAU) of the National Parks and Wildlife Service (NPWS);
- Inland Fisheries Ireland (IFI);
- Leitrim County Council; and,
- Fermanagh County Council

The consultation response from the DAU issued on the 11th February 2025 notes a number of ‘environmental sensitivities’ within the proposed Wind Farm Site and surrounding Survey Area, including hydrological connections to the Lough Gill Special Area of Conservation (SAC) and Lough Melvin SAC. A summary of the response is presented in Table 2 and the consultation response is presented in full in Appendix 2: Scoping Consultation Responses.

No response was received from IFI to the consultation letter dated December 2024. However, a summary of the response from IFI to an earlier consultation on the Proposed Project in April 2021 is provided below (Table 2).

The consultation response from Leitrim Co. Co. lists the proximity of the Proposed Project to Arroo Mountain SAC, Lough Melvin SAC and Lough Gill SAC. The response is summarised in Table 2 and reproduced in full in Appendix 1.

A consultation meeting with the Ecological and Guidance Advisory Unit at the National Parks and Wildlife Service was held on 12th March 2026. The discussion points relevant to the AA Screening Report are summarised in Table 2.



Table 2: Consultation Responses Relevant to the Appropriate Assessment Screening Report

Consultee	Summary of Response	Response Addressed
<p>Development Applications Unit (DAU), Department of Housing, Local Government and Heritage</p>	<p>Response (ref. G Pre00386/2024 received 11/02/25) highlighted a number of environmental sensitivities of relevance, namely:</p> <p>“A number of hydrological connections to the Lough Gill SAC and Lough Melvin SAC have been highlighted within the proposed area that need to be considered individually as part of a Natura Impact Statement. Siltation risks to the SACs during construction works via these watercourses are therefore high. White-clawed Crayfish, Brook Lamprey, Salmon and European otter have all been recorded in the Owenmore River within the Lough Gill SAC.”</p>	<p>Section 5.2</p>
<p>Inland Fisheries Ireland (IFI)</p>	<p>No response received to consultation undertaken in December 2024. Response received to previous consultation in April 2021:</p> <p>“The EIS should assess the potential impacts the proposed development may have including, damage to the aquatic and associated riparian habitat, pollution of water, introduction of non-native species and interference with upstream and downstream movement of aquatic life. The assessment should include all aspects of the development.”</p> <p>“All watercourses that will receive drainage from the construction site including the turbines or the access roads must be assessed in terms of aquatic biodiversity with particular emphasis on fish, the food of fish, spawning grounds and fish habitat in general. Invertebrate sampling is recommended.”</p> <p>“Electrofishing surveys will be required for all waters. Quantitative data in relation to all fish species should be compiled. The presence of salmonid species, crayfish and lamprey species should be assessed.”</p> <p>“The aquatic habitat and physical nature of any watercourse affected by the development must be fully described in detail.”</p> <p>“The riparian habitat is integral to the functioning of the aquatic environment. The potential impacts of the development on the riparian habitat should be assessed. Adequately sized aquatic buffer zones must be established along all watercourses.”</p> <p>“Settlement ponds and other silt treatment/mitigation measures must be engineered to ensure sufficient retention times are provided for sediment settlement.”</p>	<p>Section 2.3.2.3, Section 4.1, Section 4.1.4.1, Section 2.3.2.1.1, Section 2.3.2.3.3.</p>



Consultee	Summary of Response	Response Addressed
	<p>“All instream works or other works which may impact directly on a watercourse should only be carried out during the open season which is from 1st July to 30th of September (so as to avoid impacting on the aquatic habitat during the spawning season).”</p> <p>“There must be no spread of invasive species as a result of the proposed development. A survey for the presence of invasive species should be carried out and a management plan put in place where found.”</p>	
Leitrim County Council	<p>Whilst the study area does not appear to contain European sites, it is adjacent to the Lough Gill SAC (Site Code 001976) to the southwest with Arroo Mountain SAC (Site Code 001403) to the west of the R282 and Lough Melvin SAC (Site Code 000428) a similar distance to the northwest. There is therefore a need to carry out Screening for Appropriate Assessment under the Habitats Directive and further assessment if necessary. The results of such assessments will inform the Biodiversity section of the EIAR. The Appropriate Assessment will need to focus on the potential impacts arising on the European sites arising from the operational and particularly the construction phases of the development. Potential adverse impacts on the conservation objectives for designated habitats arising from the proposed development require careful consideration and analysis based on best available techniques and underpinned by the precautionary principle in formulating any recommendations/conclusions stemming from such analysis.</p> <p>Cumulative impacts with other developments, including but not limited to other wind farms, should be assessed for all sensitive receptors. Interactions with other environmental disciplines, especially hydrology and climate should also be assessed.</p> <p>The EIAR should make reference to the following documents:</p> <ul style="list-style-type: none"> • Leitrim Heritage Plan 2020-2025; • Leitrim Biodiversity Action Plan 2022-2027; • Leitrim County Development Plan 2023-2029. 	Section 6 Section 7.1.3
Fermanagh County Council	<p>While the report covers a broad range of topics, FODC recommends placing greater emphasis on the site's proximity to Fermanagh and Omagh District Council area, as it lies just 3 km from the border which is within the Zone of Influence (Zoi).</p> <p>Also at a more local level, the Council adopted on 16 March 2023, its Plan Strategy (Fermanagh and Omagh Local Development Plan 2030, Plan Strategy). Whilst this relates to planning applications within the FODC boundary area, it does contain relevant designations, information and data, that should be carefully considered as part of the current process.</p>	Section 4, Section 4.2.2, Section 5.2.9 Section 5.3.9,



Consultee	Summary of Response	Response Addressed
	<p>Additionally, while the Environmental Impact Assessment (EIA) considers Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) within the Zone of Influence in Northern Ireland, including Lough Melvin SAC and Pettigoe Plateau SPA.</p> <p>FODC recommends incorporating information from sources in Northern Ireland, such as NBN Atlas and CEDaR, due to the proximity of the proposed development to County Fermanagh. This is particularly important as many species are transboundary in nature and/or inhabit environments linked through shared hydrological and hydrogeological systems. FODC acknowledges the broad range of surveys included under Section 6.4.2, Field Surveys. However, additional surveys, such as bird surveys including wintering bird surveys, should also be considered. Access to the results of the completed surveys would be helpful to provide a fully informed response regarding potential issues and the overall impact of the development.</p> <p>FODC agrees that having a separate Nature Impact Statement (NIS) represents best practice. However, allowing consultees to review the NIS would be beneficial, as it could provide valuable insights into the connections between the development site and European designated sites including those designated sites within the Fermanagh and Omagh District.</p> <p>This proposal is one which has the potential to have adverse impacts within Fermanagh and Omagh District Council and therefore will engage the transboundary requirements of the EIA legislation. The Council will reserve its position on the planning merits of the proposal until a formal transboundary consultation is issued. At that stage, the application will be accompanied with various surveys, which will help inform the Council's assessment of the proposal.</p>	<p>Section 6.1.9.</p>
<p>National Parks and Wildlife Service</p>	<p>It is important to demonstrate avoidance of intact open peatlands.</p> <p>Demonstrate the use of the mitigation hierarchy for peatlands.</p> <p>Identify degraded areas of peatland with potential for suitable development such as fragmented, hydrologically degraded, habitats with a low potential for restoration.</p>	<p>Appendix 4: Annex I Habitat Condition Assessment</p> <p>EIAR Chapter 5 - Biodiversity:</p> <p>Section 5.6.2.3.2</p> <p>Section 5.6.2.3.16</p> <p>Section 5.6.2.3.17</p> <p>Section 5.6.2.3.18</p>



2.2 BASELINE DATA COLLECTION

2.2.1 Desk Study Methodology

A desk study was undertaken to inform this report. The aim of the desk study was to identify European sites within the Zol of the Proposed Project as well as to determine the presence or absence of protected habitats and species, as follows:

- Species listed on Annex I of the Birds Directive, which require designation of Special Protection Areas (SPAs);
- Species listed in Annex II of the Habitats Directive which require designation of SACs; and
- Habitats listed in Annex I of the Habitats Directive which require designation of SACs.

All European sites assessed have defined Site-Specific Conservation Objectives (SSCOs). No sites assessed are subject to generic or non-site-specific conservation objectives.

The desk study comprised a review of the following key datasets and information sources:

- Review of the NPWS site synopsis, conservation objectives for European sites identified through potential source-pathways from the Proposed Project (NPWS, 2025a). Available at: <https://www.npws.ie/protected-sites> [Accessed 8 January 2025].
- The Status of EU Protected Habitats and Species in Ireland (NPWS, 2025b). Available at: <https://www.npws.ie/protected-sites> [Accessed 10 October 2025].
- Northern Ireland Department of Agriculture, Environment and Rural Affairs (DAER), 2025. Site synopsis and conservation objectives for Lough Melvin SAC. Available at: <https://www.daera-ni.gov.uk/publications/lough-melvin-sac> [Accessed 8 January 2025].
- Environmental Protection Agency (EPA), 2025. EPA Mapping Database. Available at: <https://gis.epa.ie/EPAMaps/AAGeoTool> [Accessed 8 January 2025].
- National Biodiversity Data Centre (NBDC), 2025. Biodiversity Maps. Available at: <https://maps.biodiversityireland.ie/> [Accessed 10 October 2025].
- Environmental Protection Agency (EPA), 2025. WFD Data and Dashboards. Available at: <https://www.catchments.ie/wfd-data-dashboards/> [Accessed 10 October 2025].

A review of other plans and projects within the Zol of the proposed Wind Farm Site, GCR and TDR was carried out. The information was sourced from a search of the local authorities planning registers (LCC, 2025), the EIA portal (EIA, 2025), planning applications (MyPlan, 2025), and the Northern Ireland Planning Register (Planning Portal, 2025) (Section 7).

2.2.2 Field Survey Methodology

A range of ecological field surveys were undertaken (Table 3) within the Survey Area of the proposed Wind Farm Site, TDR and GCR, between 2020 and 2025 by qualified and experienced



TOBIN ecologists (Section 2.3). In addition, a number of targeted ecological surveys were also undertaken by third party consultants (Table 3). The project team is presented in Section 2.3.

The ecological surveys that were carried out are relevant to the consideration of the potential for the Proposed Project to affect the conservation objectives of European sites in the Zol of the Proposed Project, namely: habitat surveys, mammal surveys, riverine aquatic surveys, bird surveys and marsh fritillary surveys, all of which are summarised hereunder and described in detail in Chapter 5 – Biodiversity of the Environmental Impact Assessment Report (contained within the Planning Application) (TOBIN, 2025). While additional ecological surveys were undertaken, they are not specifically relevant to this Appropriate Assessment Screening.

The results of habitat surveys and desk studies suggested that there were no habitats present in the immediate vicinity of either element of the Proposed Project that were likely to support important bird species therefore dedicated bird surveys were not deemed to be required for the Grid Connection or TDR (Appendix 6: EIAR Chapter 6 - Ornithology).

Table 3: Ecological Field Surveys Undertaken within the Survey Area at the Proposed Wind Farm Site, GCR, and TDR

Surveys	Location	Survey Dates	Personnel	
Habitat Surveys	Wind Farm Site	September 2020	TOBIN	
		July 2021 September 2021	TOBIN	
		May 2024	TOBIN	
	GCR	October 2024	TOBIN	
	Annex I Habitat Condition Assessment Surveys	Site A, B, C	September 2024	AECOM
	Invasive Species Surveys	TDR	October 2024	TOBIN
GCR		October 2024	TOBIN	
Wind Farm Site		September 2025	TOBIN	
Non- volant Mammal Survey	Mammal Surveys	Wind Farm Site	September 2020, July 2021, August 2025	TOBIN
	Mammal Surveys	GCR	August 2025	TOBIN
Bat Survey	Static Detectors	Wind Farm Site	Autumn 2020 Spring-summer 2021 Spring-autumn 2024	Bat EcoServices
			September 2020 August 2021	Bat EcoServices
	Potential Roost Feature surveys	Wind Farm Site	June 2024 August 2021	Bat EcoServices
	Potential Roost Feature surveys	TDR	October 2024 June 2024	TOBIN
	Potential Roost Feature surveys	GCR	September 2024	TOBIN
Aquatic Surveys	Kick Sampling	Downstream of the proposed Wind Farm Site*	September 2021,	TOBIN
	Kick Sampling	Wind Farm Site and GCR	August 2025, September 2025	TOBIN



Surveys		Location	Survey Dates	Personnel
	Hydromorphology surveys	Wind Farm Site and GCR	September 2020; August 2025, September 2025	TOBIN
	Electrofishing Survey	Downstream of the proposed Wind Farm Site*	September 2021	AZTEC Consultancy Aquafact
Marsh Fritillary Survey	Larval web survey	Wind Farm Site	September 2020 September 2025	TOBIN
Amphibians and Reptiles	Walkover Survey	Wind Farm Site	September 2020, August 2021, May 2024, September 2025	TOBIN
Ornithology Surveys	VPs, Walkover	Wind Farm Site	2021-2025	MKO

*Surveys were undertaken downstream of the Survey Area of the proposed Wind Farm Site within tributaries of the Garvogue, Drowes and Erne catchments (refer to Appendix 3: Aquatic Baseline Report).

2.2.2.1 Annex I Habitat Survey Methodology

Habitat surveys were carried out within the Survey Areas for the proposed Wind Farm Site, TDR, and GCR between September 2020, July and September 2025 (Table 3). Methodologies followed ‘*Best Practice Guidance for Habitat Survey and Mapping*’ (Smith *et al.*, 2011) and ‘*Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*’ (NRA, 2009). The data was recorded, and the habitats encountered during the surveys were classified in accordance with Fossitt (2000) with reference made to the ‘*Interpretation Manual of EU Habitats*’ (EC, 2013) as appropriate. The habitat condition assessment methodology for Annex I habitats followed best practice guidance as outlined in:

- ‘*Guidelines for a National Survey and Conservation Assessment of Upland Vegetation and Habitats in Ireland*’ (Perrin *et al.*, 2014);
- ‘*National survey of limestone pavement and associated habitats in Ireland*’ (Wilson *et al.*, 2014);
- ‘*The Monitoring and Assessment of four EU Habitats Directive Annex I Woodland Habitats*’ (Daly *et al.*, 2023).

2.2.2.1.1 Invasive species and Protected Flora Species

The Survey Areas for the proposed Wind Farm Site, TDR, and GCR was also surveyed for evidence of invasive plant species listed in Part 1 of the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) as amended. Species protected under Flora (Protection) Order, 2015 (S.I. No. 356/2015) or listed under the Irish Red Data List of Irish Plants were also searched for. Where necessary, plant identification was assisted using Parnell and Curtis (2012) and Stace (2019).



2.2.2.2 Mammal Survey Methodology

Terrestrial mammal surveys were carried out within the Survey Areas for the proposed Wind Farm Site, TDR, and GCR in September 2020, July 2021, and August 2025. Following the desktop assessment, mammal species listed in Annex II of the Habitats Directive and potentially occurring within the ZOI of the Proposed Project, were identified. The potential for these species to occur within the Survey Areas was assessed during the field surveys and any evidence of same was recorded.

2.2.2.2.1 European Otter Survey Methodology

European otter and their breeding and resting places are protected under Annex II and IV of the Habitats Directive, meaning the conservation of the species requires the designation of SACs and a system of strict protection is required within the natural range of the species.

European otter surveys followed best practice guidance (NRA, 2006; NRA, 2009). Watercourses within the proposed Wind Farm Site and watercourse crossings along the GCR and TDR were surveyed as appropriate. Any evidence/signs of European otter such as; tracks, spraints, couches, slides, feeding remains or holts, were recorded.

2.2.2.3 Aquatic Ecology Methodology

A summary description of the aquatic survey methods is provided below, and full details are included in Appendix 3: Aquatic Baseline Report. Aquatic surveys were conducted along 11 watercourse crossings within the proposed Wind Farm Site and existing watercourse crossings along the GCR. Aquatic surveys were not carried out along the TDR because the proposed accommodations are limited to vegetation and topsoil removal within defined areas. Potential impacts on aquatic habitats and species, including those connected through hydrological pathways, will be addressed through desk study in the Appropriate Assessment Screening Report (AASR).

2.2.2.3.1 Electrofishing Survey Methodology

Electrofishing surveys were carried out by Aztec Management Consultants at the seventeen sites downstream of the proposed Wind Farm Site in September 2021, under Section 14 licensing authorisation from the Department of Environment, Climate and Communications (DECC).

Ten-minute electrofishing surveys were carried out following the methodology set out by Beaumont (2016) and Matson *et al.*, (2018). The electrofishing methodology and technique also complied with the European Committee for Standardisation (CEN) guidelines for fish stock assessment in wadable rivers (CEN, 2003).

2.2.2.3.2 Aquatic Habitat Survey Methodology

Riverine habitat assessments and general fisheries habitat assessment were conducted by:

- TOBIN Ecologists in September 2020, at the nine sites within the proposed Wind Farm Site and downstream of the proposed Wind Farm Site;
- Aztec Management Consultants in September 2021, at seventeen sites located downstream of the proposed Wind Farm Site;



- TOBIN Ecologists in August and September 2025, at the 11 watercourse crossings within the proposed Wind Farm Site; and,
- TOBIN Ecologists in September 2025, at the existing watercourse crossings along the public roads network comprising the GCR plus the 2 proposed off-road HDD crossing locations.

An assessment was made on the suitability of the habitat to support aquatic species listed on Annex II of the Habitats Directive e.g. river lamprey (*Lampetra fluviatilis*), brook lamprey (*Lampetra planeri*), Atlantic salmon (*Salmo salar*), and white-clawed crayfish.

2.2.2.3.2.1 Lamprey

River lamprey, brook lamprey, sea lamprey (*Petromyzon marinus*) are listed on Annex II of the Habitats Directive, meaning the conservation of the species requires the designation of SACs and a system of strict protection is required within the natural range of the species. These species are also listed on Annex V of the Habitats Directive, meaning the exploitation of the species' may be subject to management and regulation.

An evaluation of potential lamprey habitats within the Survey Area was made following methodologies outlined in 'Ecology of the River, Brook, and Sea Lamprey' (Maitland, 2003) and also *NPWS Irish Wildlife Manuals lamprey surveys* (O'Connor, 2007). A visual assessment was carried out on the habitat suitability for lamprey such as slower flowing water, nursery areas of sandy silt beds, an assessment on potential barriers on migration route, potential spawning areas, suitable hiding places and clean spawning gravels over stretches of running water. Juvenile lamprey habitat was identified from the descriptions given in Maitland (2003).

2.2.2.3.2.2 Salmonoids

Atlantic salmon is listed on Annex II of the Habitats Directive, meaning the conservation of the species requires the designation of SACs. The species are also listed in Annex V of the Habitats Directive, meaning the exploitation of the species' may be subject to management and regulation.

River fisheries assessment was carried out following the approaches in the *Fishery Assessment Methodology* (O'Grady, 2006) and 'Ecology of the Atlantic Salmon' (Hendry & Cragg-Hine, 2003) to broadly characterise the river sites (i.e. channel profiles, substrata etc.). Suitable salmonid spawning and nursery habitat were assessed.

2.2.2.3.2.3 White-clawed Crayfish

White-clawed crayfish is listed on Annex II of the Habitats Directive, meaning the conservation of the species requires the designation of SACs and a system of strict protection is required within the natural range of the species. The species is also listed on Annex V of the Habitats Directive, meaning the exploitation of the species may be subject to management and regulation.

White-clawed crayfish habitat was assessed at each survey site following methodologies outlined in 'Guidance on Habitat for White-clawed Crayfish' (Peay, 2002). This includes visual and hand searching for suitable refuge such as boulders, crevices, burrows in the bank, the presence of a partial, or even a complete barrier, food source including leaf litter, instream macrophytes, aquatic invertebrates and fish and good water quality absent of pollution.



2.2.2.3.3 Biosecurity

A biosecurity protocol, recommended by IFI, was also adhered to during the surveys. All equipment and Personal Protection Equipment (PPE) was disinfected with Virkon® prior to and post-survey completion, and best practice precautions were employed to prevent the potential spread of invasive species and water-borne pathogens between sites, according to standard IFI biosecurity protocols (IFI, 2010).

2.2.2.4 Ornithology Surveys

The ornithology Survey Area for the assessment has been determined based on the Zol, and guidance on potential connectivity to designated sites (SNH, 2016). The Survey Area for ornithological features varies dependent on the species in question and their sensitivity to potential effects.

A suite of ornithological surveys were carried out by MKO over several seasons;

- Non-breeding 2020/21;
- Breeding 2021;
- Non-breeding 2021/22;
- Breeding 2022;
- Breeding 2023;
- Breeding 2024; and,
- Breeding 2025.

Surveys undertaken included flight activity surveys, breeding raptor surveys, breeding walkover surveys, hen harrier winter roost surveys, and winter walkover surveys (Appendix 6: EIA Chapter 6 - Ornithology).

2.3 PROJECT TEAM

This chapter was prepared by TOBIN Ecologist Ciara Byrne (BSc.) and Senior Ecologist Meadhbh Costigan (MSc.). The aquatic ecology baseline report was prepared by TOBIN Senior Ecologist, Sinead O'Reilly (M.Res) and Project Ecologist Joe Freijser (MSc.). TOBIN Ecologists carried out habitat, protected flora and fauna, and aquatic surveys to inform the AA screening report. Further credentials of TOBIN ecologists are provided hereunder.

2.3.1 TOBIN Ecologists

Ciara Byrne BSc (Hons) Wildlife Biology

This report was co-authored by Ciara Byrne BSc. (Hons), Graduate Ecologist with TOBIN. Ciara completed her degree in Wildlife Biology with MTU Kerry in 2023 and has been working with TOBIN since. Ciara undertook her college work placement with TOBIN in 2022 for a period of seven months. Ciara is responsible for the bird data management, and analysis for multiple projects in addition to producing ecological reports on topics such as winter and breeding bird surveys, Invasive Species Management Plans (ISMP), Preliminary Ecological Assessment (PEA), and assisting with the write – up of Appropriate Assessment Screening Reports (AASR), Natura



Impact Statements (NIS) and Environmental Impact Assessment Reports (EIARs). Ciara prepared this AA screening report.



Meadhbh Costigan BA (Hons) Natural Science, MSc. Botany

This report was co-authored by Meadhbh Costigan MSc ACIEEM, Senior Ecologist with TOBIN. Meadhbh graduated from Trinity College Dublin with a B.A. (Hons) in Natural Science, reading Botany. She then received a MSc. in Botany from the University of Kent with training from the Royal Botanic Gardens, Kew. She has 5 years' experience in consulting, primarily engaged in the preparation of impact assessments and biodiversity chapters for the renewable energy sector. Her work focusses on the identification of Annex I habitat types and the assessment of habitat condition. She applies the information she gathers in the field to provide guidance to clients on avoiding and mitigating adverse effects on natural habitats of community importance. She is an Associate member of CIEEM and is an elected member of the CIEEM Irish Section Committee.

Joe Freijser BA. (Hons) Coastal Management, MSc. (Hons.) Applied Marine Biology

Joe undertook the aquatic surveys and co-authored the aquatic sections in the biodiversity chapter as well as the aquatic baseline report. He has 10 years post-graduate experience in aquatic and terrestrial ecology, environmental consultancy and civil engineering. Joe has predominantly been involved in a variety of water and infrastructure related projects like flood relief schemes, drainage maintenance works, WWTP upgrades and construction projects throughout Ireland. For these projects he carried out numerous Screenings for Appropriate Assessment, Natura Impact Statements and Ecological Impact Assessments often also operating as Ecological Clerk of Works and environmental drainage maintenance auditor. Joe has a strong background in fish identification, aquatic surveys and fish habitat assessment including electrofishing, macroinvertebrate kick-net sampling and identification, dip net sampling for fish and amphibians, macrophyte and bryophyte identification and European otter and crayfish surveys. Joe also has extensive experience in chemical water quality sampling and terrestrial habitat, mammal and passerine bird nest surveys.

Sinead O'Reilly BSc. (Hons) Zoology, M.Res. Science

Sinead O'Reilly Senior Ecologist with TOBIN undertook the aquatic surveys and Phase 1 habitat surveys as well as co-authored the aquatic sections in this chapter. Sinead is a qualified and experienced environmental consultant with fifteen years' postgraduate experience in freshwater sciences and environmental consultancy in Ireland. Sinead has a strong technical background as a freshwater ecologist with extensive field experience in all freshwater habitats across Ireland. Her duties involve working over numerous projects, undertaking the role of being both a project lead and team member in the field as well as office based duties. Sinead has prepared and delivered screenings for AA, NIS, ECIAs, Environmental Impact Assessment Reports, Preliminary Ecological Appraisals, aquatic reports, invasive species reports, mammal survey reports and other relevant documents such as method statements, requests for further information, and risk assessment and method statements (RAMS). Sinead carries out various field surveys such as electrofishing, macroinvertebrate sampling, riverine habitat assessment, fisheries habitat assessment, macrophyte surveys, European otter and crayfish surveys. Sinead has experience of working with internal and external specialists and subcontractors. Sinead has extensive experience of the aquatic environment and her previous experience in carrying out OPW Environmental Audits.



Jaroslav Majkusiak BSc. (Hons), MSc Ornithology

Jarek is an Ornithologist with TOBIN. He conducted the multidisciplinary surveys to support the impact assessments for this biodiversity chapter including aquatic surveys, marsh fritillary surveys, and invasive species surveys. Jarek's role at TOBIN involves carrying out Ornithological surveys such as Wintering Birds (IWebs), Vantage Point, Transect, Raptors, Woodcock, and Habitat surveys (general and designated habitats); Jarek has strong GIS mapping software skills (QGIS & ArcGIS) which contributes greatly to his report writing. Jarek has experience in data management and data modelling, allowing him to oversee complex survey records. Jarek's contributed to many projects since he started with TOBIN and his main tasks involved producing and reviewing interim baseline bird reports and impact assessment. Other tasks involved reviews of field surveys such as breeding bird surveys, winter transects surveys, raptor, and wader surveys. Jarek has recently published two scientific papers on the common swift *Apus apus* in the peer-reviewed journal, Irish Birds.

Eoghan Phelan BSc. Environmental Science

Eoghan holds the position of Project Ecologist/Ornithologist within TOBIN's Environment and Planning Division. He has an honours degree in Environmental Science from Atlantic Technological University and is currently pursuing a postgraduate diploma in GIS from University College Cork. He undertook the multidisciplinary surveys for this biodiversity chapter including aquatic surveys, marsh fritillary surveys, invasive species surveys. Eoghan has four years' experience in the environmental sector and has conducted National Ornithological surveys for Chough, Curlew and Red Grouse as well as being part of Ornithological impact assessment surveys for large-scale developments including wind farms, flood relief schemes and housing developments.

Áine Sands BSc (Hons) Applied Ecology

The ecology lead for this project was Áine Sands BSc. (Hons). Áine is a Principal Ecologist with TOBIN. Áine has over ten years post-graduate experience in ecology and environmental consultancy and has predominantly been involved in large renewable energy projects such as wind farms, solar farms and hydrogen production plants. Within her role, Áine has carried out numerous Screenings for Appropriate Assessments, Natura Impact Statements and Ecological Impact Assessments for a variety of projects. Áine also has a strong understanding of National and European legislation associated with biodiversity and is cognisant of relevant rulings by the Court of Justice of the European Union (CJEU). Importantly, Áine has experience with undertaking ecological surveys for protected habitats and species and is able to collect robust data from these surveys.

2.3.2 Third Party Specialists

Third party consultancies were contracted to conduct specialist surveys. Aquafact conducted aquatic macroinvertebrate surveys and compiled the associated report. The Aquafact survey team was comprised Kevin Mc Caffrey and Brendan O'Connor. Aztec Management Consultants carried out the electrofishing surveys and compiled the associated report. The team was led by Martin O'Farrell with assistance provided by Eddie McCormack BSc Marine Science, PhD Zoology and Ross Macklin BSc, PhD. Fisheries Ecology. AECOM carried out the Annex I habitat condition assessments within the proposed Wind Farm Site, details of their findings are outlined



in a baseline report with reporting and surveying conducted by Nick Dadds. The ornithology assessment was completed to inform the ornithology chapter of the EIAR accompanying this application and has informed this AASR where relevant was undertaken by Johnathon Dunn and Duncan Watson of SLR.

Kevin Mc Caffrey BSc. Biology, MSc Environmental Sustainability

Kevin holds a BSc. in applied freshwater and marine biology and a M.Sc. in environmental sustainability from UCD. He is experienced in the taxonomic identification of aquatic flora and fauna, measurements of the physical and chemical aspects of marine and freshwater environments. Kevin is also proficient in data analysis, using Excel and Minitab, as well as mapping data using QGIS and MapInfo. One of Kevin's main roles in Aquafact has been as an onsite ecologist, this has included regular water sampling, fish surveys and monitoring of ongoing works. He has conducted multiple surveys on first and second order streams throughout Ireland since 2012 using Q-value scheme and SSRS. Kevin has been involved in the training of members of multiple County Councils and private sector companies in identification of macro invertebrates and freshwater sampling to a level sufficient to perform SSRS assessments.

Dr. Brendan O'Connor PhD. Zoology

Brendan O'Connor is an expert in ecological matters and the full spectrum of environmental assessment techniques, methodologies and statutes. Professionally, he is a member of relevant institutes requiring the highest standards of professional competence and integrity. He is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

Brendan has 40 years of experience in the field of marine science and has published c. 75 scientific papers and numerous reports specialising in the biology and ecology of sea-floor communities. Brendan is an internationally recognised polychaete taxonomist and has led numerous international workshops in polychaete taxonomy including workshops as part of the UK BEQUALM/NMBAQC. He has over 90 publications on marine invertebrate taxa including descriptions of new species, revisions of families and additions to the European and Irish fauna.

As Managing Director of Aquafact Brendan has been responsible for all aspects of management including the design, execution and reporting of numerous desk studies, surveys, assessments and environmental outputs including NIS, AA screening and EIARs.

Martin O'Farrell BSc., Ph.D. Fisheries Management

Martin was team leader, lead surveyor and author of the electrofishing surveys conducted by Aztec Management Consultancy. Martin completed his undergraduate studies at NUI Galway (B.Sc. (Hons) in Zoology and also carried out research of the feeding ecology of fish populations in the Clare River system for his Ph.D degree which was also completed at NUI Galway. He held a post-doctoral fellowship at the Zoology Department, Trinity College, Dublin for a three-year period during the 1980s. During this decade he also worked as a Scientific Officer for the then Central Fisheries Board, carrying out fisheries management related research on Atlantic salmon and sea trout on the River Erriff and other west of Ireland catchments.

He commenced his fisheries consultancy business in 1985 and during the past three decades or so has been involved in the assessment of fisheries management issues on industrial rivers fuelling hydroelectric generating stations and supplying cooling water for thermal electricity



generating stations in Ireland, UK, Switzerland, France, Norway, Sweden, Russia and the USA. These issues have included assessment of turbine passage survival, assessment of fish species life stage migration patterns through the deployment of fish census technology, mitigation measures involving selected generating protocols and hatchery operations and the design and installation of fish deterrent technologies to improve upstream and downstream passage of migratory fish species life stages through and around obstacles in the path of their migrations.

Eddie McCormack BSc. Marine Science, PhD Zoology

Eddie McCormack assisted Martin O'Farrell during the electrofishing field surveys. He is Associate Director of Aquafact, with over 20 years taxonomic experience. He received his BSc. in Marine Science and his PhD in Zoology both from NUI Galway. He specialises in marine and freshwater invertebrate taxonomy, subtidal and intertidal sampling, Environmental Impact Assessment Reports (EIAR), Natura Impact Statement (NIS), statistical analysis, assessing the impacts of human activity on the benthos.

Eddie is a taxonomist with over 20 years' experience. His taxonomic experience is wide ranging and includes Crustacea, Polychaetes, Mollusca, Echinoderms and other minor taxa of subtidal macrofauna. In addition, he has extensive experience in the taxonomy and identification of meiofauna (especially Crustacea and Nematoda), deep sea invertebrates, zooplankton and freshwater macroinvertebrates. He has developed and delivered training workshops on the identification of marine invertebrates. He is responsible for conducting training courses in SSRS (Small Streams Risk Score) – an EPA developed programme to train freshwater surveyors in a biological risk assessment system designed to assist in the identification of diffuse sources of pollution in support of the Water Framework Directive.

Eddie has experience working on a wide variety of projects e.g. Annex I habitat monitoring and reporting, aquaculture, dredging, disposal at sea, seaweed harvesting, harbour/pier extensions, undersea cable and pipeline crossings. He has worked for the Aquaculture Licence Appeal Board (ALAB) as a technical advisor on a number of separate appeal cases, including oral hearing.

Ross Macklin BSc., PhD. Fisheries Ecology

Ross Macklin assisted Martin O'Farrell during the electrofishing surveys. He founded Triturus Environmental Ltd. in Co. Cork. Ross is an environmental scientist who specialises in freshwater and fisheries ecology, in addition to informing engineering solutions for construction works on rivers, including site improvement and rehabilitation. He has fifteen years professional experience and holds a BSc PhD Fisheries Ecology.

Nick Dadds BSc. (Hons) MCIEEM

Nick Dadds conducted the Annex I habitat condition assessment surveys and wrote the associated baseline report. He is a Principal ecologist AECOM, with over 23 years' experience. His expertise is in ecological impact assessment, protected species and National Vegetation Classification (NVC). Projects he has been involved with range from largescale infrastructure and energy schemes (including wind farms, pipelines, power lines, transport projects and masterplan schemes) to conservation-related projects (including commissioned work for Scottish Natural Heritage). He is a full member with the Chartered Institute of Ecologists and Environmental Management.



Jonathon Dunn MCIEEM, PhD, MSc and MA (Cantab.)

The ornithology report was prepared by Jonathon Dunn MCIEEM, PhD, MSc and MA (Cantab.). Jonathon is an Associate Ornithologist at SLR with over 11 years' professional experience and has worked on multiple consented and proposed wind farm projects in Ireland. He has undertaken and designed bird survey programmes for a large volume of onshore wind farms in Ireland, and has written multiple EIAR biodiversity and ornithology chapters, Natura Impact Statements and biodiversity management plans. Jonathon also has undertaken training in collision risk modelling delivered by CIEEM and has implemented and written multiple modelling reports to support planning applications.

Duncan Watson CEnv MCIEEM MSc BSc (Hons).

This ornithology report has been reviewed by Duncan Watson CEnv MCIEEM MSc BSc (Hons). Duncan is a Technical Director at SLR with over 27 years' professional ecological and ornithological experience. He has particular experience in the renewable energy sector having played a key role in the EIAs for over 90 onshore wind farms across the UK and Ireland. Duncan has a particular interest in Ecological Impact Assessment and was a member of the technical review group responsible for revising and updating the CIEEM Guidelines for Ecological Impact Assessment in the UK (published in 2018). He has also led CIEEM workshops on Ecological Impact Assessment and Habitats Regulations Assessment.



3. DESKTOP AND FIELD SURVEY RESULTS

3.1 AQUATIC ENVIRONMENT

Hydrologically, the proposed Wind Farm Site is located within the Water Framework Directive (WFD) Catchments, Sligo Bay (WFD code: 35) and Erne (36) while the proposed GCR lies within Sligo Bay (35) WFD Catchment. The proposed TDR passes through Donegal Bay North (37), Erne (36), and Sligo Bay (35) WFD Catchments. A WFD Assessment report has been produced (EIAR Chapter 8- Hydrology & Hydrogeology, Appendix 8-1 WFD Compliance Report).

3.1.1 Inland Fisheries Ireland

A desktop review of the Inland Fisheries Ireland's National Research Survey Programme (NRSP) and Water Framework Directive (WFD) Rivers, Lakes, and Transitional and Coastal Water (TRAC) sampling programme was carried out to identify fisheries data within the ZoI for the proposed Wind Farm Site, GCR and TDR.

The only data point within the ZoI of the Proposed Project was located within the Bonet_050 (IE_WE_35B060630) and recorded the following species as present; European eel (*Anguilla anguilla*), gudgeon (*Gobio gobio*), lamprey species, minnow (*Phoxinus phoxinus*), perch (*Perca fluviatilis*), Atlantic salmon (*Salmo salar*), stone loach (*Barbatula barbatula*), three spined stickle back (*Gasterosteus aculeatus*) and brown trout (*Salmo trutta*).

3.1.2 Surface Water

3.1.2.1 Proposed Wind Farm Site and GCR

A thorough review of the baseline aquatic environment is provided in Chapter 8 – Hydrology and Hydrogeology (Section 8.3) as well as an assessment of potential impacts and a description of the proposed mitigation measures. In addition, an assessment of compliance with the Water Framework Directive determines the Proposed Project is in compliance with the objectives of the WFD (Appendix 5: EIAR Chapter 8 - Hydrology and Hydrogeology, see Appendix 8-1 Water Framework Directive Compliance Assessment)

Hydrologically, the proposed Wind Farm Site is located within the Sligo Bay (35) and Erne (36) WFD Catchments, while the proposed GCR lies within Sligo Bay (35) WFD Catchment.

The proposed Wind Farm Site drains into five WFD river waterbodies (Brackary_010; Cornavannoge_010; Lattone_010; Owenmore (Manorhamilton)_020; and Rosfriar_010). All of these river waterbodies have achieved their WFD objectives during the monitoring period 2019-2024 (i.e. minimum of *Good* water quality status (Table 4). These river water bodies form the initial extent of a hydrological pathway that includes a total of 20 WFD river water bodies (Table 4).

The proposed GCR intersects, or runs in the immediate vicinity of, 11 WFD river water bodies, consisting of the Brackary_010, and the Owenmore (Manorhamilton)_020 as mentioned above as well as the Bonet_030; Bonet_040; Bonet_050; Cashel Stream (Bonet)_010; Killanumery_010; Killanumery_020; Shanvaus_10; and, Unshin_040 (Table 4). Similarly to the previous group, all of these river water bodies achieved their WFD objectives during the monitoring period 2019-2024.



The hydrological pathway from the proposed Wind Farm Site also includes three WFD lake water bodies which are downstream of the Proposed Project: Melvin, Macnean Upper, Gill SO, (Table 4). All three lakes received a *moderate* score for ecological status or potential.

The hydrological pathway from the Proposed Project terminates at two WFD transitional water bodies: Ballysadare Estuary and Garavoge Estuary. The ecological status of these estuaries is valued as *moderate*.

It should be noted that, the Garavogue_010 WFD river water body has been mapped as to include the Garavogue EPA stream (EPA code: 35G01), which flows downstream into the Gill SO WFD lake waterbody, ultimately discharging into the Garavoge Estuary. Following the criteria set in Section 4.1.1, as Gill SO WFD constitutes an intervening depositional water body, the Garavoge Estuary WFD transitional water body is not included in the hydrological pathway from the Proposed Project.

3.1.2.2 Proposed TDR

The proposed TDR passes through the following WFD Catchments, Donegal Bay North (37), Erne (36), and Sligo Bay (35).

Of these 57 POIs along the TDR, proposed accommodations include the clearance of topsoil within 50m of watercourses at a total of nine POIs, consisting of POI 13, 21, 22, 25, 50, 51, 52, 53, 55 (Figure 2). This constitutes a potential pathway for likely significant effects.

The recent EPA water quality for these WFD waterbodies is listed in Table 5.

3.1.3 Groundwater

3.1.3.1 Proposed Wind Farm Site

In terms of hydrogeology, the proposed Wind Farm Site extends over seven WFD groundwaterbodies (GWB), such as: Glenaniff (IE_NW_G_043); Glencar (IE_WE_G_0060); Glenfarne (IE_NW_G_042); Kilcoo (IEGBNI_NW_G_017); Kiltyclogher (IE_NW_G_074); Killarga (IE_WE_G_0055); and, Killarga South (IE_WE_G_0056). Four of these GWBs have karstic aquifers, consisting of Glenaniff, Glencar, Kilcoo, and Killarga South.

Works along the GCR and accommodations along the TDR are not expected to impact GWBs.

Glenaniff GWB is a karstified aquifer. Here the groundwater flow is considered to be predominantly unconfined, with flow paths typically in the order of approximately 100–300m but on occasion the flow path lengths extending over several kilometres (GSI, 2025a). The Glenaniff GWB encompasses T3 within the proposed Wind Farm Site.

Karstification is extensive throughout the Glencar GWB, with swallow holes, enclosed depressions, and cave systems recorded locally. General flow within this GWB will be towards the rivers and lakes, but the karstified nature of the bedrock provides for highly variable groundwater flow directions (GSI, 2025b). Within the proposed Wind Farm Site the Glencar GWB encompasses T11, the substation location and the construction compound, both to the south-west of T11.

There is no publicly available description from GSI for the Kilcoo GWB. However, the GSI Spatial Resources (DCENR, 2025) projects a karstified aquifer present within the area occupying the Kilcoo GWB. Groundwater flow directions within this type of aquifers can be highly variable,



with the possibility of flow path lengths extending to several kilometres in length. The infrastructure for the proposed Wind Farm Site located within the Kilcoo GWB is T1 and T4.

Killarga South GWB encompasses the proposed location for T2, T6, T5, T7, T8, T10, T13 and T14 as well as the borrow pits to the north and south of the proposed Wind Farm Site. Karstification is evident from four caves located in the northern side of the GWB, and this is considered representative of a fraction of existing features (GSI, 2004). General flow directions are likely to be across the GWB toward the river Bonnet (GSI, 2004).

3.1.3.2 Proposed TDR and GCR

The GWBs bodies over which the proposed accommodations along the TDR and GCR are situated are considered outside of the ZoI for the Proposed Project as proposed accommodations are minor and therefore there is no potential for likely significant effects on these GWBs.



Table 4: WFD Waterbodies Draining the Survey Area of the Proposed Wind Farm Site and GCR and the EPA 2019-2024 Water Quality Status

Water Body Name	WFD Reference	WFD Water Quality Status	Assessment Technique	Status Confidence	Limiting Element
Ballysodare_010	IE_WE_35B050100	Poor	Monitoring	Medium confidence	Other Aquatic Flora Status or Potential Phytobenthos Status or Potential
Ballysadare Estuary	IE_WE_460_0300	Moderate	Monitoring	High confidence	Phytoplankton Status or Potential Supporting Chemistry Conditions Specific Pollutant Conditions
Bonet_030	IE_WE_35B060200	Good	Monitoring	High confidence	-
Bonet_040	IE_WE_35B060400	Good	Monitoring	High confidence	-
Bonet_050	IE_WE_35B060630	Good	Monitoring	Medium confidence	-
Brackary_010	IE_WE_35B100500	Good	Monitoring	High confidence	-
Cashel Stream (Bonet)_010	IE_WE_35C031000	Good	Monitoring	High confidence	-
Cornavannoge_010	IE_NW_36C040400	High	Monitoring	High confidence	-
Cornavannoge_020	IE_NW_36C040600	High	Monitoring	High confidence	-
County River (Carran West)	UKGBNI1NW353504075	Good	Monitoring	No information or unknown	-
Garavoge Estuary	IE_WE_470_0100	Poor	Monitoring	High confidence	Phytoplankton Status Macroalgae status
Garavogue_010	IE_WE_35G010200	Poor	Monitoring	Medium confidence	Invertebrate Status or Potential



Water Body Name	WFD Reference	WFD Water Quality Status	Assessment Technique	Status Confidence	Limiting Element
Gill SO	IE_WE_35_158	Moderate	Monitoring	High confidence	Macrophyte status or Potential Fish status or Potential
Killanumery_010	IE_WE_35K030600	Moderate	Monitoring	High confidence	Biological Status or Potential Chemical water status
Killanumery_020	IE_WE_35K030900	Good	Monitoring	High confidence	-
Lattone_010	IE_NW_35L660960	Good	Modelling	Medium confidence	-
Melvin (Freshwater lough)	IE_NW_35_160	Moderate	Monitoring	High confidence	Macrophyte Status or Potential Fish Status or Potential Supporting Chemistry Conditions General Conditions Nutrient Conditions Phosphorous Conditions Total phosphorous
Macnean Upper	IE_NW_36_673	Moderate	Monitoring	High confidence	-
Owenmore (Manorhamilton)_020	IE_WE_35O080400	Good	Monitoring	High confidence	-
Owenmore (Sligo)_080	IE_WE_35O060900	Moderate	Monitoring	Medium confidence	Other Aquatic Flora Status or Potential Phytobenthos Status or Potential Invertebrate Status or Potential
Rosfriar_010	IE_NW_35R320460	Good	Modelling	Medium confidence	-
Shanvaus_010	IE_WE_35S011100	Good	Monitoring	High confidence	-

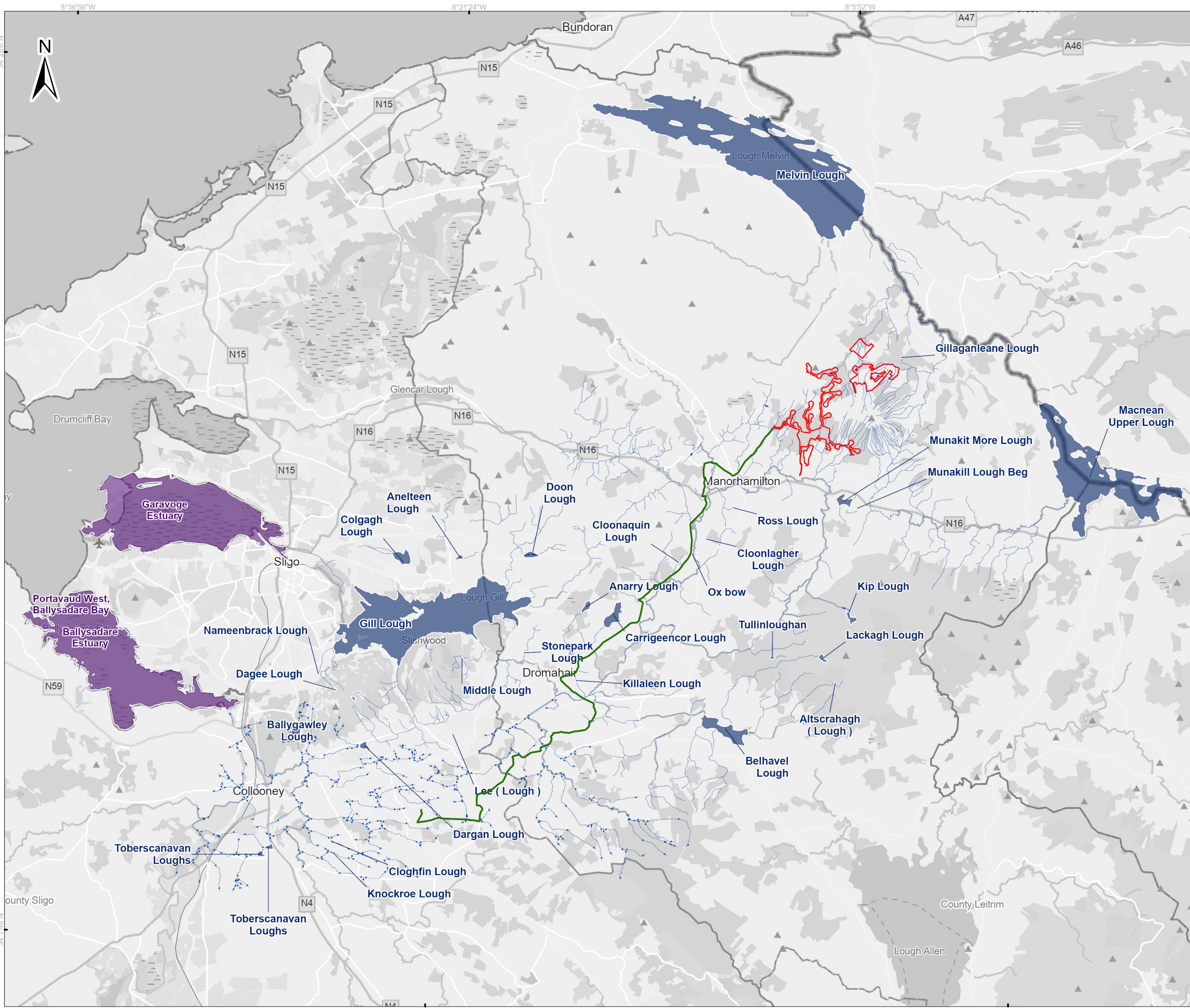


Water Body Name	WFD Reference	WFD Water Quality Status	Assessment Technique	Status Confidence	Limiting Element
Unshin_040	IE_WE_35U010500	High	Monitoring	High confidence	-
Unshin_050	IE_WE_35U010600	High	Monitoring	High confidence	-

Table 5: WFD Water Bodies hydrologically connected to the TDR with the 2019-2024 EPA water quality status

Water Body Name	WFD Reference	WFD Water Quality Status	Assessment Technique	Status Confidence	Limiting Element
Abbey_010	IE_NW_36A010300	Good	Modelling	Low	-
Bradoge_020	IE_NW_35B070200	Good	Monitoring	High	-
Clarcarricknagun_010	IE_NW_37C240980	Good	Modelling	Low	-
Cregg 35_010	IE_WE_30C030150	Poor	Monitoring	Medium	Biological Status or Potential
Drowes_010	UKGBNI1NW353504082	Good	Monitoring	High	-
Drumcliff_020	IE_WE_35D040400	Good	Monitoring	High	-
Garavogue_010	IE_WE_35G010200	Poor	Monitoring	Medium	Invertebrate Status or Potential
Glencar	IE_WE_35_139	Moderate	Monitoring	High	Other Aquatic Flora Status or Potential
Willsborough Stream_010	IE_WE_35W010300	Moderate	Monitoring	High	Biological Status or Potential





- Legend**
- proposed Wind Farm Site
 - Grid Connection Route
 - WFD - River Water Bodies
 - WFD - Lake Water Bodies
 - WFD - Transitional Water Bodies



Spatial Reference
 Datum: IRENET95
 EPSG: 2157

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Rev	Date	Description	By	Chkd.
A	19/02/2026	First issue	S.P	S.R

Client:

Project:
 Lissinagroagh Wind Farm

Title:
 Figure 4:
 Water Framework Directive Waterbodies
 and proposed Wind Farm Site
 and Grid Connection Route

Scale @ A3: 1:150,000

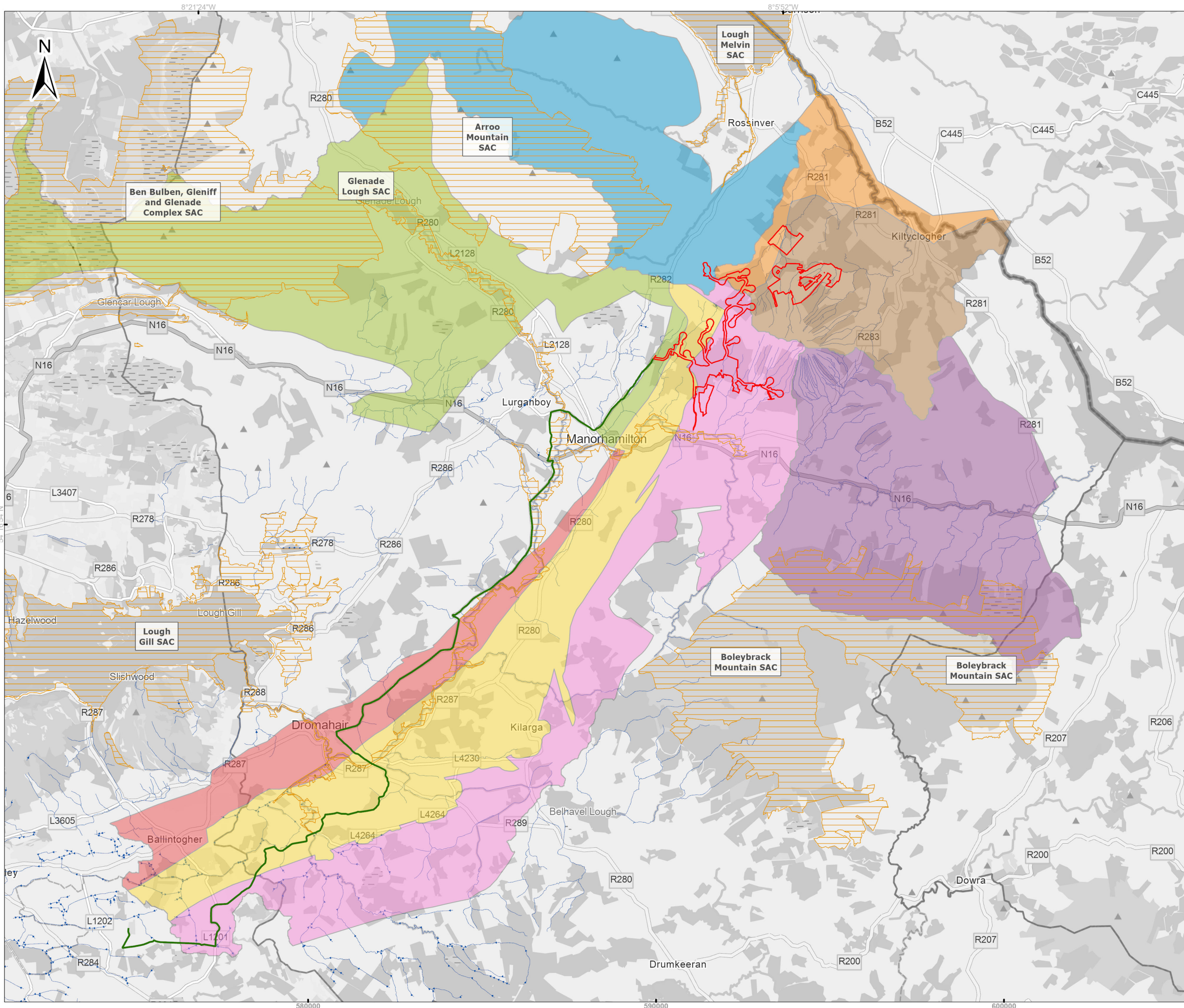
Prepared by: S.Pezzetta Checked by: S.Ryan Date: February 2026

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Map Ref: 10955-004.AA-WFD-Zol-TOB-A Draft: A



Legend

- proposed Wind Farm Site
- Grid Connection Route
- Special Areas of Conservation (SACs)
- + WFD - River Water Bodies
- WFD - Groundwater Bodies
- Ballintougher
- Glenaniff
- Glencar
- Glenfarne
- Kilcoo
- Killarga
- Killarga South
- Kiltyclogher

0 2 4
Kilometers

Spatial Reference		Copyrights:	
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		Community Maps contributors, Map layer	
A	19/02/2026	First issue	S.P S.R
Rev	Date	Description	By Chkd.

Client:

Project:

Lissinagroagh Wind Farm

Title:

Figure 5:
Survey Area for the
proposed Wind Farm Site
with ground water bodies
and Special Areas of Conservation

Scale @ A3: 1:100,000

Prepared by: S.Pezzetta Checked by: S.Ryan Date: February 2026

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Map Ref: 10955-005.AA-EU.S-GWB-TOB-A Draft: **A**

3.2 FAUNA

3.2.1 Aquatic Species

3.2.1.1 *European otter*

A review of the NBDC data records from the past ten years, indicated that European otter or evidence of European otter has previously been recorded along the proposed GCR and downstream of the proposed Wind Farm Site (Table 6). One record of tracks/signs exist 1km south-east of the GCR (G83) within the Owenmore_020, which includes the majority of the watercourses draining the southern extent of the Wind Farm Site. European otter has also been sighted c. 770m north of the GCR (G82), with the closest river waterbody being the Killanummery_020 (NBDC, 2025). European otter is present in the County River (Carran West) which discharges into Lough Melvin. European otter is a QI species for Lough Melvin SAC.

No signs of European otter (which included, tracks, slides, spraints, holts/resting sites) were identified during the field surveys conducted within the Survey Area for the proposed Wind Farm Site. The watercourses present within the proposed Wind Farm Site are relatively small and high gradient upland streams that would not be considered likely to be important potential habitat for European otter.

Field surveys have confirmed European otter activity at Aquatic Site 14, 15, 17, 19 and 22 along the proposed GCR (Appendix 3: Aquatic Baseline Report). Aquatic Site 15, 17 and 19 are within Lough Gill SAC.

A spraint site was identified under the bridge over the Shanvaus 35 (EPA 35S01, WFD Shanvaus_010), at Aquatic Site 17 with more than 25 spraints were identified (Appendix 3: Aquatic Baseline Report, see Section 4.1.4.1.1). European otters are known to establish spraint sites under bridges to communicate territory (Reid et al. 2013).

Four scats were identified at Aquatic Site 15 over a 75m area along the banks of the Bonet (EPA: 35B06, WFD Bonet_030). This confirms European otter activity along the watercourse. Aquatic Site 15 corresponds to proposed HDD Site 1.

A scat was also identified along the Boihy (EPA 35B76, WFD Bonet_040) at Aquatic Site 19.

A spraint and crayfish remains were identified at Aquatic Site 22 where HDD Site 2 is proposed, confirming otter activity at this location.

3.2.1.2 *Atlantic Salmon*

Atlantic salmon is listed in Annex II and Annex V of the EU Habitats Directive.

Aquatic Site 1 and 2 within the proposed Wind Farm Site were not suitable for salmon but the 2021 electrofishing survey (Appendix 3: Aquatic Baseline Report) recorded salmon on the Lattone 35 River approximately 4km downstream of Aquatic Site 1 and 2. At Aquatic Sites 6, 8, 10 within the proposed Wind Farm Site show high to good salmonid spawning and holding habitat was recorded. At Aquatic Site 8 salmonids were visually observed and the water quality was suitable (Q4 - good) (Appendix 3: Aquatic Baseline Report).

Along the proposed GCR, Aquatic Sites 15 (HDD Site 1), 17 and 24 showed high suitability for salmon (suitable riffle, glide, pool and gravel habitat), and which lie within the Lough Gill SAC. At



Aquatic Site 15 one parr and one fry were caught during kick net sampling. Similarly, at Aquatic Site 22 and 27 along the southern extent of the proposed GCR but outside the boundaries of the SAC show high habitat suitability for Atlantic salmon (Appendix 3: Aquatic Baseline Report). Aquatic Site 22 is the location of the proposed HDD Site 2.

3.2.1.3 White Clawed Crayfish

White-clawed crayfish is listed in Annex II and Annex V of the EU Habitats Directive. The species is a QI of Lough Gill SAC.

White-clawed crayfish suitability is mainly determined by the presence of suitable refugia (rocks, boulders, concrete structures like bridges, soft sediment banks to burrow into and instream root structures) and habitat typically related to shallow gradient lower altitude rivers and streams.

Nearly all Aquatic Sites surveyed comprised suitable refuges for crayfish with the exception of Aquatic Sites 12, 16, 18, 25 and 26 located along the proposed GCR. Sites where crayfish (remains) were positively identified included Aquatic Site 14, 15 (HDD Site 1), 17, 19 and 21. It is important to note, Aquatic Site 15, 17 and 19 are located within Lough Gill SAC. Crayfish were confirmed present by hand search, caught during kick sampling or by identification in European otter spraints (Appendix 3: Aquatic Baseline Report).

3.2.1.4 Lamprey spp.

Lamprey spp. is listed in Annex II (and Annex V – river lamprey) of the EU Habitats Directive. brook Lamprey, river lamprey and Sea Lamprey are QI of Lough Gill SAC.

Lamprey suitability is mainly determined by the present of marginal soft sediment habitat typically related to shallow gradient lower altitude rivers and streams. This soft sediment habitat is where juvenile lamprey (ammocoetes) burrow and these juveniles are typically not identifiable to species level in the field. Their spawning habitat would be similar to salmonids.

Within the Survey Area of the proposed Wind Farm Site habitat suitability for lamprey spp. was negligible at Aquatic Site 12, moderate at Aquatic Site 8 and 9 where suitable spawning gravels and soft sediment was observed and low at all remaining sites within the Survey Area of the proposed Wind Farm Site, which is likely less suitable due to the upland nature and ephemeral water levels of these streams.

Along the Survey Area of the proposed GCR, at Aquatic Site 17, 19, 21 and 22 (HDD Site 2) there was good to high suitability for lamprey spp. and a single lamprey ammocoete was captured at Aquatic Site 21 during kick sampling. Notably, Aquatic Site 17, 19 and 22 (HDD Site 2) are located within Lough Gill SAC for which all lamprey species are a QI.

3.2.1.5 Inland Fisheries Ireland

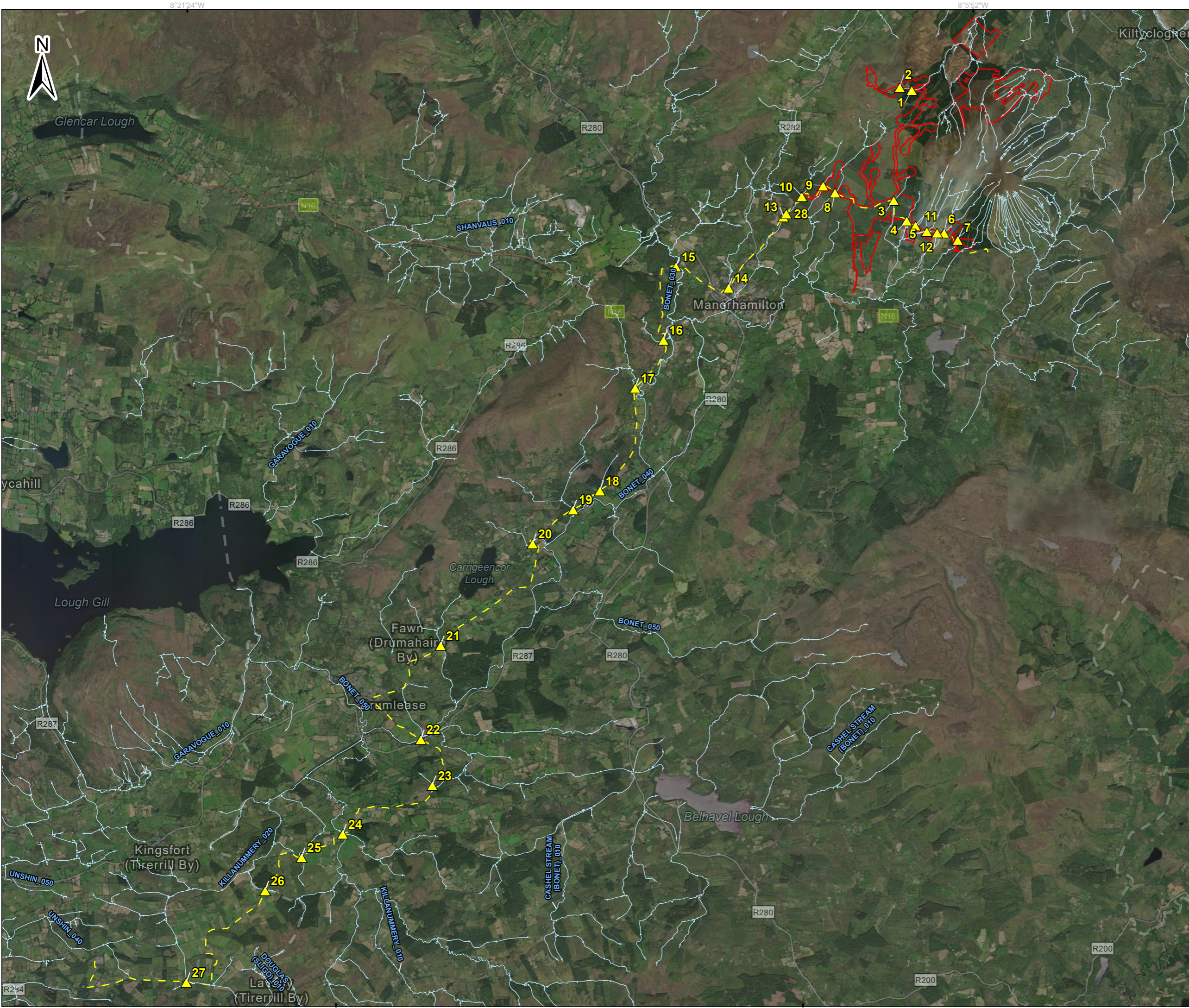
A desktop review of IFI data was carried out to identify fisheries data within the Zol of the Proposed Project, inclusive of the proposed Wind Farm Site and GCR.

The data showed the following Annex II species present within the River Bonet (35B06, Bonet_050); lamprey species (unidentified), and Atlantic salmon. Similarly, lamprey species and Atlantic salmon were identified within the River Ballysadare (35B05, Ballysodare_10).

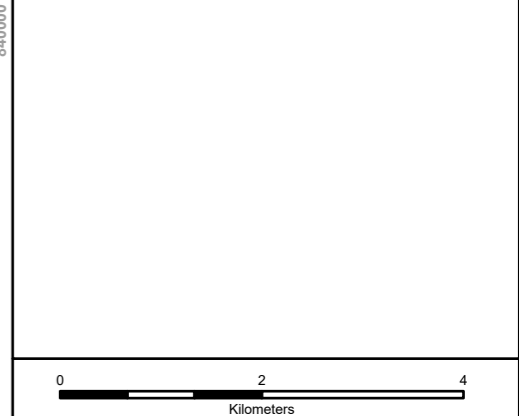


No other waterbodies within the ZOI of the Proposed Project have been assessed for fish stock data by Inland Fisheries Ireland.





- Legend**
- proposed Wind Farm Site
 - Grid Connection Route
 - ▲ Aquatic Survey Locations
 - WFD - River Water Bodies



Spatial Reference		Copyrights:	
Datum: IRENET95 EPSG: 2157		Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community,	
A	19/02/2026	First issue	S.P S.R
Rev	Date	Description	By Chkd.

Client: **FuturEnergy Ireland**

Project: **Lissinagroagh Wind Farm**

Title: **Figure 6:
Aquatic Sites surveyed for the
proposed Wind Farm Site
and Grid Connection Route**

Scale @ A3: 1:75,000

Prepared by: S.Pezzetta Checked by: S.Ryan Date: February 2026

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Map Ref: 10955-006.AA-Aq..SURV.L.P.App.BO-TOB-A Draft: **A**

Table 6: Protected Species Under Annex II of the Habitats Directive recorded within 10km of the proposed Wind Farm Site since 2016 in the Republic of Ireland (Source: NBDC, 2025)

Hectad	Species name	Date of last record	Designation	Location of Feature
G72, G94	Marsh Fritillary (<i>Euphydryas aurinia</i>)	22/09/2024	Annex II Habitats Directive	<p>Proposed GCR:</p> <ul style="list-style-type: none"> The species was identified at select locations within the 10km grid square G72, within the 1km grid square G7826 <p>Proposed Wind Farm Site:</p> <ul style="list-style-type: none"> 182 records for the species exist within the 10km grid square G94 which overlays the proposed Wind Farm Site.
G82	European otter (<i>Lutra lutra</i>)	19/01/2023	Annex II Habitats Directive	<p>Proposed GCR:</p> <ul style="list-style-type: none"> The species was identified at select locations within the 10km grid square G82, within the 1km grid square G8029.
G83	White-clawed Crayfish (<i>Austropotamobius pallipes</i>)	03/10/2018	Annex II Habitats Directive	<p>Proposed GCR:</p> <ul style="list-style-type: none"> The species was identified at select locations within the 10km grid square G83, within the 1km grid squares G8030, G8130, G8230 and G8637.

Table 7: Species listed on Annex I and Annex II of the Habitats Directive located in Northern Ireland within 10km of the proposed Wind Farm Site in since 2016 (Source: CEDaR, 2026)

Hectad	Species name	Date of last record	Designation	Location of Feature
G95, H04	European Otter (<i>Lutra lutra</i>)	09/10/2024 (G95)	Annex II Habitats Directive	County Bridge, County River, S of Garrison; Black River; Lattone Bridge, Lattone tributary; Rosskit Island, Lough Melvin; Drumkeenagh shore, Lough Macnean Upper



3.2.2 Birds

3.2.2.1 Desk Study

A review of the NBDC database (NBDC, 2025) was conducted for Annex I bird species and SCI migratory species within the 10 km hectad encompassing the Survey Area for the proposed Wind Farm Site (Table 8). A review of Annex I bird species and SCI migratory species within 1km of the proposed GCR was undertaken (Table 8).

A review of the NBDC database (NBDC, 2025) was undertaken to identify bird species of Special Conservation Interest (SCI) associated with the national SPA network, including Annex I species and regularly occurring migratory species, recorded within the 10 km hectad G94, which encompasses the Survey Area for the proposed Wind Farm Site. A similar review was undertaken within 1km of the proposed GCR was undertaken. Results are presented in (Table 8).

The Centre for Environmental Data and Recording (CEDaR) database was also reviewed for SCI species recorded within Northern Ireland and within 10km of the proposed Wind Farm Site (inclusive of the hectads G94, G95, H04). The results are summarised in Table 9.

Table 8: Species listed on Annex I of the Birds Directive recorded within 10km of the proposed Wind Farm Site and 1km of the GCR since 2016 in the Republic of Ireland (Source: NBDC, 2025)

Hectad	Species name	Date of last record	Designation	Location of Feature
G72, G82, G83, G93, G94	Whooper Swan (<i>Cygnus cygnus</i>)	21/12/2022	Annex I Birds Directive	<p>Proposed GCR:</p> <ul style="list-style-type: none"> • One recent record of the species overlays the 10km grid square G72, including the relevant 1km grid squares. • Recent records for the species overlay the 10km grid square G83, with additional records in the 1km grid squares: G81230, G8132 and G8839. <p>Proposed Wind Farm Site:</p> <ul style="list-style-type: none"> • Recent records for the species exist within the 10km grid square G93, within the 1km grid square G9845, 4km to the east of the red line boundary at the nearest distance.
G94	Golden Plover (<i>Pluvialis apricaria</i>)	23/04/2021	Annex I Birds Directive	<p>Proposed Wind Farm Site:</p> <ul style="list-style-type: none"> • Recent records for the species exist Which overlay the 10km grid square at G94, and within the G9342 and G9442 1km grid square G9342
G94	Hen Harrier (<i>Circus cyaneus</i>)	12/11/2024	Annex I Birds Directive	<p>Proposed Wind Farm Site:</p> <ul style="list-style-type: none"> • Recent records of the species overlay the 10km grid square G94, consisting of the 2km grid squares G94F and G94G as well as the 1km grid squares G9340 and G9343, which intersect with the proposed Wind Farm Site



Table 9: Species listed on Annex I of the Birds Directive located in Northern Ireland within 10km of the proposed Wind Farm Site in since 2016 (Source: CEDaR, 2026)

Hectad	Species name	Date of last record	Designation	Location of Feature
Birds				
H05	Black Tern (<i>Chlidonias niger</i>)	16/09/2016	Annex I Birds Directive	Lower Lough Erne
H05	Great Northern Diver (<i>Gavia immer</i>)	25/02/2016	Annex I Birds Directive	Lower Lough Erne RSPB Islands Reserve
H05	Great White Egret (<i>Egretta alba</i>)	24/02/2017	Annex I Birds Directive	Lower Lough Erne
H05	Little Egret (<i>Egretta garzetta</i>)	01/04/2017	Annex I Birds Directive	Lower Lough Erne
G95	Osprey (<i>Pandion haliaetus</i>)	21/05/2017	Annex I Birds Directive	Lough Melvin
H05	Peregrine (<i>Falco peregrinus</i>)	20/04/2017	Annex I Birds Directive	Lower Lough Erne
H05	Smew (<i>Mergus albellus</i>)	25/02/2016	Annex I Birds Directive	Lower Lough Erne RSPB Islands Reserve
H05	White-tailed Eagle (<i>Haliaeetus albicilla</i>)	30/05/2017	Annex I Birds Directive	Lower Lough Erne



Table 10: Annex I species and regularly occurring migratory species recorded within 1 km of the proposed TDR accommodations area since 2016 (Source: NBDC, 2025)

Monad	Species name	No. of Birds	Date of last record	Designation	Location of Feature
G9278	Great Northern Diver (<i>Gavia immer</i>)	8	22/12/2024	Annex I, Amber List	Recorded within 1km of POI 48
G6742		1	20/11/2016		Recorded within 1km of POI 55
G6836		13	12/02/2023		Recorded within 1km of POI 13
G7958	Mute Swan (<i>Cygnus olor</i>)	5	01/12/2023	Amber List	Recorded within 1km of POI 53
G9278		8	20/11/2023		Recorded within 1km of POI 48
G6742		2	29/12/2024		Recorded within 1km of POI 55
G6836		26	14/08/2024		Recorded within 1km of POI 13
G7958	Redshank (<i>Tringa totanus</i>)	4	01/12/2023	Red List	Recorded within 1km of POI 53
G9278		2	22/09/2023		Recorded within 1km of POI 48
G6742		3	11/11/2024		Recorded within 1km of POI 55
G6836		11	09/02/2024		Recorded within 1km of POI 13
G9278	Ruff (<i>Calidris pugnax</i>)	1	08/09/2023	Amber List	Recorded within 1km of POI 48
G7958,	Curlew (<i>Numenius arquata</i>)	4	08/11/2019	Red List	Recorded within 1km of POI 53
G9278		14	15/09/2024		Recorded within 1km of POI 48
G6742		4	11/11/2024		Recorded within 1km of POI 55
G6836		18	09/02/2024		Recorded within 1km of POI 13
G6836	Dunlin (<i>Calidris alpina</i>)	2	18/02/2022	Red List	Recorded within 1km of POI 13
G7958	Ringed Plover (<i>Charadrius hiaticula</i>)	1	12/06/2018	Amber List	Recorded within 1km of POI 53
G7958	Common Gull (<i>Larus canus</i>)	2	13/06/2018	Amber List	Recorded within 1km of POI 53
G9278		20	27/10/2024		Recorded within 1km of POI 48
G6742		2	06/05/2023		Recorded within 1km of POI 55
G6836		20	14/04/2024		Recorded within 1km of POI 13
G7958	Common Tern (<i>Sterna hirundo</i>)	1	13/06/2018	Annex I, Amber List	Recorded within 1km of POI 53
G7958	Gannet (<i>Morus bassanus</i>)	1	13/06/2018	Amber List	Recorded within 1km of POI 53
G9278		1	18/06/2017		Recorded within 1km of POI 48
G6836	Lapwing (<i>Vanellus vanellus</i>)	1	14/10/2022	Red List	Recorded within 1km of POI 13
G7958	Herring Gull (<i>Larus argentatus</i>)	5	13/06/2018	Amber List	Recorded within 1km of POI 53



Monad	Species name	No. of Birds	Date of last record	Designation	Location of Feature
G9278		35	27/10/2024		Recorded within 1km of POI 48
G6742		5	26/10/2024		Recorded within 1km of POI 55
G6836		37	14/08/2024		Recorded within 1km of POI 13
G7958	Kittiwake (<i>Rissa tridactyla</i>)	1	13/06/2018	Red List	Recorded within 1km of POI 53
G9278		2	27/12/2019		Recorded within 1km of POI 48
G6836		5	22/11/2023		Recorded within 1km of POI 13
G7958	Lesser Black-backed Gull (<i>Larus fuscus</i>)	2	13/06/2018	Amber List	Recorded within 1km of POI 53
G9278		2	16/05/2022		Recorded within 1km of POI 48
G6742		2	06/05/2023		Recorded within 1km of POI 55
G6836		12	09/02/2024		Recorded within 1km of POI 13
G6836	Little Grebe (<i>Tachybaptus ruficollis</i>)	2	28/09/2016	Green List	Recorded within 1km of POI 13
G7958	Mallard (<i>Anas platyrhynchos</i>)	4	13/06/2018	Amber List	Recorded within 1km of POI 53
G9278		33	15/09/2024		Recorded within 1km of POI 48
G6742		6	29/12/2024		Recorded within 1km of POI 55
G6836		24	18/04/2024		Recorded within 1km of POI 13
G7958	Oystercatcher (<i>Haematopus ostralegus</i>)	4	13/06/2018	Red List	Recorded within 1km of POI 53
G9278		6	15/09/2024		Recorded within 1km of POI 48
G6742		2	06/05/2024		Recorded within 1km of POI 55
G6836		9	09/02/2024		Recorded within 1km of POI 13
G7958	Sandwich Tern (<i>Thalasseus sandvicensis</i>)	1	13/06/2018	Amber List	Recorded within 1km of POI 53
G7958	Shelduck (<i>Tadorna tadorna</i>)	1	13/06/2018	Amber List	Recorded within 1km of POI 53
G7958	Cormorant (<i>Phalacrocorax carbo</i>)	3	14/06/2018	Amber List	Recorded within 1km of POI 53
G9278		3	27/10/2024		Recorded within 1km of POI 48
G6742		4	11/11/2024		Recorded within 1km of POI 55
G6836		18	14/08/2024		Recorded within 1km of POI 13
G9278	Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	38	27/10/2024	Amber List	Recorded within 1km of POI 48
G6742		2	26/10/2024		Recorded within 1km of POI 55
G6836		3	22/11/2023		Recorded within 1km of POI 13
G6836	Black-tailed Godwit (<i>Limosa limosa</i>)	3	08/10/2016	Annex I, Red List	Recorded within 1km of POI 13



Monad	Species name	No. of Birds	Date of last record	Designation	Location of Feature
G9278	Bar-tailed Godwit (<i>Limosa lapponica</i>)	1	20/09/2023	Annex I, Red List	Recorded within 1km of POI 48
G6742		2	06/05/2024		Recorded within 1km of POI 55
G6836		5	22/11/2023		Recorded within 1km of POI 13
G9278	Black Guillemot (<i>Cephus grylle</i>)	1	18/06/2017	Amber List	Recorded within 1km of POI 48
G6836		3	22/11/2023		Recorded within 1km of POI 13
G9278	Red-breasted Merganser (<i>Mergus serrator</i>)	6	13/02/2023	Amber List	Recorded within 1km of POI 48
G6742		2	26/10/2024		Recorded within 1km of POI 55
G6836		10	12/02/2023		Recorded within 1km of POI 13
G9278	Shag (<i>Gulosus aristotelis</i>)	6	22/07/2024	Amber List	Recorded within 1km of POI 48
G6836		5	22/07/2023		Recorded within 1km of POI 13
G6742	Great Crested Grebe (<i>Podiceps cristatus</i>)	1	29/09/2016	Amber List	Recorded within 1km of POI 55
G6742	Kingfisher (<i>Alcedo atthis</i>)	2	29/12/2024	Annex I, Amber List	Recorded within 1km of POI 55
G6742	Teal (<i>Anas crecca</i>)	3	11/11/2024	Amber List	Recorded within 1km of POI 55
G6742	Wigeon (<i>Mareca penelope</i>)	3	29/12/2024	Amber List	Recorded within 1km of POI 55
G6836		8	09/02/2024		Recorded within 1km of POI 13
G6936	Shoveler (<i>Spatula clypeata</i>)	1	06/01/2025	Red List	Recorded within 1km of POI 13
G6742	Turnstone (<i>Arenaria interpres</i>)	1	29/09/2016	Amber List	Recorded within 1km of POI 55
G6741	Chough (<i>Pyrrhocorax pyrrhocorax</i>)	1	22/03/2022	Annex I, Amber List	Recorded within 1km of POI 55
G6836	Red-throated Diver (<i>Gavia stellata</i>)	4	09/02/2024	Annex I, Amber List	Recorded within 1km of POI 13
G6936	Common Scoter (<i>Melanitta nigra</i>)	1	06/01/2025	Red List	Recorded within 1km of POI 13
G6936	Coot (<i>Fulica atra</i>)	1	28/02/2024	Amber List	Recorded within 1km of POI 13



3.2.2.2 Field Surveys

Eight bird species listed in Annex I of the EU Birds Directive (2009/147/EC) which were recorded during the ornithology surveys are presented in Appendix 6: EIAR Chapter 6 - Ornithology, namely;

- European golden plover (*Pluvialis apricaria*);
- Golden eagle (*Aquila chrysaetos*);
- Hen harrier (*Circus cyaneus*);
- Merlin (*Falco columbarius*);
- Peregrine (*Falco peregrinus*);
- Osprey (*Pandion haliaetus*);
- White-tailed eagle (*Haliaeetus albicilla*),
- Whooper swan (*Cygnus cygnus*).

3.2.2.2.1 European golden plover

The peak count was 100 birds during non-breeding season 2021/2022, which is <1% of the Republic of Ireland non-breeding population (Appendix 6: EIAR Chapter 6 - Ornithology). Observations included one and twelve observations made in the non-breeding season 2020/2021 and non-breeding season 2021/2022 respectively, across all survey types combined. There were also four, four, three and two observations in the breeding season 2021, breeding season 2022, breeding season 2024 and breeding season 2025, respectively. On average, there were c.7 and c.3 observations in the non-breeding and breeding seasons, respectively, although most observations occurred during spring and autumn migratory periods. No confirmed breeding (presence in the breeding season was limited to the migratory periods only) or non-breeding site usage. All golden plover recorded on the proposed Wind Farm Site were migratory birds only.

3.2.2.2.2 Golden eagle

The peak count of 1 bird in the non-breeding season represents >1% of the Republic of Ireland population (Appendix 6: EIAR Chapter 6 - Ornithology), but this reflects the small national population rather than any ecological value of the site. Only one observation of an immature bird was made across the entire study period in the non-breeding season 2020/2021 season, circling over conifer plantation before flying away. As only a single, immature bird was recorded once in six seasons of surveys, there is no evidence of regular, functional site usage by breeding or roosting birds in any survey season.

3.2.2.2.3 Hen harrier

Surveys recorded regular breeding activity associated with the Leitrim Uplands non-designated Important Breeding Area, with up to two breeding pairs present in most years and occasional evidence of a third pair in the wider area. Nest locations varied between years, and all confirmed nests during the last four seasons were beyond the boundaries of the proposed Wind Farm Site. The number of breeding pairs recorded represents >1% of the national breeding population (Appendix 6: EIAR Chapter 6 - Ornithology).



Breeding-season activity was consistently high (mean c.124 observations across breeding season 2021–breeding season 2025). Non-breeding activity was low (mean c.14 observations across non-breeding season 2020/21 and non-breeding season 2021/2022 seasons), and the non-breeding peak count was <1% of the national population (Appendix 6: EIAR Chapter 6 - Ornithology). No winter roosts were identified on or near the proposed Wind Farm Site but still likely some functional usage by foraging birds.

3.2.2.2.4 Merlin

Peak count of 1 bird in both breeding and non-breeding seasons represents <1% of the Republic of Ireland population (Appendix 6: EIAR Chapter 6 - Ornithology). Flight activity levels are very low throughout the study period. Recorded once during non-breeding season 2020/2021 across all survey types combined; and twice in the breeding season 2021, once in the breeding season 2022, three times in the breeding season 2023, 10 times in the breeding season 2024 and three times in the breeding season 2025, respectively i.e. an average of four observations per breeding season. Only sporadic presence and no breeding or roosting was detected, suggesting no regular, functional site usage by the species.

3.2.2.2.5 Osprey

Peak count of 1 bird in the breeding season was recorded (Appendix 6: EIAR Chapter 6 - Ornithology). No published national population estimates are available due to the recent reintroduction of the species. Recorded once in the breeding season 2024 and once in the breeding season 2025, both as non-breeding migrants.

3.2.2.2.6 Peregrine

Peak count of 1 bird in the breeding season represents considerably <1% of the Republic of Ireland population (Appendix 6: EIAR Chapter 6 - Ornithology). Flight activity levels for the species are very low throughout the study period. The species was recorded three times in the breeding season 2025 across all survey types combined. No breeding was confirmed and no regular, functional usage of the site by the species. Across all survey years, there was no indication of regular site use or breeding, and the species was assessed as an occasional visitor.

3.2.2.2.7 White-tailed eagle

Peak count of one bird represents >1% of the Republic of Ireland population (Appendix 6: EIAR Chapter 6 - Ornithology). However, this reflects the very small national population, not any ecological reliance on the site.

Only four observations of white-tailed eagle were made across the study period (all between 2023–2025), all involving immature or sub-adult individuals. Activity was very low overall. One immature bird was recorded roosting once on-site in August breeding season 2025, but no breeding, repeated roosting, territoriality, or regular foraging was identified.

This species was recorded only during breeding season surveys, likely because no non-breeding surveys have been conducted since 2021/2022, and it appears to have only recently established a presence in the area from 2022 onward



3.2.2.2.8 Whooper swan

The peak count of 30 birds represents <1% of the Republic of Ireland population, but >1% of the regional non-breeding population (Appendix 6: EIAR Chapter 6 - Ornithology).

Only three records were made during the entire survey period; all but one observation were made beyond the boundaries of the proposed Wind Farm Site. Flight activity levels were very low throughout the study period (none recorded flying over the proposed Wind Farm Site during flight activity surveys; only single flight line of 30 birds recorded flying over the proposed Wind Farm Site as incidental observation during winter walkover surveys). No roosting or foraging behaviour occurred within the proposed Wind Farm Site.

3.2.3 Invertebrates

Marsh fritillary (*Euphydryas aurinia*) is widespread across Ireland and can be reasonably common if devil's bit scabious (*Succisa pratensis*) is present in sufficient abundance (Phelan *et al.* 2021). Although widespread, the species is listed as vulnerable on the red list of Irish butterflies and is listed on Annex II of the Habitats Directive, requiring designation of SACs (Regan *et al.* 2010).

According to NBDC records, marsh fritillary has previously been recorded at grid square G94, which encompasses the Survey Area for the proposed Wind Farm Site (Table 6).

Targeted marsh fritillary larval web surveys were carried out in suitable habitat within the Survey Area of the proposed Wind Farm Site in September 2021 and repeated in September 2025. Suitable marsh fritillary habitat was determined through abundance of devil's-bit scabious (*Succisa pratensis*). A total of 2.82ha of suitable marsh fritillary habitat was identified in the south-west and south of the Survey Area of the proposed Wind Farm Site. The suitable marsh fritillary habitat is associated with the margins of existing access roads and corresponds to Dry meadows and grassy verges (GS2).

These areas were systematically searched during the optimum survey season following best practice guidance (NBDC, 2021). No larval webs were found during the 2021 survey season. Two larval webs were identified during the 2025 survey season. One larval web was identified along the existing access track at the western entrance to the proposed wind farm development (ITM E590111.003, N841849.194), c. 1m from the works corridor and c. 155m to the south-west of the substation. The second larval web was identified c. 1m from the works corridor along the access track c. 90m to the south-west of T12 (ITM E590818.495, N841866.180).

No suitable habitat for marsh fritillary was identified within the Survey Areas along the proposed GCR or TDR.

3.3 FLORA

3.3.1 Desk Study

3.3.1.1 Annex I Habitats

Several datasets were downloaded from the NPWS website consisting of, *EU Habitats Directive, Annex I habitats* (NPWS, 2025c), the *National Survey of Native Woodlands, Long Established Woodlands* (DHLGH, 2025a), and the *Irish Semi-natural Grassland Survey* (DHLGH,



2025b). These datasets were reviewed to determine the overlap with the Survey Area of the proposed Wind Farm Site.

The 10km grid square within which the proposed Wind Farm Site is located (G94), has been identified as likely (with a certainty ranking of two) to contain one site of the priority Annex I habitat type 91E0 Alluvial woodland (priority habitat), in bad condition (NPWS, 2025c).

The spatial data review indicated that the priority Annex I habitat type 4060 Alpine and subalpine heath potentially occurs across Saddle Hill which is located within the proposed Wind Farm Site, at T3 (NPWS, 2025c). In addition, the Annex I habitat type 7130* Blanket bog (active) is mapped as potentially occurring to the south-west of T3 within the Survey Area of the proposed Wind Farm Site. In addition, a small, isolated area (<350m) of the Annex I habitat type Alpine and subalpine heath is mapped at the exact location of T7 within the proposed Wind Farm Site (NPWS, 2025c).

Several Annex I habitat types have been mapped across Dough Mountain which is located c.40m from the Application Boundary of the proposed Wind Farm Site, consisting of (NPWS, 2025c):

- Annex I habitat type 4060 Alpine and subalpine heath;
- Priority Annex I habitat type 7130* Blanket bog (active); and,
- Priority Annex I habitat type 6230* Species-rich Nardus grassland.

Of these, the mapped extent of 26.3ha of Annex I habitat type 4060 Alpine and subalpine heath is located within the eastern extent of the proposed Wind Farm Site, to the east of T7 and south-east of T5. Similarly, the mapped extent of 1.5ha of the priority Annex I habitat type 7130* Blanket bog (active) is located to the south-east of T5. However, satellite imagery shows a significant portion of this area, 17.5ha, has been planted with commercial forestry (Google, 2023).

Beyond the proposed Wind Farm Site, within Faughary Wind Farm, there is mapped area of Annex I habitat type 7230 Alkaline fens (NPWS, 2025) located c. 205m from the proposed roadworks along the L-61802 and c. 430m from T6. This habitat is considered beyond the Zol of the Proposed Project not only due to the separation distances involved, but also because of the extent commercial forestry between the Annex I habitat and the Proposed Project, and the associated impacts of this forestry on the hydrology of the alkaline fen (i.e., degradation of its quality and function).

The Irish Semi-natural Grassland Survey data show the mapped extent of an area of the priority Annex I habitat type 6230* Species-rich Nardus grassland is located c. 390m beyond the Application Boundary of the proposed Wind Farm Site (DHLGH, 2025b). This is considered beyond the Zol of the development due to the separation distances involved and lack of a source-pathway-receptor (Section 4.1.1).



Legend

- proposed Wind Farm Site
- Survey Area of the proposed Wind Farm Site
- Enhancement lands
- ⊕ Turbine Locations
- Natural Heritage Areas (NHAs)



Spatial Reference		Copyrights:	
Datum: IREN95		Sources: Esri, TomTom, Garmin, FAO,	
EPSG: 2157		NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community,	

Rev	Date	Description	By	Chkd.
A	19/02/2026	First issue	S.P	S.R

Client: **FuturEnergy Ireland**

Project: **Lissinagroagh Wind Farm**

Title: **Figure 7:
Boundary of Dough/Thur Mountain
Natural Heritage Area and the Survey
Area for the proposed Wind Farm Site**

Scale @ A3: 1:22,000

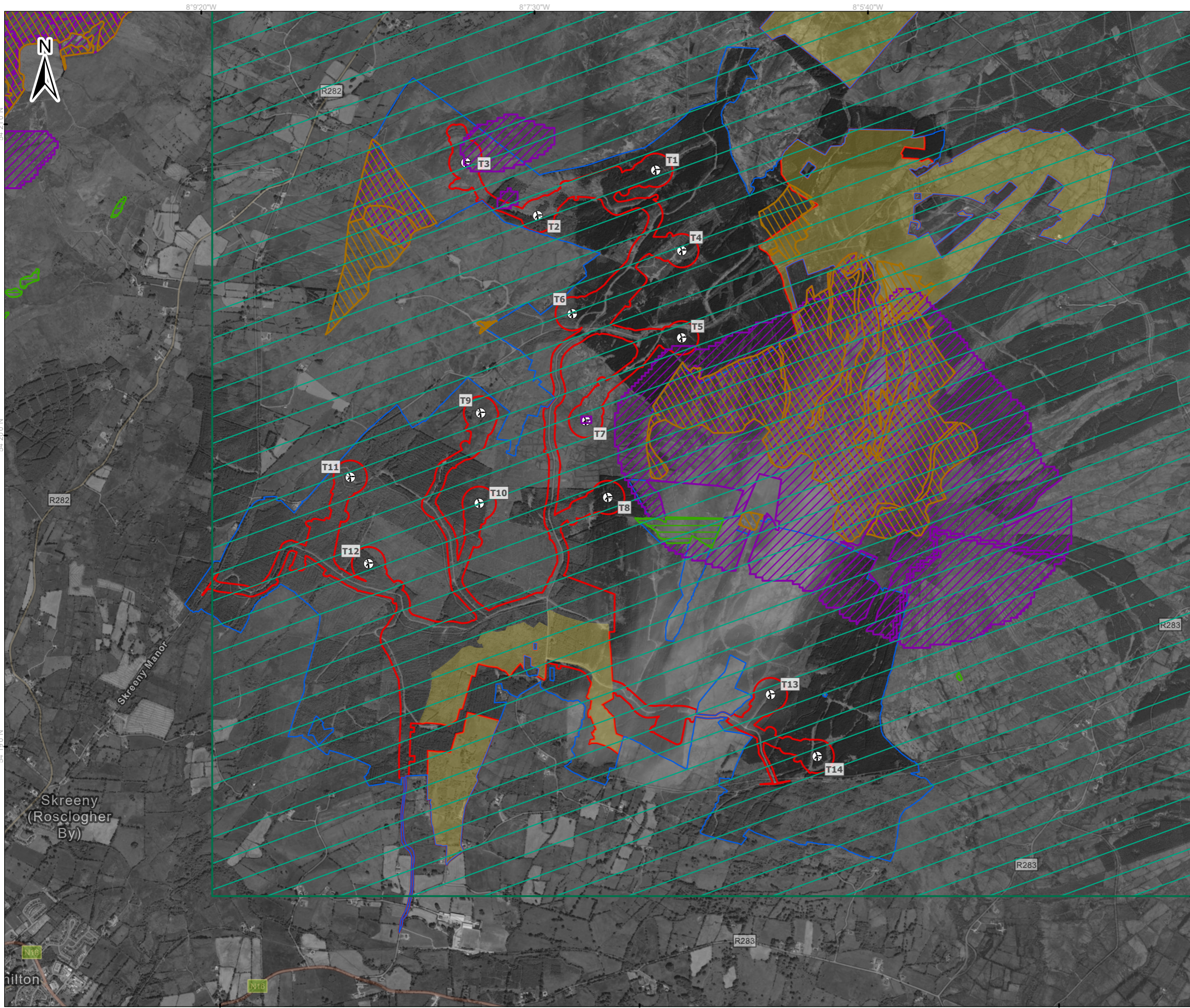
Prepared by: S.Pezzetta Checked by: S.Ryan Date: February 2026

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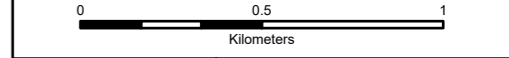
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Map Ref: 10955-019.AA-NHA-P.App.BO-TOB-A Draft: **A**



- Legend**
- proposed Wind Farm Site
 - Survey Area of the proposed Wind Farm Site
 - Enhancement lands
 - ⊕ Turbine Locations
- Article 17 Annex I - Terrestrial Habitats**
- Forests
 - Grasslands
 - Heath and Scrub
 - Bogs, Mires and Fens



Spatial Reference
 Datum: IRENET95
 EPSG: 2157

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 Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community,

Rev	Date	Description	By	Chkd.
A	19/02/2026	First issue	S.P	S.R

Client:

Project:
 Lissinagroagh Wind Farm

Title:
 Figure 8:
 Article 17 Annex I habitats identified
 (Source: NPWS, 2025)

Scale @ A3: 1:20,841

Prepared by: S.Pezzetta Checked by: S.Ryan Date: February 2026

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Map Ref: 10955-020.AA-HAB..AnnexI-P.App.BO-TOB-A Draft: A

3.3.1.2 Invasive Alien Species

Desk study revealed records of invasive alien plant species within the G94 hectad, which encompasses locating the proposed Wind Farm Site, namely; Japanese knotweed (*Fallopia japonica*), common rhododendron (*Rhododendron ponticum*), and three-cornered garlic (*Allium triquetrum*) (Table 12).

Records for the invasive alien mammal species American Mink (*Neovison vison*) and Fallow Deer (*Dama dama*) also exist along the GCR (Table 11).

All of these species are listed on the Third Schedule (S.I. No. 477/2011).



Table 11: Invasive Alien Species Listed on the Third Schedule Recorded Within the Zol of the Proposed Project Since 2015 (Source: NBDC, 2025)

Hectad	Species name	Date of last record	Designation	Location of Feature
G84	American Mink (<i>Neovison vison</i>)	12/09/2015	Third Schedule Listed	Proposed GCR: <ul style="list-style-type: none"> Recent records of the species exist within the 10km grid square G84, at the 1km grid square G8333
G72	Fallow Deer (<i>Dama dama</i>)	13/07/2015	Third Schedule Listed	Proposed GCR: <ul style="list-style-type: none"> Recent records of the species exist which overlay the entire 10km grid square G72, consisting of the relevant 1km grid squares.
G83, G94	Japanese Knotweed (<i>Fallopia japonica</i>)	27/05/2023	Third Schedule Listed	Proposed Wind Farm Site: <ul style="list-style-type: none"> Recent records of the species exist within the 10km grid square G94. Proposed GCR: <ul style="list-style-type: none"> Recent records of the species exist within the 10km grid square G83, within 1km grid squares. G8434 and G8638.
G83, G84, G94	Common Rhododendron (<i>Rhododendron ponticum</i>)	28/04/2023	Third Schedule Listed	Proposed GCR: <ul style="list-style-type: none"> Recent records of the species exist in the 10km grid square G84, within the 1km grid square G8640 and G8740 Recent records of the species exist in the 10km grid square G83, within the 1km grid square G8031 Proposed Wind Farm Site: <ul style="list-style-type: none"> Recent records of the species exist within the 10km grid square G94 within the 1km grid square G9845 c. 4km east of the proposed Wind Farm Site.
G94	Three-cornered Garlic (<i>Allium triquetrum</i>)	28/04/2023	Third Schedule Listed	Proposed Wind Farm Site: <ul style="list-style-type: none"> Recent records of the species exist within the 10km grid square G94, within the 1km grid square G9845 c. 4km east of the proposed Wind Farm Site.



3.3.2 Field survey

The habitat descriptions of the Annex I habitats identified within the Survey Area for the proposed Wind Farm Site, GCR and TDR in 2020, 2021, 2024, and 2025 are detailed in the following sections.

3.3.2.1 Cutover Bog (PB4)

Parcels of Cutover bog (PB4) are located in the immediate vicinity of T3, to the south of T4, as well as to the east and north-east of T10. The habitat is in overall poor condition often failing several condition criteria in the assessment for the non-priority Annex I habitat type 7130 Blanket bog (inactive), including: number of positive indicator species, cover of disturbed bare ground, dominance of purple moor-grass (*Molinia caerulea*), cover of heather (*Calluna vulgaris*), and cover of cutting/ditches/tracking/trampling (Appendix 4: Annex I Habitat Condition Assessment). As such, the Cutover bog (PB4) within the Survey Area of the proposed Wind Farm Site is considered non-priority Annex I habitat type 7130 Blanket bog (inactive) in Unfavourable Bad condition with an overall conservation status of Unfavourable Bad (Figure 9).

The Cutover bog (PB4) at T3 (Site A) is in degraded condition (Appendix 4). Existing threats to the integrity of the habitat include drainage and grazing pressure. This will likely eliminate the already “small to very small quantity” of *Sphagnum papillosum* recorded in the habitat (Appendix 4). The survey found that the peatland flora recorded here already “tends towards the drier type” and the habitat is currently considered inactive as denoted by the selection of the non-priority Annex I habitat type (Appendix 4).

The Cutover bog (PB4) at T4 (Site B) is located within four distinct parcels c. 40m south of the proposed hardstand. Here, the species diversity is low with purple moor-grass (*Molinia caerulea*) and hare’s-tail cottongrass (*Eriophorum vaginatum*) dominant. The vegetation composition lacks positive indicator species. Encroachment from non-native conifer saplings is an ongoing threat to the habitat.

The Cutover bog (PB4) at T10 (Site C) is located within two distinct parcels to the east and north-east of the proposed hardstand. Species diversity is low and positive indicator species are lacking. The vegetation tussocky and purple moor-grass (*Molinia caerulea*) and dominant.

The following species were recorded within the habitat: ling heather (*Calluna vulgaris*), purple moor-grass (*Molinia caerulea*), bog asphodel (*Narthecium ossifragum*), hare’s-tail cottongrass (*Eriophorum vaginatum*), common cottongrass (*Eriophorum angustifolium*), cross-leaved heath (*Erica tetralix*), and heath rush (*Juncus squarrosus*). The bryophyte layer consists of peat mosses (*Sphagnum* spp.): papillose bog-moss (*Sphagnum papillosum*), feathery bog-moss (*Sphagnum cuspidatum*), blunt-leaved bog-moss (*Sphagnum palustre*), and flat-topped bog-moss (*Sphagnum fallax*).

Where there is potential for restoration of peatlands in unfavourable condition, it is essential not to under value the ecological importance of the habitat (CIEEM, 2018). Even in degraded condition peatlands can support high biodiversity in a local context, such as positive indicator species and near natural features (CIEEM, 2018).



3.3.2.2 Exposed Calcareous Rock (ER2)

The habitat is highly localised and located to the south-east of T3, on the southern slopes of Saddle Hill. The habitat is present in “very small occurrences”, where the limestone bedrock has become exposed, often measuring less than c. 50m x 25 m, with the largest expanse measuring c. 150m x 25 m (Appendix 4). The habitat is heavily over-grazed, with “extreme shortness of vegetation” noted (Appendix 4). The following species were recorded within the habitat: thistle (*Cirsium* spp.), wild thyme (*Thymus drucei*) and maidenhair spleenwort (*Asplenium trichomanes*). The habitat corresponds to the Annex I habitat type 8240* Limestone Pavements in Unfavourable Bad condition and the overall conservation status is also Unfavourable Bad.

3.3.2.3 Upland Blanket Bog (PB2)

Upland Blanket Bog (PB2) is largely located in the north-west and central sections in the Survey Area of the proposed Wind Farm Site with some smaller parcels persisting between the Conifer plantations (WD4) to the south. The habitat corresponds to the priority Annex I habitat type 7130* Blanket bog (active) and non-priority Annex I habitat type 7130 Blanket bog (inactive).

The Upland blanket bog (PB2) in the immediate vicinity of the proposed access track to T3 (Site A) corresponds to the non-priority Annex I habitat type 7130 Blanket bog (inactive) in Unfavourable Bad condition with an overall conservation status of Unfavourable Bad. The vegetation composition in this area failed two out of three assessment stops and lacks the required positive indicator species. The Habitat Condition Survey (Appendix 4: Annex I Habitat Condition Assessment) noted that the vegetation is “evidently rather dry” with relatively low species diversity and some species becoming locally dominant e.g. heather (*Calluna vulgaris*). The dryness is attributed to historic turf-extraction in the immediate vicinity as well as the underlying limestone bedrock (Appendix 4). On-going threats to the integrity of the habitat include livestock grazing.

A parcel of intact Upland blanket bog (PB2) located c. 210m to the south-west of T3 (Site A) corresponds to the priority Annex I habitat type 7130* Blanket bog (active). Here three out of the four monitoring stops conducted passed all assessment criteria. This included a pass for the required number of positive indicator species present within the immediate vicinity (<2m) of the monitoring stop location. As such, the habitat was assessed as in Favourable condition but with an overall conservation status of Unfavourable Inadequate due to identified threats to the integrity of the habitat, including grazing.

The Upland blanket bog (PB2) located c. 5 m to the south of T4 (Site B) is sub-divided based on habitat condition assessment results. The smaller parcels to the northern and western extent of Site B corresponds to the non-priority Annex I habitat type 7130 Blanket bog (inactive) in unfavourable bad condition. On-going threats to the habitat include encroaching non-native conifer saplings, drainage, and erosion. The larger parcel of Upland blanket bog (PB2) located c. 40m to the south of T4 (Site B) corresponds to the priority Annex I habitat type 7130* Blanket bog (active) in favourable condition. High species diversity was recorded in the area and all five of the monitoring stops conducted for area passed the assessment. The overall conservation status of the habitat is considered Unfavourable Inadequate, due to identified threats to the integrity of the habitat such as (WD4) Conifer plantation.

A linear strip of Upland blanket bog (PB2) is the only peatland habitat to the east of T10 (Site C) which lies within the Application Boundary as the surrounding Upland blanket bog (PB2) falls



outside of the Application Boundary. This area is discussed and mapped in detail in Appendix 4: Annex I Habitat Condition Assessment. The Upland blanket bog (PB2) corresponds to non-priority Annex I habitat type 7130 Blanket bog (inactive) in Unfavourable bad condition with an overall conservation status of Unfavourable bad. Of the sixteen monitoring stops conducted at Site C, all but one failed on species diversity. On-going threats to the habitat include drainage and the presence of self-seeded non-native conifers.

Species include: purple moor-grass (*Molinia caerulea*), deergrass (*Trichophorum germanicum*), common cottongrass (*Eriophorum angustifolium*), hare's-tail cottongrass (*Eriophorum vaginatum*), cross-leaved heath (*Erica tetralix*). The bryophyte layer is composed of delicate bog-moss (*Sphagnum tenellum*), papillose bog-moss (*Sphagnum papillosum*), red bog-moss (*Sphagnum capillifolium*), glittering wood-moss (*Hylocomium splendens*), woolly fringe-moss (*Racomitrium lanuginosum*), and *Cladonia* spp.

3.3.2.4 Wet Heath (HH3)

Wet heath (HH3) is located across the Survey Area for the proposed Wind Farm Site in discrete parcels, between Conifer Plantation (WD4). The largest expanse (1.7 ha) of Wet heath (HH3) is located in the north-western extent of the Survey Area for the proposed Wind Farm Site, where the terrain becomes mountainous.

Species include ling heather (*Calluna vulgaris*), cross leaved heath (*Erica tetralix*), purple moor grass (*Molinia caerulea*), common haircap (*Polytrichum commune*), red bog moss (*Sphagnum capillifolium*), creeping cinquefoil (*Potentilla reptans*), bilberry (*Vaccinium myrtillus*), deergrass (*Trichophorum germanicum*) and glittering wood-moss (*Hylocomium splendens*). Although specific Annex I assessments were not conducted at these locations, it is considered these habitats correspond to the Annex I habitat type 4010 Northern Atlantic wet heaths with *Erica tetralix* in favourable condition.

There is also a small amount of Wet heath (HH3) to the south of T4 (Site B), which was identified during the Annex I surveys. This occurrence of the habitat lies outside the Application Boundary of the proposed Wind Farm Site. It corresponds to the Annex I habitat type 4010 Northern Atlantic wet heaths with *Erica tetralix* in favourable condition. The overall conservation status of the habitat is considered Unfavourable Inadequate, due to ongoing threats to the integrity of the habitat including (WD4) Conifer plantation.

Species include: purple moor-grass (*Molinia caerulea*), heather (*Calluna vulgaris*), cross-leaved heath (*Erica tetralix*), bell heather (*Erica cinerea*), red-peat moss (*Sphagnum capillifolium*), and woolly-fringe moss (*Racomitrium lanuginosum*).

3.3.2.5 Wet willow-alder-ash woodland (WN6)

Wet willow-alder-ash woodland (WN6) is located along the GCR at six locations all constituting small woodland parcels (<1ha). This habitat was located along the banks of the River Bonet and evidence of continuous waterlogging or periodic flooding was noted at almost all these locations. The two locations where waterlogging and flooding was not noted were at Aquatic Site 18 and 20. At these two locations the canopy was dominated by scrubby grey willow (*Salix cinerea*). The willow gallery forests which are awarded Annex I status are dominated by tall non-native white willow (*Salix alba*) and tree roots which are "almost continuously submerged" (Daly *et al.*, 2023). As such, Aquatic Site 18 and 20 do not meet these Annex I criteria. At these sites,

Aquatic Site 18 is by far the largest of all Wet willow-alder-ash woodland (WN6) parcels measuring 0.9ha.

At the remaining four locations (Aquatic Site 28, 13, 14 and 16) the woodland supports near-natural features and a canopy dominated by alder (*Alnus glutinosa*) with ash (*Fraxinus excelsior*) and grey willow (*Salix cinerea*). These are the target species for Annex I habitat type 91E0 Alluvial forests. Evidence of periodic flooding or waterlogging was noted at these locations, which is a determining feature of Annex I habitat type 91E0 Alluvial forests. As such, at these locations (Aquatic Site 28, 13, 14 and 16) the woodland parcels show potential affinity to the Annex I habitat type 91E0 Alluvial forests.

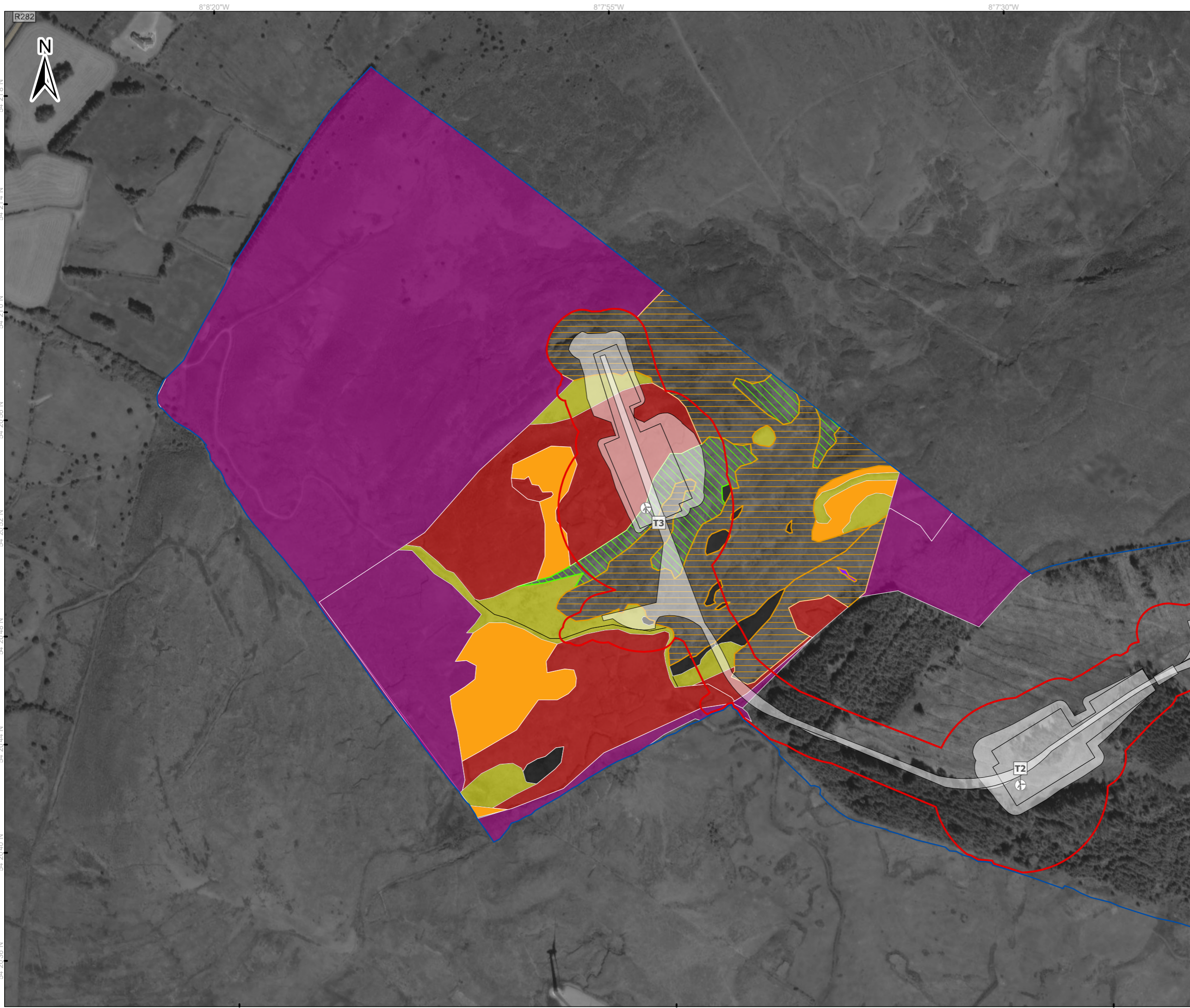
In terms of positive indicator species for the priority Annex I habitat type 91E0* Alluvial forests, a maximum of four were identified at one location out of a minimum requirement of six (Site 28). The positive indicator species recorded across the woodland parcels include: downy birch (*Betula pubescens*), meadow sweet (*Filipendula ulmaria*), creeping buttercup (*Ranunculus repens*), nettle (*Urtica dioica*) yellow iris (*Iris pseudacorus*), and water mint (*Mentha aquatica*).

It is important to note that Annex I habitat type 91E0* Alluvial forests is still assigned Annex I status, even when the condition of the habitat is unfavourable, provided the aforementioned criteria regarding waterlogging and species composition are met (Daly *et al.*, 2023).

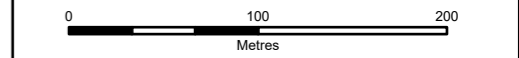
However, the size of the woodland parcels at Aquatic Site 28, 13, 14 and 16 are very small (each measuring <0.34ha). Best practice guidance advises that discontinuous strips of woodland which are surrounded by open habitat should not be assigned to Annex I habitat type 91E0 Alluvial forests, if they cannot be considered to be functioning woodlands (Daly *et al.*, 2023). In this case, the woodland parcels although small and fragmented show good connectivity with hedgerows, scrub and other woodlands within the wider landscape.

Although an Annex I assessment was not conducted in the field, the Wet willow-alder-ash woodland (WN6) habitat at Aquatic Site 12, 13, 14 and 16 likely correspond to the Annex I habitat type 91E0 Alluvial forests in unfavourable condition.





- Legend**
- proposed Wind Farm Site
 - Survey Area of the proposed Wind Farm Site
 - Turbine Locations
 - Site layout footprint
- Annex I Habitats**
- GS3 - Dry-humid acid grassland
 - PF2 - Poor fen and flush
 - ER2 - Exposed calcareous rock Priority Annex I 8240* Limestone Pavements
 - HH1 - Dry siliceous heath Annex I 4030 European dry heath
 - HH1/GS3 - Dry siliceous heath/Dry humid acid grassland mosaic Annex I 4030 European dry heath
 - PB2 - Upland blanket bog Non-priority Annex I 7130 Blanket bog
 - PB2 - Upland blanket bog Priority Annex I 7130* Blanket bog (active)
 - PB4 - Cutover bog Non-priority Annex I 7130 Blanket bog



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A	19/02/2026	First issue	S.P	S.R

Client:
FuturEnergy Ireland

Project:
Lissinagroagh Wind Farm

Title:
**Figure 9:
Annex I Habitat in the
Immediate Vicinity of T3**

Scale @ A3: 1:4,000

Prepared by: S.Pezzetta Checked by: S.Ryan Date: February 2026

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Map Ref: 10955-008.AA-HAB..AnnexI-P.App.BO-TOB-A Draft: **A**

3.3.2.6 Invasive Alien Species

Field surveys identified several invasive alien species present within the Survey Area of the proposed Wind Farm Site, GCR, and TDR (Table 12). Of these, three species are listed on the Third Schedule (S.I. No. 477/2011) as amended, and subject to legal restrictions under Regulations 49 and 50. The species consist of:

- Himalayan balsam (*Impatiens glandulifera*);
- Japanese Knotweed (*Fallopia japonica*); and,
- Rhododendron (*Rhododendron ponticum*).

Japanese Knotweed (*Fallopia japonica*) was identified within the Survey Area of the proposed Wind Farm Site at three locations. A large stand (35m x 5m) is located c. 10m to the south-west of the proposed borrow pit to the south of T8 (ITM E592308.75, N841608.41) (Figure 10). Another large stand (25m x 5m) is located c. 15m to the north of the existing access track (283) c. 420m to the south-west of the same borrow pit (ITM E592448.13, N841212.93). Japanese Knotweed is also located c. 50m to the south of T8 (Figure 10). A small stand of Japanese knotweed is also located at along the TDR (ITM E574911.85, N876957.92), c. 35m south-east of POI 41 (Figure 18). Several immature Japanese knotweed plants were identified along the roadside verge (ITM E576946.90, N876034.30) c. 165m west of POI 47.

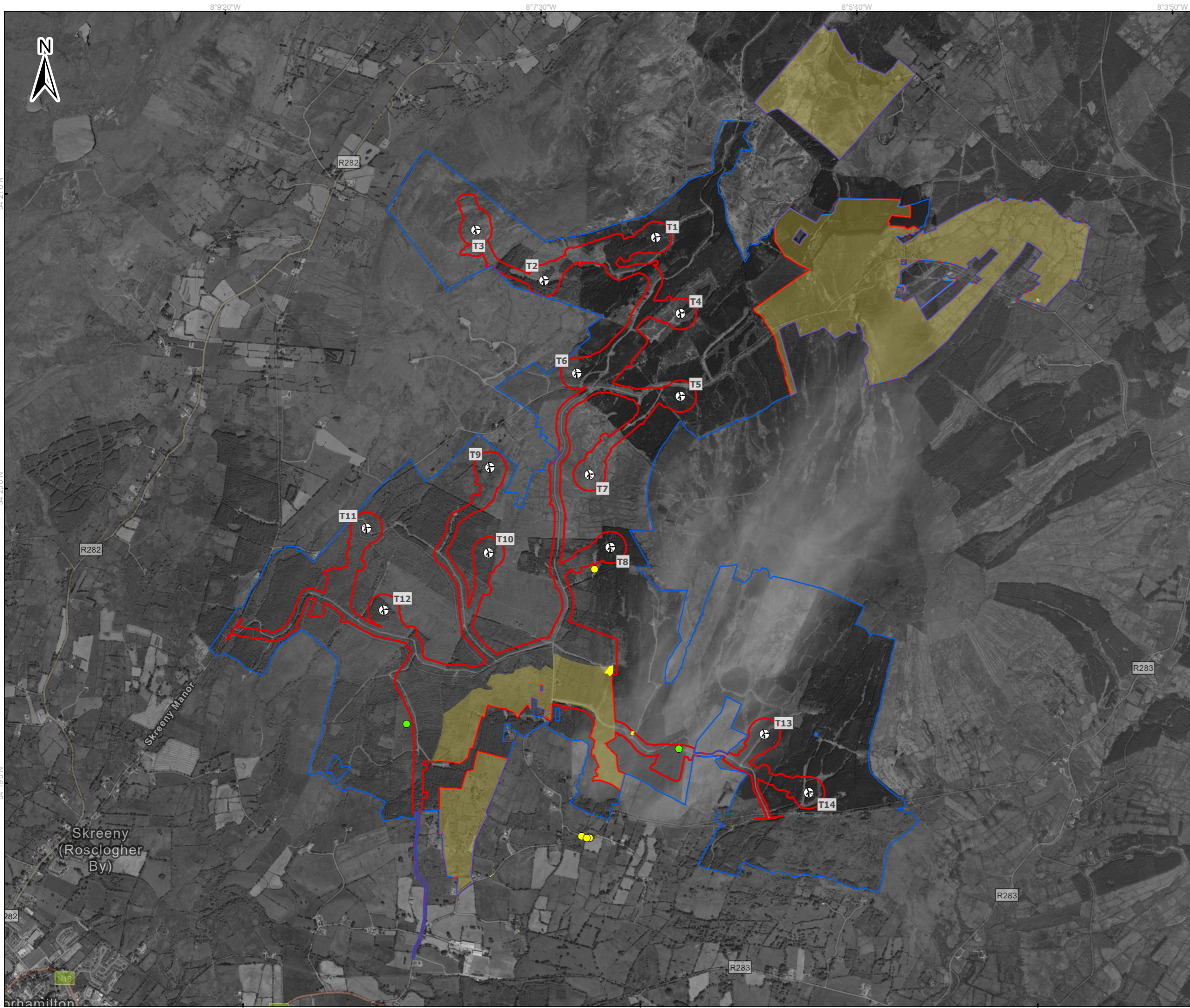
Along the GCR Survey Area, several stands of Japanese Knotweed are located within a c. 200m stretch of the local road L-2169 (ITM E587039.27, N838498.78) as shown in Figure 11. Another stand of Japanese Knotweed is located to the south of Aquatic Site 17 along the local road L-2169 (ITM E586404.66, N837150.27) as shown in Figure 12. Another stand is located elsewhere along the GCR Survey Area along the regional road R-289 north of Aquatic Site 23 (ITM E582254.80, N829845.25) as shown in Figure 13.

Himalayan balsam (*Impatiens glandulifera*) is located at one location along the proposed GCR (ITM E581819. N57,830217.50), where HDD is proposed along the local road L4165 (Aquatic Site 22). At this site, Himalayan balsam is located on the southern bank of the Bonet_050 along a c. 100m stretch (Figure 14).

Rhododendron (*Rhododendron ponticum*) is present at two locations within the Survey Area of the proposed Wind Farm Site. A small rhododendron shrub is located c. 5 m to the north of the proposed access track (ITM E592741.57, N841112.10), at the edge of the Conifer plantation (WD4) (Figure 10). Another rhododendron shrub was identified (ITM E591030.91, N841268.64) c. 65m to the west of the access track which runs south towards Cherrybrook (Figure 10).

Rhododendron is also located at two locations along the proposed GCR, including a dense thicket of rhododendron located north of Aquatic Site 16 along the roadside verge of the local road L-21361 (ITM E586906.47, N839001.25) (Figure 15), and another rhododendron shrub is located along local road L-4135 (ITM E582788.2, N832719.0) as shown in Figure 16. Rhododendron was also identified at one location along the TDR, c. 90m north of POI 33, as shown in Figure 17, which is the same stand identified in Figure 15.





Legend

- proposed Wind Farm Site
- Survey Area of the proposed Wind Farm Site
- Enhancement lands
- ⊕ Turbine Locations
- Invasive Species**
- Japanese Knotweed
- Rhododendron
- Japanese Knotweed
- Rhododendron



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Client: **FuturEnergy Ireland**

Project: **Lissinagroagh Wind Farm**

Title: **Figure 10:
Invasive Alien Species within
the proposed Wind Farm Site**

Scale @ A3: 1:22,000

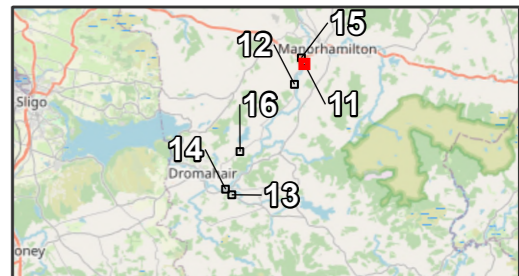
Prepared by: S.Pezzetta Checked by: S.Ryan Date: February 2026

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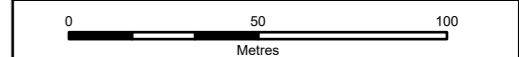
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- Legend**
- Grid Connection Route
 - ▲ Aquatic Survey Locations
 - Special Areas of Conservation (SACs)

- Invasive Species**
- Japanese Knotweed
 - Japanese Knotweed



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Client: **FuturEnergy Ireland**

Project: **Lissinagroagh Wind Farm**

Title: **Figure 11:
 Location of Japanese Knotweed
 (Fallopia japonica) along the Grid
 Connection Route south of Aquatic Site 16
 Sheet 1 of 6**

Scale @ A3: 1:2,000

Prepared by: S.Pezzetta Checked by: S.Ryan Date: February 2026

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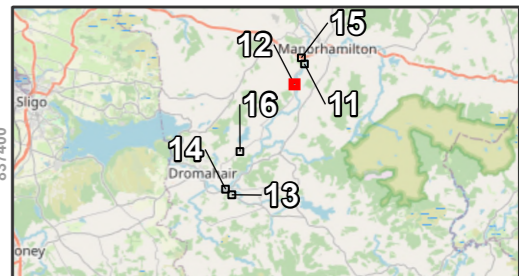
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54°17'43"N
54°17'36"N

8°12'10"W 8°12'0"W 8°11'50"W 8°11'40"W

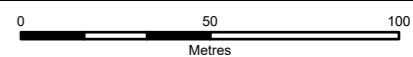
586740 586970 587200

838600
838400

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- Legend**
- Grid Connection Route
 - Special Areas of Conservation (SACs)
- Invasive Species**
- Japanese Knotweed



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Project:

Lissinagroagh Wind Farm

Title:

Figure 12:
 Location of Japanese Knotweed
 (Fallopia japonica) along the Grid
 Connection Route south of Aquatic Site 17
 Sheet 2 of 6

Scale @ A3: 1:2,000

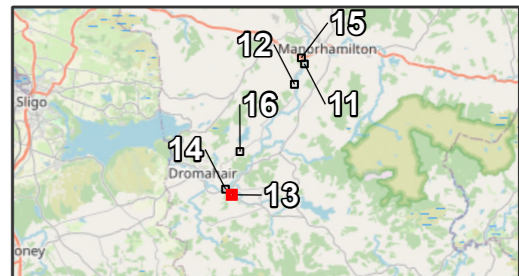
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Legend

- Grid Connection Route
- Invasive Species**
- Japanese Knotweed



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Client: **FuturEnergy Ireland**

Project: **Lissinagroagh Wind Farm**

Title: **Figure 13:
 Location of Japanese Knotweed
 (Fallopia japonica) along the Grid
 Connection Route north of Aquatic Site 23
 Sheet 3 of 6**

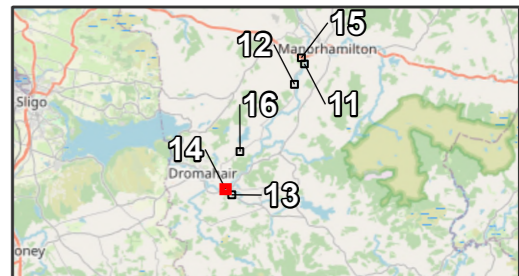
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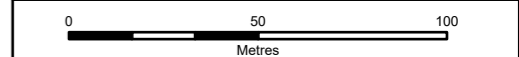
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- Legend**
- Grid Connection Route
 - ▲ Aquatic Survey Locations
 - Special Areas of Conservation (SACs)

- Invasive Species**
- Himalayan Balsam



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Client: **FuturEnergy Ireland**

Project: **Lissinagroagh Wind Farm**

Title: **Figure 14:
 Location of Himalayan
 balsam along the Grid
 Connection Route at Aquatic Site 22
 Sheet 4 of 6**

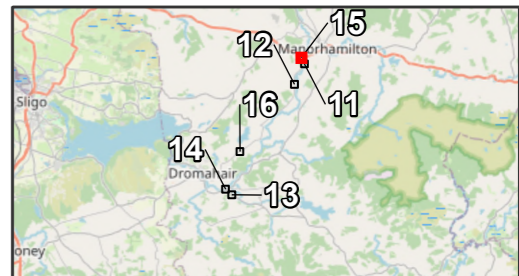
Scale @ A3: 1:2,000

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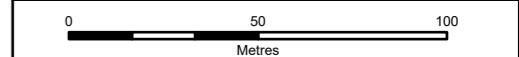
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Legend

- Grid Connection Route
- ▲ Aquatic Survey Locations
- Special Areas of Conservation (SACs)
- Invasive Species**
- Rhododendron



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Client: **FuturEnergy Ireland**

Project: **Lissinagroagh Wind Farm**

Title: **Figure 15:
 Location of Rhododendron
 ponticum along the Grid
 Connection Route north-east of Aquatic Site 16
 Sheet 5 of 6**

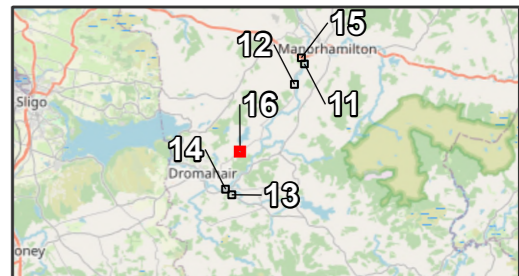
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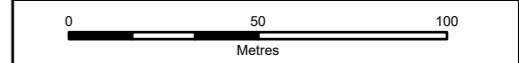
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Legend

- Grid Connection Route
- Invasive Species**
- Rhododendron



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Client: **FuturEnergy** Ireland

Project: **Lissinagroagh Wind Farm**

Title: **Figure 16:
 Location of Rhododendron
 ponticum along the Grid
 Connection Route north of Aquatic Site 21
 Sheet 6 of 6**

Scale @ A3: 1:2,000

Prepared by: S.Pezzetta Checked by: S.Ryan Date: February 2026

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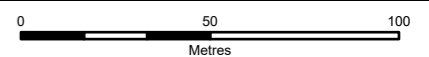


Legend

- - - Turbine Delivery Route
- Point of Interest - Locations
- Special Areas of Conservation (SACs)

TDR:

- Oversail
- Invasive Species**
- Rhododendron



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Client: **FuturEnergy Ireland**

Project: **Lissinagroagh Wind Farm**

Title: **Figure 17:
 Location of Rhododendron ponticum
 along the Turbine Delivery
 Route at POI 41 and 42
 Sheet 1 of 2**

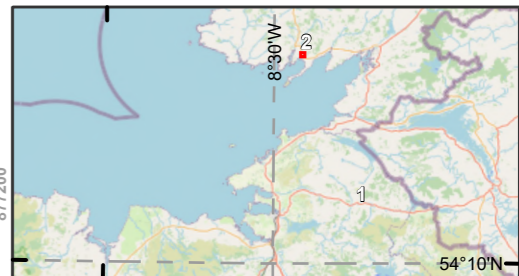
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Prepared by: S.Pezzetta Checked by: S.Ryan Date: March 2026

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- Legend**
- - Turbine Delivery Route
 - Point of Interest - Locations
 - Special Areas of Conservation (SACs)

- TDR:**
- Oversail
- Invasive Species**
- Japanese Knotweed



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Client: **FuturEnergy** Ireland

Project: **Lissinagroagh Wind Farm**

Title: **Figure 18:
 Location of Japanese Knotweed
 (Fallopia japonica) along the
 Turbine Delivery Route at POI 33
 Sheet 2 of 2**

Scale @ A3: 1:2,000

Prepared by: S.Pezzetta Checked by: S.Ryan Date: March 2026

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Table 12: Third Schedule (S.I. 477/2011) species identified within the Survey Area for the proposed Wind Farm Site, TDR and GCR as well as species considered medium risk of invasiveness

Common Name	Scientific Name	Third Schedule Listed	Risk Assessment	Citation
Himalayan balsam	<i>Impatiens glandulifera</i>	Yes	High	(Millane and Caffrey, 2014; Kelly <i>et al.</i> 2013; NBDC, 2025b)
Japanese Knotweed	<i>Fallopia japonica</i>	Yes	High	(Kelly <i>et al.</i> 2013; NBDC, 2025c)
Rhododendron	<i>Rhododendron ponticum</i>	Yes	High	(O'Rourke and Lysaght, 2014; Kelly <i>et al.</i> 2013; NBDC, 2025d)



4. SCREENING FOR APPROPRIATE ASSESSMENT

4.1 IDENTIFICATION OF EUROPEAN SITES

The first step in the identification of European sites that could be affected by the Proposed Project is to determine the potential Zol. When the Zol of the project has been determined, European sites within this area can be identified and the potential for these sites to be affected can be evaluated by considering:

- Scale and type of the project;
- Proximity to the project;
- Qualifying interests;
- Ecological¹ and Landscape² connectivity;
- Hydrological connectivity.

At nearest distance, the proposed Wind Farm Site is located 3.6km south of the border with Northern Ireland. Accordingly, the potential for transboundary effects has been considered, with regard to European sites within the Zol of the project in Northern Ireland.

4.1.1 Determining the Zone of Influence

The source-pathway-receptor model (OPR, 2021) was used to identify viable pathways between the Proposed Project and European sites which may result in likely significant effects on their QIs/SCIs, i.e. the Zol of the Proposed Project. This conceptual model is a standard tool in environmental assessment. In order for an effect to occur, all three elements of this model must be in place. The absence or removal of one of the elements of the model means there is no likelihood for the effect to occur. In the context of the Proposed Project, the model comprises:

- Source(s) – potential impacts from the Proposed Project, e.g., loss of habitat, direct emissions (water, air, noise and light);
- Pathway(s) – hydrological, physical or ecological connectivity between the Proposed Project and the European site; (e.g. waterbodies and proximity); and
- Receptor(s) – qualifying interests and/or special conservation interests of the European sites.

The Zol of the Proposed Project (in the absence of any mitigation measures) is described hereunder.

- The Zol for direct habitat loss is inclusive of;
 - The Survey Area for the proposed Wind Farm Site, specifically, to habitats within the footprint of turbines and associated infrastructure (i.e., internal access tracks, turning bays, hardstands, turbine bases, borrow pits);

¹ “Connectivity is defined as a measure of the functional availability of the habitats needed for a particular species to move through a given area. Examples include the flight lines used by bats to travel between roosts and foraging areas or the corridors of appropriate habitat needed by some slow colonising species if they are to spread” (CIEEM, 2018).

² Landscape connectivity is a combined product of structural and functional connectivity, i.e., the effect of physical landscape structure and the actual species use of the landscape (Kettunen et al. 2007)



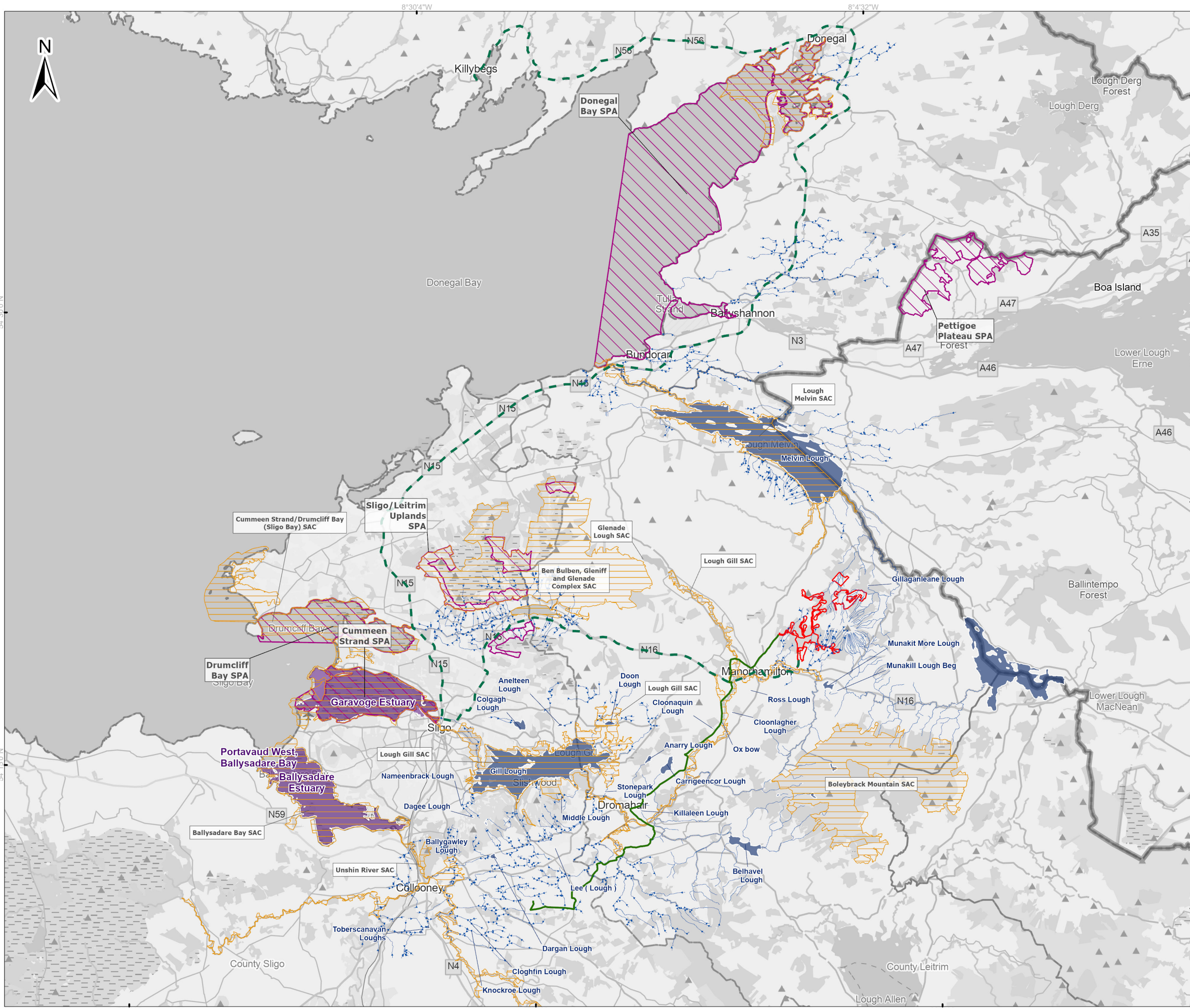
- Works along the GCR, specifically the width of the trench to be excavated and the necessary habitat loss associated with Horizontal Directional Drilling (HDD) when crossing river waterbodies; and
 - Accommodations along the TDR to allow for over-run and over-sail for the delivery of large turbine components to the proposed Wind Farm Site.
- With regards potential habitat degradation effects associated with the release of sediment and other pollutants to surface water, the Zol for water quality impacts is considered to consist of
 - receiving waterbodies adjacent to or downstream of the proposed Wind Farm Site;
 - the Aquatic Sites where existing watercourse crossings have been identified along the GCR as well as works areas along the GCR within 50m of watercourses; and,
 - POIs along the TDR where over sail/over run areas have been identified and which lie within 50m of watercourses.
- The Zol for river waterbodies, the initial extent of a hydrological pathway includes the five WFD river waterbodies which drain the proposed Wind Farm Site (Brackary_010; Cornavannoge_010; Lattone_010; Owenmore (Manorhamilton)_020; and, Rosfriar_010) until the first water body of depositional nature is reached (e.g. lake waterbody or transitional waterbody).
- The Zol for air quality (i.e., dust impacts) for the works corridor for the proposed Wind Farm Site, TDR and GCR is 50m with the exception of site entrances where the Zol for air quality increases to 250m (IAQM, 2024).
- The Zol for potential surface water quality impacts is defined as 50m from a watercourse or drainage channel in accordance with *Standards for Felling and Reforestation* (DAFM, 2019).
- The foraging/commuting ranges of the QIs/SCIs of the European sites within the potential Zol was also considered when determining the actual Zol for the Proposed Project.
- The Zol for disturbance to terrestrial mammals was defined in accordance with the NRA guidance related to European otter (NRA, 2006) which states that noise impacts from construction works can impact breeding European otter holts within 150 m of a noise source (i.e., proposed infrastructure);
- The Zol for marsh fritillary was defined as 14km, as maximum dispersal distances for the species between 10–14 km has been reported in studies on gene flow (Sigaard et al., 2008). Other genetic studies indicate that short-distance dispersal (<400 m) occur frequently, while long-distance movements (>4 km) are infrequent, concluding populations located >4km function as separate populations (Davis, 2019).
- The Zol for disturbance for avifauna varies for species. The disturbance distance for bar-tailed godwit is 200-300m and is relevant for this report (NatureScot, 2022).
- The core foraging ranges for recorded species has been considered when assessing potential impacts and whether the species are special conservation interests (SCI) of an associated SPA. Of relevance to this report is the core foraging range and maximum foraging range for the following species (SNH, 2016).
 - European golden plover (*Pluvialis apricaria*) is between 3-11 km;



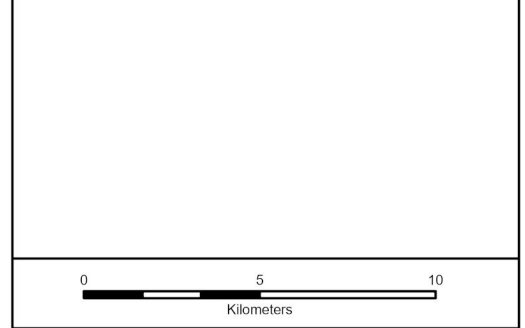
- Golden eagle (*Aquila chrysaetos*) is between 6km-9km;
- Hen harrier (*Circus cyaneus*) is between 2km-10km;
- Merlin (*Falco columbarius*) is within 5km;
- Peregrine (*Falco peregrinus*) is between 2km-18km;
- Osprey (*Pandion haliaetus*) is between 10km-28km;
- White-tailed eagle (*Haliaeetus albicilla*) is between 5km-13km; and,
- Whooper swan (*Cygnus cygnus*) is less than 5km.

European sites with connectivity to the Proposed Project (utilising the source-pathway-receptor model) are illustrated in Figure 19.





- Legend**
- proposed Wind Farm Site
 - Grid Connection Route
 - Turbine Delivery Route
 - WFD - River Water Bodies
 - WFD - Lake Water Bodies
 - WFD - Transitional Water Bodies
 - Special Areas of Conservation (SACs)
 - Special Protection Areas (SPAs)



Spatial Reference
 Datum: IRENET95
 EPSG: 2157

Copyrights:
 Map data © OpenStreetMap contributors, Microsoft, Facebook, Google, Esri Community Maps contributors, Map layer

Rev	Date	Description	By	Chkd
A	25/02/2026	First issue	S.P	S.R

Client:

Project:
 Lissinagroagh Wind Farm

Title:
 Figure 19:
 European sites within the Zone of Influence of the Proposed Project

Scale @ A3: 1:215,000

Prepared by: S.Pezzetta
 Checked by: S.Ryan
 Date: February 2026

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Map Ref: 10955-013.AA-EU.S-TDR-TOB-A
 Draft: A

4.2 DESCRIPTION OF EUROPEAN SITES

Summarised descriptions of European sites which demonstrate the potential to fall within the ZoI of the Proposed Project are presented below. The source–pathway–receptor model was applied to determine whether a European site falls within the ZoI of the Proposed Project (OPR, 2021, see Figure 19). The summary descriptions have been prepared using supporting information available on the NPWS website (NPWS, 2025a).

Each of the listed European sites has up to date site specific conservation objectives in place, which are given due consideration in Section 4.3

4.2.1 Arroo Mountain SAC

Arroo Mountain SAC (001403) is a large mountain complex which is comprised of blanket bog, heathland, upland grassland, calcareous flushes, wooded ravines, limestone gorges and steep limestone cliffs which have developed on top of an undulating limestone plateau (NPWS, 2016c). It is the most northeasterly part of the Ben Bulbin range of mountains and is located c. 3km southwest of Kinlough in County Leitrim (NPWS, 2016c). The SAC is designated for seven Annex I habitats which are listed in Section 4.3.1..

4.2.2 Ballysadare Bay SAC

Ballysadare Bay SAC (000622) extends for about 10km westwards from the town of Ballysadare, County Sligo, and is the most southerly of three inlets of the larger Sligo Bay (NPWS, 2013a). The SAC is designated for six Annex I habitats and two Annex II species which are listed in Section 4.3.2

4.2.3 Ben Bulbin, Gleniff and Glenade SAC

Ben Bulbin, Gleniff and Glenade SAC (000623) is located in the uplands around Ben Bulbin, King's Mountain, Benwiskin, Truskmore and Tievebaun (or Eagle's Rock), straddling the Sligo/Leitrim County boundary (NPWS, 2020). The site is one of the best in the country for alpinism, in terms of species richness and abundance where alpine plants found here occur nowhere else in Ireland (NPWS, 2020). The SAC is designated for 15 Annex I habitats and two Annex II species which are listed in Section 4.3.3.

4.2.4 Boleybrack Mountain SAC

Boleybrack Mountain SAC (002032) comprises an extensive upland plateau situated to the north of Lough Allen in County Leitrim (NPWS, 2013c). The SAC is dominated by active mountain blanket bog and wet heath, with small oligotrophic/dystrophic lakes scattered throughout. The site also contains low rocky cliffs, areas of dry heath and a variety of grassland types, including heathy grassland dominated upland acid grassland, orchid-rich meadows and wet, rushy pastures (NPWS, 2013c). The SAC is designated for five Annex I habitats which are listed in Section 4.3.4.

4.2.5 Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC

Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC (000627) is a coastal site which extends from Cullamore in the northwest to Killaspug in the south-west, and from Sligo town in the southeast to Drumcliff village in the northeast (NPWS, 2016d). It encompasses two large, shallow bays, Drumcliff Bay and Sligo Harbour, and both Ardboline and Horse Island. This SAC includes a



variety of habitats such as sand dunes and sand hills, grasslands, woodland, saltmarsh, sandy beaches, boulder beaches, shingle, fen, freshwater marshes, rocky sea cliffs and lakes (NPWS, 2016d). The SAC is designated for eight Annex I habitats and four Annex II species which are listed in Section 4.3.5.

4.2.6 Glenade Lough SAC

Glenade Lough SAC (000428) is a relatively small lake situated on the upper reaches of the Bonet River and in a valley between the Arroo and Benbulbin Mountain ranges (NPWS, 2013d). The lake is naturally eutrophic lake, but shows mesotrophic features (NPWS, 2013d). The SAC is designated for one Annex I habitats and two Annex II species which are listed in Section 4.3.6.

4.2.7 Lough Gill SAC

Lough Gill SAC (001976) includes Lough Gill, Doon Lough to the northeast, the Bonet River (as far as, but not including, Glenade Lough), and a stretch of the Owenmore River near Manorhamilton in County Leitrim (NPWS, 2016b)The SAC is designated for four Annex I habitats and six Annex II species which are listed in Section 4.3.7.

4.2.8 Lough Melvin SAC

Lough Melvin SAC is situated in the extreme northwest of County Leitrim, c. 4km south of Bundoran. Lough Melvin is an oligo-mesotrophic lake and is c. 13km long by 3km wide (NPWS, 2016a). The SAC is designated for two Annex I habitats and two Annex II species which are listed in Section 4.3.8.

4.2.9 Lough Melvin SAC (NI)

This Lough Melvin SAC Northern Ireland (UK0030047) encompasses the northeastern side of Lough Melvin, with Lough Melvin SAC to the western side. The SAC is designated for three Annex I habitats and one Annex II species which are listed in Section 4.3.9.

4.2.10 Union Wood SAC

Union Wood SAC (000638) located on the eastern bank of the Ballysadare River between Ballysadare and Collooney in Co. Sligo. The site contains old oak woodland which is typical of the Annex I habitat type 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles and one of the best remaining examples in the area (NPWS, 2021c). The SAC is designated for one Annex I habitat which is listed in Section 4.3.10.

4.2.11 Unshin River SAC

The boundaries of Unshin River SAC (001898) protect the Unshin River and its tributaries which run from Lough Arrow in the east (Unshin_020, Unshin_030, Unshin_040, Unshin_050) and the Ox mountains in the west (Owenbeg_010, Owenbeg_020, Owenbeg_030, Owenmore Sligo_080) and discharge into Ballysadare Bay, Co. Sligo (NPWS, 2021d). The river is largely undrained and unaltered along much of its course and supports four Annex I habitats and two Annex II species as listed in Section 4.3.11.

4.2.12 Ballysadare Bay SPA

Ballysadare Bay SPA (004129) extends for approximately 10km westwards from the town of Ballysadare, County Sligo and is the most southerly of three inlets that form the eastern part of



the larger Sligo Bay complex (NPWS, 2010a). The bay contains extensive intertidal sand and mudflats which support populations of macro-invertebrates that are important food sources for wintering waterfowl (NPWS, 2010a). The SPA is designated for six special conservation interest (SCI) species which are listed in Section 4.3.12.

4.2.13 Cummeen Strand SPA

Cummeen Strand SPA (004035) is a large shallow bay stretching from Sligo Town westwards to Coney Island and is one of three estuarine bays within Sligo Bay (NPWS, 2014a). Extensive sand and mud flats are exposed at low tide which support diverse macro-invertebrate fauna that provide the main food supply for wintering waterfowl (NPWS, 2014a). The SPA is designated for four SCI species which are listed in Section 4.3.13

4.2.14 Donegal Bay SPA

Donegal Bay SPA (004151) is a very large, marine-dominated site which extends from Doorin Point, to the west of Donegal Town, to Tullaghan Point in County Leitrim, a distance of approximately 15 km along its north-east/south-west axis (NPWS, 2010b). Much of the shoreline is rocky or stony, with well-developed littoral reefs in places (NPWS, 2010b). There are also extensive stretches of sandy beaches, especially from the Murvagh peninsula southwards to Rossnowlagh and at the outer part of the estuary of the River Erne (NPWS, 2010b). Extensive areas of intertidal flats are also associated with the estuary of the River Eske (NPWS, 2010b). The SPA is designated for five SCI species which are listed in Section 4.3.15.

4.2.15 Drumcliff Bay SPA

Drumcliff Bay SPA (004013) is the most northerly of Sligo Bay's three estuarine inlets and comprises an inner area of sheltered estuarine habitat and an outer area of shallow seawater (NPWS, 2014b). The SPA is designated for three SCI species which are listed in Section 4.3.14.

4.2.16 Lough Derg (Donegal) SPA

Lough Derg SPA (004057) Co. Donegal is a large, oligotrophic lake located north of the Pettigo village (NPWS, 2012a). In 1999 a survey recorded the largest breeding population of Lesser black-backed gull in the country as well as a breeding population of Herring gull, which is of national importance. The SPA is designated for two SCI species which are listed in Section 4.3.16.

4.2.17 Pettigoe Plateau SPA (NI)

Pettigoe Plateau SPA (UK9020051) Northern Ireland lies between Beleek and Pettigoe to the north of the western tip of Lower Lough Erne, County Fermanagh (DAERA NI, 2015). The Plateau, with its mosaic of lakes, peatlands and forests extends across the border into County Donegal (DAERA NI, 2015). The area of blanket bog has a wide range of the structural features associated with this habitat including pool complexes, acid flushes, basin mires, ladder fens and bog plains (DAERA NI, 2015). The SPA is designated for one SCI species which is listed in Section 4.3.17.

4.2.18 Sligo/Leitrim Uplands SPA

The Sligo/Leitrim Uplands SPA (004187) is located northeast of Sligo Town, in the mountain ranges of Ben Bulbin, Arroo and Cope's Mountain/Crockauns (NPWS, 2015). Inland cliffs and



scree slopes are the predominant habitats of the site, with heath, blanket bog, grassland, scrub, woodland and streams also present (NPWS, 2015). The SPA is designated for two SCI species which are listed in Section 4.3.18.

4.3 CONSERVATION OBJECTIVES

The conservation objectives for the relevant European sites are reviewed and are summarised below. Each of the listed European sites has up to date site specific conservation objectives in place. Site-specific conservation objectives aim to define the favourable conservation condition for a particular QI habitat or QI/SCI species within a European site (NPWS, 2025e).

The favourable conservation status of a habitat is achieved when (NPWS, 2025e):

- its natural range, and area it covers within that range, are stable or increasing;
- 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.

The favourable conservation status of a species is achieved when (NPWS, 2025e):

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

Potential pathways for likely significant effects on European sites and their QIs/SCIs are identified Section 5.1.

4.3.1 Arroo Mountain SAC

The conservation objectives for Arroo Mountain SAC and the list of specific attributes and targets defining the conservation objectives for each QI is listed within the supporting information available on the NPWS website. Site-specific conservation objectives have been set by the NPWS for each of the listed QIs of the SAC.

The conservation objectives for the Arroo Mountain SAC (NPWS, 2016d) can be summarised as follows:

- To restore the favourable conservation condition of the following Annex I habitat types in Arroo Mountain SAC:
 - Northern Atlantic wet heaths with *Erica tetralix* [4010];
 - European dry heaths [4030]
 - Alpine and Boreal heaths [4060]
 - Blanket bogs (* if active bog) [7130];
 - Petrifying springs with tufa formation (Cratoneurion) [7220];



- Calcareous and calcshist screes of the montane to alpine levels (*Thlaspietea rotundifolia*) [8120]
- Calcareous rocky slopes with chasmophytic vegetation [8210]

4.3.2 Ballysadare Bay SAC

The conservation objectives for the SAC and the list of specific attributes and targets defining the conservation objectives for each QI is listed within the supporting information available on the NPWS website. Site-specific conservation objectives have been set by the NPWS for each of the listed QIs of the SAC.

The conservation objectives for the SAC can be summarised as follows (NPWS, 2013b):

- To restore the favourable conservation condition of the following Annex I habitat types and Annex II species in the SAC:
 - Estuaries [1130];
 - Mudflats and sandflats not covered by seawater at low tide [1140];
 - Embryonic shifting dunes [2110];
 - Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120];
 - Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130];
 - Humid dune slacks [2190];
 - Narrow-mouthed Whorl Snail (*Vertigo angustior*) [1014]; and,
 - Harbour Seal (*Phoca vitulina*) [1365].

4.3.3 Ben Bulbin, Gleniff and Glenade SAC

The conservation objectives for the SAC and the list of specific attributes and targets defining the conservation objectives for each QI is listed within the supporting information available on the NPWS website. Site-specific conservation objectives have been set by the NPWS for each of the listed QIs of the SAC.

The conservation objectives for the SAC (NPWS, 2021a) can be summarised as follows:

- To restore the favourable conservation condition of the following Annex I habitat types and Annex II species in the SAC:
 - Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation [3260];
 - Northern Atlantic wet heaths with *Erica tetralix* [4010];
 - European dry heaths [4030];
 - Alpine and Boreal heaths [4060];
 - Juniperus communis formations on heaths or calcareous grasslands [5130];
 - Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210];



- Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230];
- Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430];
- Blanket bogs (* if active bog) [7130];
- Transition mires and quaking bogs [7140];
- Petrifying springs with tufa formation (Cratoneurion) [7220];
- Alkaline fens [7230];
- Siliceous scree of the montane to snow levels (*Androsacetalia alpinae* and *Galeopsietalia ladanii*) [8110];
- Calcareous and calcshist screes of the montane to alpine levels (*Thlaspietea rotundifolia*) [8120];
- Calcareous rocky slopes with chasmophytic vegetation [8210];
- Geyer's Whorl Snail (*Vertigo geyeri*) [1013]; and,
- Otter (*Lutra lutra*) [1355].

4.3.4 Boleybrack Mountain SAC

The conservation objectives for the SAC and the list of specific attributes and targets defining the conservation objectives for each QI is listed within the supporting information available on the NPWS website. Site-specific conservation objectives have been set by the NPWS for each of the listed QIs of the SAC.

The conservation objectives for the SAC (NPWS, 2016e) can be summarised as follows:

- To restore the favourable conservation condition of the following Annex I habitat types within the SAC:
 - Natural dystrophic lakes and ponds [3160];
 - Northern Atlantic wet heaths with *Erica tetralix* [4010];
 - European dry heaths [4030];
 - *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410];
 - Blanket bogs (* if active bog) [7130].

4.3.5 Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC

The conservation objectives for the SAC and the list of specific attributes and targets defining the conservation objectives for each QI is listed within the supporting information available on the NPWS website. Site-specific conservation objectives have been set by the NPWS for each of the listed QIs of the SAC.

The conservation objectives for the SAC (NPWS, 2024a) can be summarised as follows:



- To restore the favourable conservation condition of the following Annex I habitat types and Annex II species in the SAC:
 - Estuaries [1130];
 - Mudflats and sandflats not covered by seawater at low tide [1140];
 - Embryonic shifting dunes [2110];
 - Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120];
 - Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130];
 - *Juniperus communis* formations on heaths or calcareous grasslands [5130];
 - Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210];
 - Petrifying springs with tufa formation (Cratoneurion) [7220];
 - Narrow-mouthed Whorl Snail (*Vertigo angustior*) [1014];
 - Sea Lamprey (*Petromyzon marinus*) [1095];
 - River Lamprey (*Lampetra fluviatilis*) [1099]; and,
 - Harbour Seal (*Phoca vitulina*) [1365].

4.3.6 Glenade Lough SAC

The conservation objectives for the SAC and the list of specific attributes and targets defining the conservation objectives for each QI is listed within the supporting information available on the NPWS website. Site-specific conservation objectives have been set by the NPWS for each of the listed QIs of the SAC.

The conservation objectives for the SAC (NPWS, 2021c) can be summarised as follows:

- To restore the favourable conservation condition of the following Annex I habitat types and Annex II species in the SAC:
 - Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150];
 - White-clawed Crayfish (*Austropotamobius pallipes*) [1092]; and,
 - Slender Naiad (*Najas flexilis*) [1833].

4.3.7 Lough Gill SAC

The conservation objectives for the SAC and the list of specific attributes and targets defining the conservation objectives for each QI is listed within the supporting information available on the NPWS website. Site-specific conservation objectives have been set by the NPWS for each of the listed QIs of the SAC.

The conservation objectives for the SAC (NPWS, 2021f) can be summarised as follows:

- To restore the favourable conservation condition of the following Annex I habitat types and Annex II species in the SAC:



- Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [3150];
- Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210];
- Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0];
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) [91E0];
- White-clawed Crayfish (*Austropotamobius pallipes*) [1092];
- Sea Lamprey (*Petromyzon marinus*) [1095];
- Brook Lamprey (*Lampetra planeri*) [1096];
- River Lamprey (*Lampetra fluviatilis*) [1099];
- Atlantic Salmon (*Salmo salar*) [1106]; and
- European otter (*Lutra lutra*) [1355].

4.3.8 Lough Melvin SAC

The conservation objectives for the SAC and the list of specific attributes and targets defining the conservation objectives for each QI is listed within the supporting information available on the NPWS website. Site specific conservation objectives have been set by the NPWS for each of the listed QIs of the SAC.

The conservation objectives for the SAC (NPWS, 2021e) can be summarised as follows:

- To restore the favourable conservation condition of the following Annex I habitat types and Annex II species in the SAC:
 - Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or *Isoeto-Nanojuncetea* [3130];
 - Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410];
 - Atlantic Salmon (*Salmo salar*) [1106]; and,
 - European otter (*Lutra lutra*) [1355].

4.3.9 Lough Melvin SAC (NI)

The conservation objectives for the SAC and the list of specific attributes and targets defining the conservation objectives for each QI is listed within the supporting information available on the DAERA website. Site-specific conservation objectives have been set by the NPWS for each of the listed QIs of the SAC.

The conservation objectives for the SAC (DAERA, 2015) can be summarised as follows:

- To maintain (or restore where appropriate) the:
 - Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflora* and/or of the *Isoet-Nanojuncetea* [3130];;
 - Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinia*



- *caeruleae*) [6410];
- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]; and,
- Atlantic Salmon (*Salmo salar*) [1106].

4.3.10 Union Wood SAC

The conservation objectives for the SAC and the list of specific attributes and targets defining the conservation objectives for each QI is listed within the supporting information available on the NPWS website. Site-specific conservation objectives have been set by the NPWS for each of the listed QIs of the SAC.

The conservation objectives for the SAC (NPWS, 2021e) can be summarised as follows:

- To restore the favourable conservation condition of the following Annex I habitat types in the SAC:
 - Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]

4.3.11 Unshin River SAC

The conservation objectives for the SAC and the list of specific attributes and targets defining the conservation objectives for each QI is listed within the supporting information available on the NPWS website. Site-specific conservation objectives have been set by the NPWS for each of the listed QIs of the SAC.

The conservation objectives for the SAC (NPWS, 2021d) can be summarised as follows:

- To restore the favourable conservation condition of the following Annex I habitat types and Annex II species in the SAC:
 - Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation [3260];
 - Semi-natural dry grasslands and scrubland facies on calcareous substrates (*Festuco-Brometalia*) (* important orchid sites) [6210];
 - Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) [6410];
 - Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) [91E0];
 - Atlantic salmon (*Salmo salar*) [1106]; and,
 - European otter (*Lutra lutra*) [1355].

4.3.12 Ballysadare Bay SPA

The conservation objectives for the SPA and the list of specific attributes and targets defining the conservation objectives for each SCI is listed within the supporting information available on the NPWS website. Site-specific conservation objectives have been set by the NPWS for each of the listed SCIs of the SPA.

The conservation objectives for the SPA (NPWS, 2013c) can be summarised as follows:



- To restore the favourable conservation condition of the following SCIs in the SPA:
 - Light-bellied Brent Goose (*Branta bernicla hrota*) [A046];
 - Grey Plover (*Pluvialis squatarola*) [A141];
 - Dunlin (*Calidris alpina*) [A149];
 - Annex I species Bar-tailed Godwit (*Limosa lapponica*) [A157];
 - Redshank (*Tringa totanus*) [A162]; and,
 - A999 Wetlands.

4.3.13 Cummeen Strand SPA

The conservation objectives for the SPA and the list of specific attributes and targets defining the conservation objectives for each SCI is listed within the supporting information available on the NPWS website. Site-specific conservation objectives have been set by the NPWS for each of the listed SCIs of the SPA.

The conservation objectives for the SPA (NPWS, 2013e) can be summarised as follows:

- To restore the favourable conservation condition of the following SCIs in the SPA:
 - Light-bellied Brent Goose (*Branta bernicla hrota*) [A046];
 - Oystercatcher (*Haematopus ostralegus*) [A130];
 - Redshank (*Tringa totanus*) [A162]; and
 - Wetlands [A999].

4.3.14 Donegal Bay SPA

The conservation objectives for the SPA and the list of specific attributes and targets defining the conservation objectives for each SCI is listed within the supporting information available on the NPWS website. Site-specific conservation objectives have been set by the NPWS for each of the listed SCIs of the SPA.

The conservation objectives for the SPA (NPWS, 2012) can be summarised as follows:

- To restore the favourable conservation condition of the following SCIs in the SPA:
 - Annex I species Great Northern Diver (*Gavia immer*) [A003];
 - Light-bellied Brent Goose (*Branta bernicla hrota*) [A046];
 - Common Scoter (*Melanitta nigra*) [A065];
 - Sanderling (*Calidris alba*) [A144]; and
 - Wetlands [A999].

4.3.15 Drumcliff Bay SPA

The conservation objectives for the SPA and the list of specific attributes and targets defining the conservation objectives for each SCI is listed within the supporting information available on the NPWS website. Site-specific conservation objectives have been set by the NPWS for each of the listed SCIs of the SPA.

The conservation objectives for the SPA (NPWS, 2013f) can be summarised as follows:



- To restore the favourable conservation condition of the following SCIs in the SPA:
 - Sanderling (*Calidris alba*) [A144];
 - Annex I species Bar-tailed Godwit (*Limosa lapponica*) [A157]; and
 - Wetlands [A999].

4.3.16 Lough Derg (Donegal) SPA

The conservation objectives for the SPA and the list of specific attributes and targets defining the conservation objectives for each SCI is listed within the supporting information available on the NPWS website. Site-specific conservation objectives have been set by the NPWS for each of the listed SCIs of the SPA.

The conservation objectives for the SPA (NPWS, 2025g) can be summarised as follows:

- To restore the favourable conservation condition of the following SCIs in the SPA:
 - [A183] Lesser Black-backed gull (*Larus fuscus*); and,
 - [A184] Herring gull (*Larus argentatus*).

4.3.17 Pettigoe Plateau SPA (NI)

The conservation objectives for the SPA and the list of specific attributes and targets defining the conservation objectives for each SCI is listed within the supporting information available on the NPWS website. Site-specific conservation objectives have been set by the NPWS for each of the listed SCIs of the SPA.

The conservation objectives for the SPA (NPWS, 2025f) can be summarised as follows:

- To restore the favourable conservation condition of the following SCIs in the SPA:
 - Annex I species Golden plover (*Pluvialis apricaria*) [A140].

4.3.18 Sligo Leitrim Uplands SPA

The conservation objectives for the SPA and the list of specific attributes and targets defining the conservation objectives for each SCI is listed within the supporting information available on the NPWS website. Site-specific conservation objectives have been set by the NPWS for each of the listed SCIs of the SPA.

The conservation objectives for the SPA (NPWS, 2013f) can be summarised as follows:

- To restore the favourable conservation condition of the following SCIs in the SPA:
 - Annex I species [A103] Peregrine (*Falco peregrinus*); and,
 - Annex I species [A346] Chough (*Pyrrhocorax pyrrhocorax*).
 -



5. IDENTIFICATION OF POTENTIAL IMPACTS ON EUROPEAN SITES

An overview of potential impacts as a result of the construction, operational and decommissioning phases of the Proposed Project on the receiving environment is discussed hereunder. The likelihood of impacts occurring because of the Proposed Project is established in light of the type and scale of the project, the location of the project with respect to European sites within the Zol and the QIs/SCIs and conservation objectives of those European sites.

There are several elements associated with the works, that may give rise to direct and indirect impacts on the receiving environment that have the potential to result in likely significant effects on European sites within the Zol.

5.1 POTENTIAL IMPACTS AND EFFECTS

The potential impacts and effects on European sites associated with all phases of the development, construction, operation and decommissioning phases are discussed in this section and summarised in Table 13.

In summary, the potential impacts on SACs and SPAs as a result of the Proposed Project consist of:

- Habitat loss;
- Contamination of groundwater bodies;
- Sedimentation/contamination of surface waterbodies;
- Disturbance/displacement of QI/SCI species;
- Collision risk for SCI species with wind turbines;
- Spread of invasive species.

5.1.1 Arroo Mountain SAC

Arroo Mountain SAC is located 1.2km north-west of T3 and 3km north-west of T11 at nearest distance. The Glencar and Glenaniff GWBs encompass Arroo Mountain SAC and the proposed Wind Farm Site.

The SAC [001403] shares the Glenaniff and Glencar GWBs with the proposed Wind Farm Site. As stated in Section 3.1, both aquifers are karstified and flow directions within this type of aquifers can be highly variable, with the possibility of flow path lengths extending to several kilometres in length (GS1, 2025a; GSI 2025b). As such, a hydrogeological pathway exists between the SAC and the proposed Wind Farm Site. However, based on all the available site investigation data, no karst features or evidence of potential pathways have been identified at the proposed turbine locations (Appendix 5: EIAR Chapter 8 - Hydrology and Hydrogeology).

The construction phase of the proposed Wind Farm Site has potential for negative impacts on the height of the water table in karstified aquifers, due to the proposed dewatering to accommodate construction activities at T3 and T11 (Appendix 5, Section 8.4.5.2). This constitutes potential for likely significant effects on the hydrological regime of groundwater dependant QI habitats listed for the SAC (see below).

In terms of groundwater contamination, site excavations will increase the vulnerability of the underlying aquifer to pollution through either a complete loss of overburden where cuttings are into the bedrock or by reducing the overburden depth and thus increasing the vulnerability for contaminated road drainage (Appendix 5).



Due to the presence of karstification in the Study Area of the proposed Wind Farm Site there is important interaction between groundwater and surface water flows. The construction activities associated with the proposed Wind Farm Site have the potential to impact groundwater, if a particular pathway, e.g. karst conduit, existed near the proposed construction activities (Appendix 5).

As such, the impacts listed have potential to result in significant effects on groundwater dependant QI's of Arroo Mountain SAC in view of the conservation objectives, namely (NPWS, 2016c);

- Annex I habitat type 7220 Petrifying springs with tufa formation (Cratoneurion);
- Annex I habitat type 4010 Northern Atlantic wet heaths with *Erica tetralix*; and,
- Annex I habitat type 7130 Blanket bogs (* if active bog).

The potential for likely significant effects through ground water contamination is limited to the construction phases when excavations are proposed to take place.

In the absence of mitigation, the Proposed Project has potential to result in significant effects on Arroo Mountain SAC in view of the conservation objectives, through groundwater contamination during the construction phase of the proposed Wind Farm Site. Therefore, Arroo Mountain SAC is screened in for further assessment.

5.1.2 Ballysadare Bay SAC

Ballysadare Bay SAC [000622] is located c. 17km downstream of the south-western extent of the proposed GCR with hydrological connectivity via the Unshin_40. As such, a hydrological pathway exists between the Proposed Project and the SAC.

The construction phase of the proposed GCR has potential to negatively impact the water quality status of Ballysadare Bay SAC, as trenching is proposed along the public road network within 50m of a watercourse crossing at Ballygrania (EPA Code: 35B81) which forms part of the WFD river waterbody Unshin_040.

The proposed GCR has the potential to result in likely significant effects on the QIs, specifically those which are sensitive to water quality status, namely (NPWS, 2013b):

- Annex I habitat type 1130 Estuaries;
- Annex I habitat type 1140 Mudflats and sandflats not covered by seawater at low tide; and,
- Annex II species 1365 Harbour Seal (*Phoca vitulina*).

There is no potential for significant effects on Ballysadare Bay SAC during the operational phase as there will be no further works planned. Similarly, there is no potential for significant effects on Ballysadare Bay SAC during the decommissioning phase, as the proposed grid infrastructure will remain as a permanent part of the national infrastructure.

In the absence of mitigation, the Proposed Project has potential to result in significant effects on Ballysadare Bay SAC in view of the conservation objectives, through water quality impacts. Therefore, Ballysadare Bay SAC is screened in for further assessment.



5.1.3 Ben Bulben, Gleniff and Glenade SAC

Ben Bulben, Gleniff and Glenade SAC [000623] is located c. 8.3km north-west of the proposed Wind Farm Site. The SAC shares the Glencar GWB with the proposed Wind Farm Site. Glencar GWB is karstic and as such, flow directions and flow path lengths can be highly variable (Section 3.1.3).

The construction phase of the proposed Wind Farm Site has potential for negative impacts on the height of the water table in karstified aquifers, due to the proposed dewatering to accommodate construction activities at T11 as well as the substation and construction compound to the south-west of T11. This constitutes potential for likely significant effects on the hydrological regime of groundwater dependant QI habitats listed for the SAC (see below).

In terms of groundwater contamination, site excavations will increase the vulnerability of the underlying aquifer to pollution through either a complete loss of overburden where cuttings are into the bedrock or by reducing the overburden depth and thus increasing the vulnerability for contaminated road drainage. Due to the presence of karst on the proposed Wind Farm Site there is potential for groundwater quality effects on the underlying aquifer (Appendix 5: EIAR Chapter 8 - Hydrology and Hydrogeology).

As such, the impacts listed have potential to result in significant effects on groundwater dependant QI's, namely (NPWS, 2020):

- Annex I habitat type 7220 Petrifying springs with tufa formation (Cratoneurion);
- Annex I habitat type 7230 Alkaline fens;
- Annex I habitat type 4010 Northern Atlantic wet heaths with *Erica tetralix*;
- Annex I habitat type 7130 Blanket bogs (* if active bog); and
- Annex I habitat type 7140 Transition mires and quaking bogs.

The potential for likely significant effects through ground water contamination is limited to the construction phases when excavations are proposed to take place.

The Annex II species 1355 European otter (*Lutra lutra*) is a QI of Ben Bulben, Gleniff and Glenade SAC. European otter is a highly mobile species, with home ranges extending over tens of kilometres (Chanin, 2003). The proposed accommodations along the TDR have potential to disturb European otters at POI 25 where vegetation removal is proposed to facilitate an over sail area along the TDR. POI 25 is located c. 137m from the boundary of Ben Bulben, Gleniff and Glenade SAC at nearest distance. The potential for likely significant effects is limited to the construction and decommissioning phase where vegetation clearance along the TDR, inclusive of POI 25, are necessary to facilitate the delivery of abnormal indivisible loads.

In the absence of mitigation, there is potential for likely significant effects on Ben Bulben, Gleniff and Glenade SAC in view of the conservation objectives.

5.1.4 Boleybrack Mountain SAC

Boleybrack Mountain SAC [002032] is located 3.8km south-east of the proposed Wind Farm Site and 4.8km south-east of the proposed GCR at nearest distance. The SAC shares the Glenfarne GWB with the Survey Area of the proposed Wind Farm Site (Figure 5). However, the boundary of the proposed Wind Farm Site does not overlap with the Glenfarne GWB (Figure 5). No construction works will take place in lands encompassing the Glenfarne GWB, as such



there is no potential for likely significant effects on ground water flow or quality of Glenfarne GWB and/or the groundwater dependant habitats of Boleybrack Mountain SAC.

According to best practice guidance on the use of the source-pathway-receptor model in appropriate assessments, if the SCIs of the European site are not vulnerable (either directly or indirectly) to any impact resulting from the Proposed Project in view of their conservation objectives,, then potential for a likely significant effect can be ruled out at this stage of the screening process (OPR, 2021). As such, Boleybrack Mountain SAC is screened out at this stage.

5.1.5 Cummeen Strand/Drumcliff Bay SAC

Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC is located 22km west from the proposed Wind Farm Site. The proposed POI 13 along the TDR is partially located within the boundaries of Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC (Figure 2). The removal of vegetation, specifically the trimming of c.17m of Hedgerow (WL1) along the N4, within the over sail area of POI 13 is located within the boundaries of the SAC itself. There is no potential for likely significant effects on the integrity of the SAC as a direct result of the loss of Hedgerow (WL1), as the QI species and habitats are aquatic/coastal in nature (with the exception of the Annex I habitat type [6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites), which is not located along the N4).

The vegetation clearance associated with the over run area at PO1 13 is located outside the boundaries of the SAC and involves the removal of topsoil. There is hydrological connectivity via the Garavogue_010 which passes under the bridge at POI 13 and discharges into the SAC 0m from POI 13. In the absence of mitigation there is potential for likely significant effects as a result of siltation associated with the excavation of topsoil. The potential for an accidental spillage/leakage of contaminants from machinery and/or vehicles has also been considered and although the likelihood is low, without mitigation there is potential for likely significant effects on the watercourse discharging into the SAC.

In the absence of mitigation, there is potential for likely significant effects due to the location of proposed accommodations within the boundaries of the SAC. The proposed accommodations are scheduled for the construction phase and will be necessary for the decommissioning phase to facilitate the transport of abnormal indivisible loads.

In addition, there is hydrological connectivity from POI 21 and the SAC c. 3.1km downstream via the Willsborough Stream_010. Again, proposed accommodations at POI 21 consist of vegetation removal to accommodate the over sail area. Risks of siltation therefore are reduced to negligible given that the watercourse is c. 50m from the proposed vegetation clearance. This 50m separation distance ensures there is no potential for contamination of watercourses following an accidental contamination event. As such, there is no potential for significant effects on Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC as a result of proposed accommodations at POI 21.

The QIs for the SAC which have potential for likely significant effects in view of the conservation objectives, as a result of the siltation associated with the over run and/or an accidental contamination event at POI 13 along the TDR are:

- Estuaries [1130];
- Mudflats and sandflats not covered by seawater at low tide [1140];
- Sea Lamprey (*Petromyzon marinus*) [1095];



- River Lamprey (*Lampetra fluviatilis*) [1099]; and,
- Harbour Seal (*Phoca vitulina*) [1365].

A small stand of Japanese knotweed was identified along northern extent of the TDR between POI 41 and 42. There is potential for the spread of this species along the TDR including to POI 13 which is partially located within the boundaries of Cummeen Strand/Drumcliff bay SAC. However, as the location of the Japanese knotweed is c. 40m from the nearest over sail area (POI 41) there is no potential for the transmission of the species from this location along the TDR during construction or decommissioning phase.

In the absence of mitigation, the Proposed Project has potential to result in likely significant effects on Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC in view of the conservation objectives, through water quality impacts as a result of vegetation clearance and/or an accidental contamination event along the TDR during the construction phase and decommissioning phase.





- Legend**
- Point of Interest - Locations
 - TDR:
 - Overrun
 - Oversail
 - Special Areas of Conservation (SACs)
 - WFD - River Water Bodies



Spatial Reference
 Datum: IRENET95
 EPSG: 2157

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Rev	Date	Description	By	Chkd.
A	04/03/2026	First issue	S.P	S.R

Client: **FuturEnergy Ireland**

Project: **Lissinagroagh Wind Farm**

Title: **Figure 20:
Cummeen Strand/Drumcliff Bay SAC and POI 13**

Scale @ A3: 1:2,000

Prepared by: S.Pezzetta Checked by: S.Ryan Date: March 2026

TOBIN

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Map Ref: 10955-015.AA-SACs-POI13-TOB-A Draft: **A**

54°16'43"N

836600

568800

5.1.6 Glenade Lough SAC

Glenade Lough SAC [001919] is located 7.6km to the north-west of the proposed Wind Farm Site. The SAC shares the Glencar GWB with the proposed Wind Farm Site. Karstification is extensive throughout the Glencar GWB (GSI, 2025b).

The construction phase of the proposed Wind Farm Site has potential for negative impacts on the height of the water table due to the proposed dewatering to accommodate construction activities, specifically at T11 and the substation and construction compound to the south-west of T11. (Appendix 5: EIAR Chapter 8 - Hydrology and Hydrogeology, Section 8.4.5.2). This constitutes potential for likely significant effects on the hydrological regime of groundwater dependant QI habitats listed for the SAC (see below).

In terms of groundwater contamination, site excavations will increase the vulnerability of the underlying aquifer to pollution through either a complete loss of overburden where cuttings are into the bedrock or by reducing the overburden depth and thus increasing the vulnerability for contaminated road drainage. Due to the presence of karst on the proposed Wind Farm Site there is potential for groundwater quality effects on the underlying aquifer (Appendix 5).

As such, there is potential for likely significant effects on groundwater dependant QI's of Glenade Lough SAC, in view of the conservation objectives, namely (NPWS, 2021b):

- Annex I habitat type 3150 Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*- type vegetation; and,
- Annex II species 1833 Slender naiad (*Najas flexilis*).

The potential for likely significant effects through ground water contamination is limited to the construction phases when excavations are proposed to take place.

In the absence of mitigation, there is potential for the Proposed Project to result in likely significant effects on Glenade Lough SAC in view of the conservation objectives, during the construction phase. Therefore, the SAC is screened in for further assessment.

5.1.7 Lough Gill SAC

Lough Gill SAC [001976] is located c. 165m south of the southern entrance of the proposed Wind Farm Site. The proposed Wind Farm Site is upstream and hydrologically connected to the SAC via the Brackary_010 and Owenmore (Manorhamilton)_020 (Section 4.1). As such, a hydrological pathway exists between the Survey Area for the proposed Wind Farm Site and the SAC which is located 2.2km downstream at nearest distance (Figure 21).

There is potential for negative impacts on Lough Gill SAC consisting of the release of sediment laden surface water or otherwise polluted water to watercourses draining the proposed Wind Farm Site. As such, there is potential for indirect impacts and likely significant effects on aquatic species and riparian habitats listed as QIs for Lough Gill SAC in view of the conservation objectives,, consisting of (NPWS, 2016b):

- Annex I habitat type 3150 Natural eutrophic lakes with *Magnopotamion* or *Hydrocharition*- type vegetation;
- Annex I habitat type 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*);
- Annex II species 1092 White-clawed Crayfis);
- Annex II species 1095 Sea Lamprey;



- Annex II species 1096 Brook Lamprey;
- Annex II species 1099 River Lamprey;
- Annex II species 1106 Atlantic Salmon ; and,
- Annex II species 1355 European otter.

There is potential for downstream water quality impacts associated with the proposed Wind Farm Site during the construction, operation and decommissioning phases where vegetation clearance constitutes potential for likely significant effects. Similarly, during the operational phase the bat buffers will need maintenance, so there is potential for the clearance of Scrub (WS1) within the proposed Wind Farm Site, but as no earthworks are scheduled, there is no potential for downstream water quality impacts as a result.

In addition, sections of the proposed GCR are located within the boundary of Lough Gill SAC for c. 920m. Six Aquatic Site survey locations are located at existing watercourse crossings (Aquatic site 15, 16, 17, 19, 22, 24) within the SAC (Figure 22). As such, a physical pathway exists between the proposed Wind Farm Site and the SAC where trenching takes place within 50m of watercourses. Of these Aquatic Site 15 and 22 are the proposed off-road HDD crossings (Figure 23, Figure 24). In addition to this, a further eight Aquatic Site survey locations are located at existing watercourse crossings along the GCR and are located outside the boundaries of Lough Gill SAC, and which ultimately drain into the SAC (Aquatic site 12, 13, 14, 18,20, 21, 26, 27). Similarly, this could lead to siltation or contamination of watercourses causing significant effects on the aforementioned QI habitats and species during the construction phase, if run-off was to enter these watercourses. With reference to these sites along the GCR, there is no potential for likely significant effects to occur at these sites during the operation or decommissioning phase of the Proposed Project as the grid cable will remain in-situ.

At HDD Site 1, the GCR deviates from the public road L-2136 for c. 178m and crosses the Bonet River (EPA Code: 35B06 which is part of the WFD Bonet_030 river waterbody (Figure 23). The proposed temporary launch pits for HDD site 1 at Aquatic Site 15 involves the removal of c. 10m of (WL1) Hedgerow within the boundaries of Lough Gill SAC as well as 0.01ha of (Mixed) broadleaved woodland (WD1) outside of Lough Gill SAC. There is potential for the loss of this habitat to result in likely significant effects on the QI species European otter, as the species may use Hedgerow (WL1) and (Mixed) broadleaved woodland (WD1) for commuting and/or locating resting sites.

At HDD Site 2, the GCR deviates from the public road L-4165 for 144m as it crosses the Bonet River (EPA Code:35B06 which is part of the WFD Bonet_050 river waterbody) (Figure 24). HDD Site 2 involves the loss of 0.01ha of Buildings and artificial surfaces (BL3) and 0.01ha of Improved grassland (GA1). As such, there is no potential for likely significant effects on European otter as a result of habitat loss associated with HDD Site 2. Habitat surveys along the proposed GCR confirm there will be no direct loss of Annex I habitats within the SAC as a result of the Proposed Project.

European otter are at risk of disturbance/displacement from construction activities particularly during dawn and dusk when they are most active. No European otter holts or resting places were identified during field surveys along the proposed GCR.

There is potential for the spread of invasive alien species within the GCR from proposed works along the GCR, specifically the Third Schedule (S.I. No. 477/2011) as listed species Japanese knotweed, Himalayan balsam, and Rhododendron, as stands of these species have already been identified at several locations along the GCR during field surveys (Section 3.3.1.2). The potential



spread of invasive species to Lough Gill SAC is limited to the construction phase where proposed works will take place along the GCR. There is no potential for the spread of invasive species to Lough Gill SAC during the operation or decommissioning phase of the Proposed Project as the grid cable will be left in-situ and as such no further works are scheduled along the GCR.

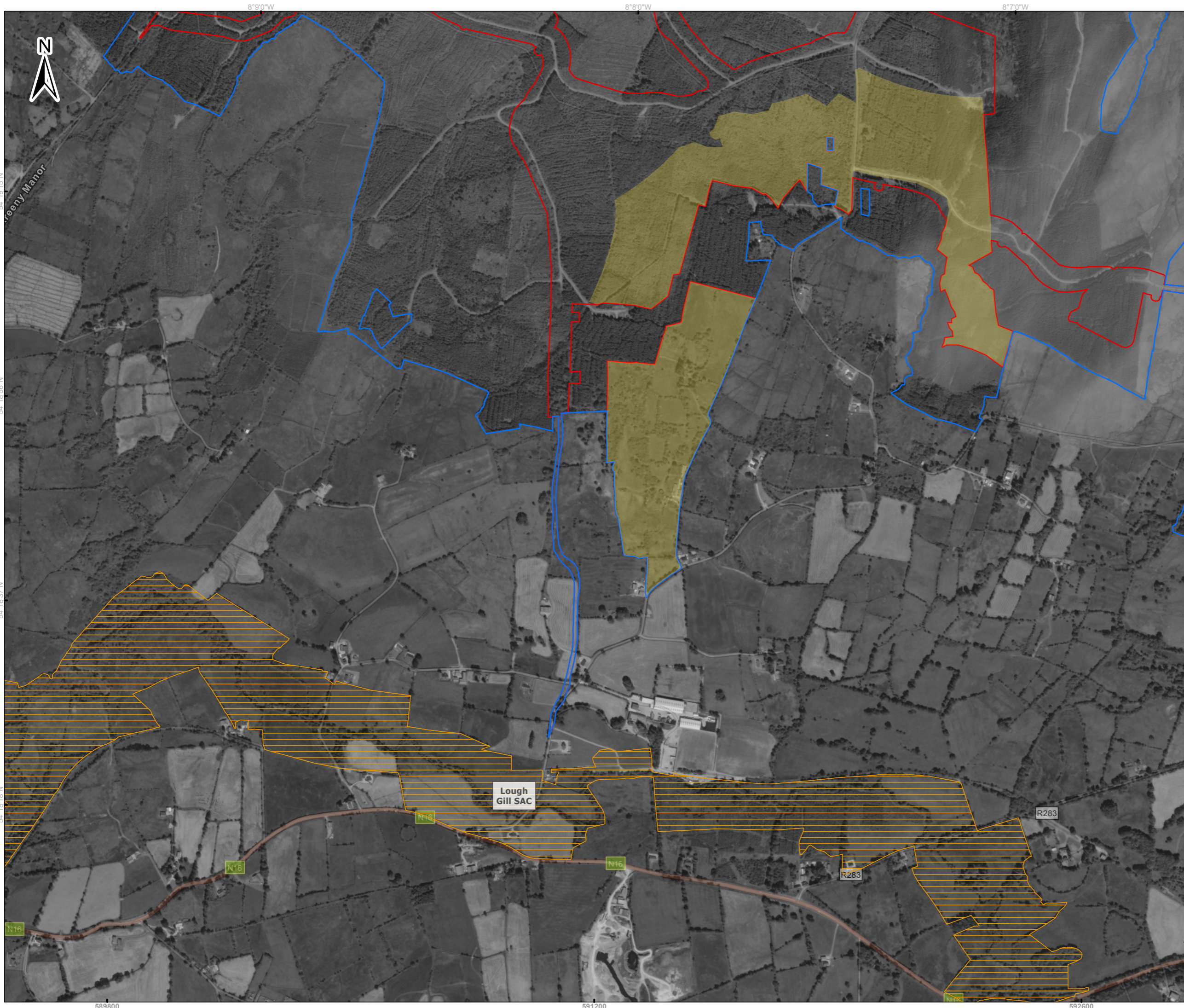
The proposed Wind Farm Site is partially located within the Killarga South GWBs, which overlaps with the northern extent of the boundaries of Lough Gill SAC along the WFD river waterbody Owenmore (Manorhamilton)_020.

The construction phase of the proposed Wind Farm Site has potential for negative impacts on the height of the water table in karstified aquifers, due to the proposed dewatering to accommodate construction activities at T2, T6, T5, T7, T8, T10, T13 and T14 as well as the borrow pits to the north and south of the proposed Wind Farm Site (Appendix 5, see Section 8.4.5.2). This constitutes potential for likely significant effects on the hydrological regime of groundwater dependant QI habitats listed for the SAC (see below).

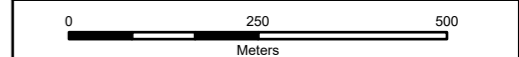
In terms of groundwater contamination, site excavations at T2, T6, T5, T7, T8, T10, T13 and T14 as well as the borrow pits to the north and south of the proposed Wind Farm Site will increase the vulnerability of the underlying aquifer to pollution through either a complete loss of overburden where cuttings are into the bedrock or by reducing the overburden depth and thus increasing the vulnerability for contaminated road drainage (Appendix 5). This constitutes potential for likely significant effects through contamination of groundwater dependant QI habitats listed for the SAC (see below).

In the absence of mitigation, the Proposed Project has potential to result in significant effects on Lough Gill SAC in view of the conservation objectives, during the construction, operation, and decommissioning phases Therefore, the SAC is screened in for further assessment.





- Legend**
- proposed Wind Farm Site
 - Survey Area of the proposed Wind Farm Site
 - Enhancement lands
 - Special Areas of Conservation (SACs)



Spatial Reference
 Datum: IRENET95
 EPSG: 2157

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Rev	Date	Description	By	Chkd.
A	25/02/2026	First issue	S.P	S.R

Client: **FuturEnergy Ireland**

Project: **Lissinagroagh Wind Farm**

Title: **Figure 21:
Lough Gill SAC and the southern entrance to the proposed Wind Farm Site**

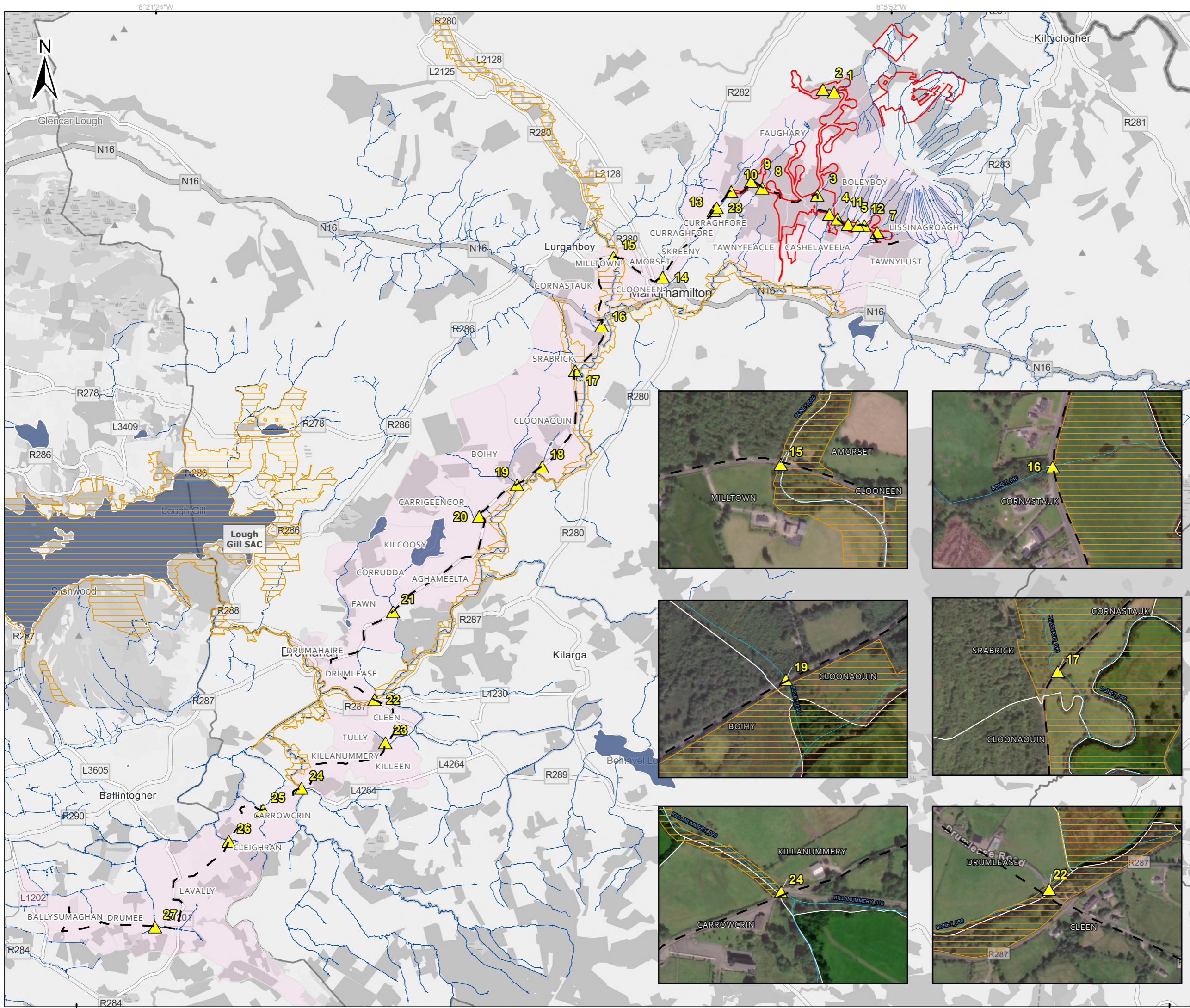
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Prepared by: S.Pezzetta Checked by: S.Ryan Date: February 2026

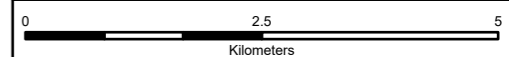
TOBIN

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Map Ref: 10955-014-AA-L.GILL..SAC-P.App.BO-TOB-A Draft: **A**



- Legend**
- proposed Wind Farm Site
 - Grid Connection Route
 - ▲ Aquatic Survey Locations
 - WFD - River Water Bodies
 - WFD - Lake Water Bodies
 - WFD - Transitional Water Bodies
 - Lough Gill SAC
 - Townland Boundaries



Spatial Reference
 Datum: IRENET95
 EPSG: 2157

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A	19/02/2026	First issue	S.P	S.R
Rev	Date	Description	By	Chkd.

Client:

Project:
 Lissinagroagh Wind Farm

Title:
 Figure 22:
 Existing watercourse crossings along the Grid Connection Route and Aquatic Sites within the boundary of Lough Gill SAC

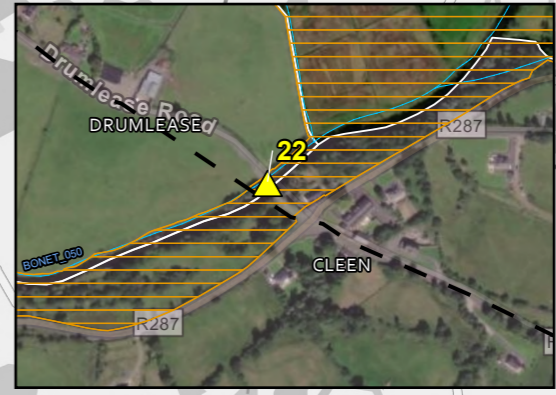
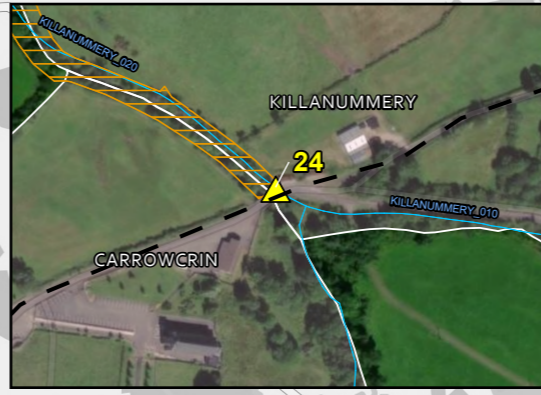
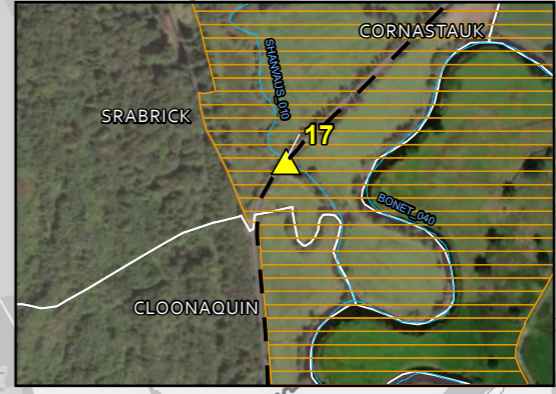
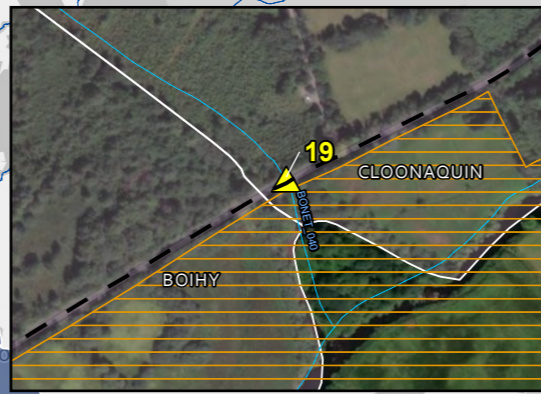
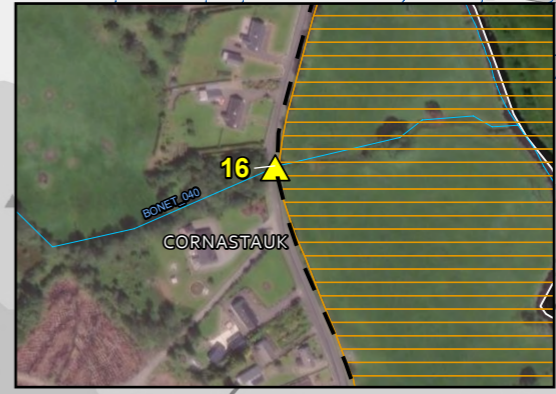
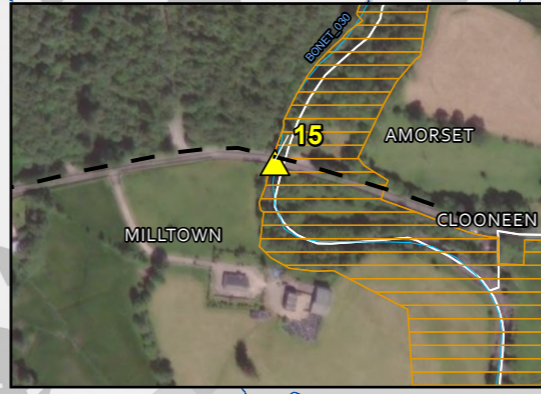
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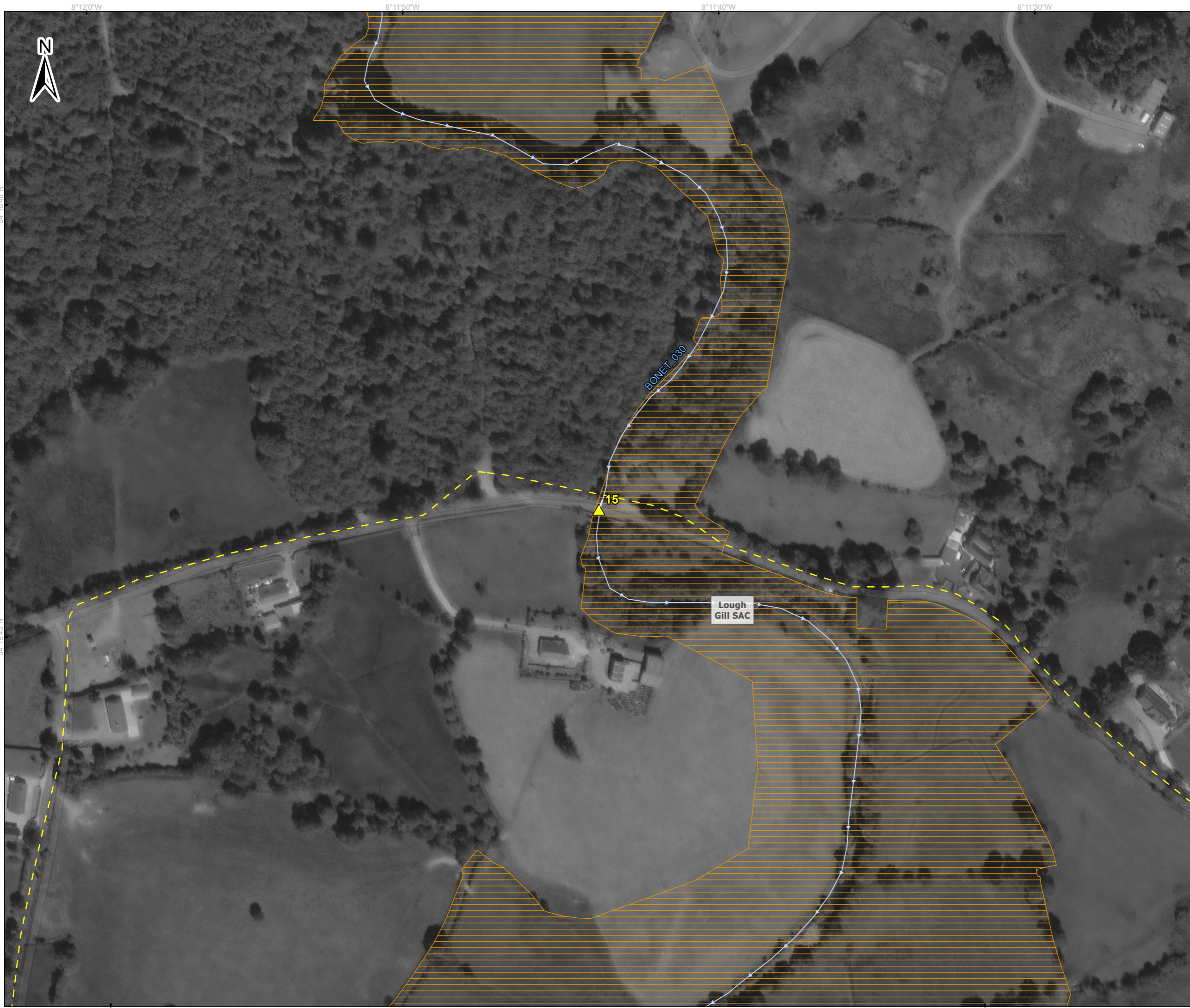
Prepared by: S.Pezzetta
 Checked by: S.Ryan
 Date: February 2026

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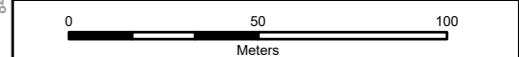
Tel: +353-(0)1-8030406
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Map Ref: 10955-010.NIS-L.GILL..SAC-GCR-TOB-A
 Draft: A





- Legend**
- Aquatic Survey Locations
 - Grid Connection Route
 - WFD - River Water Bodies
 - Special Areas of Conservation (SACs)



Spatial Reference
 Datum: IRENET95
 EPSG: 2157

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Rev	Date	Description	By	Chkd.
A	23/02/2026	First issue	S.P	S.R

Client:

Project:
 Lissinagroagh Wind Farm

Title:
 Figure 23:
 Lough Gill SAC and
 proposed HDD Site 1

Scale @ A3: 1:2,000

Prepared by: S.Pezzetta Checked by: S.Ryan Date: February 2026

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Map Ref: 10955-017.AA-L.GILL..SAC-HDD1-TOB-A Draft: A

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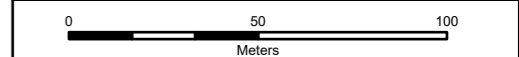
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- Legend**
- Aquatic Survey Locations
 - Grid Connection Route
 - WFD - River Water Bodies
 - Special Areas of Conservation (SACs)



Spatial Reference
 Datum: IRENET95
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Rev	Date	Description	By	Chkd.
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Client:

Project:
 Lissinagroagh Wind Farm

Title:
 Figure 24:
 Lough Gill SAC and
 proposed HDD Site 2

Scale @ A3: 1:2,000

Prepared by: S.Pezzetta Checked by: S.Ryan Date: February 2026

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Map Ref: 10955-018.AA-L.GILL..SAC-HDD2-TOB-A Draft: A

5.1.8 Lough Melvin SAC

Lough Melvin SAC (000428) is located 6.4km downstream of the proposed Wind Farm Site and hydrologically connected via the Lattone 35_010 (IE_NW_35L660960). (Section 3.1.2.1). As such, a hydrological pathway exists between the SAC and the Proposed Project.

The construction phase of the proposed Wind Farm Site has the potential to result in the release of sediment laden surface water leading to siltation of downstream watercourses and/or contamination of watercourses with hydrological connectivity to the SAC. The reduction in water quality, if severe enough, has the potential lead to significant effects on QI species and habitats in view of the conservation objectives,, consisting of (NPWS, 2016a):

- Annex I habitat type 3130 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea;
- Annex II species 1106 Atlantic Salmon; and,
- Annex II species 1355 European otter.

There is potential for downstream water quality impacts associated with the Proposed Project during the construction, operation and decommissioning phases where vegetation clearance within the proposed Wind Farm Site constitutes potential for likely significant effects. During the operational phase the bat buffers will need maintenance as, so there is potential for the clearance of Scrub (WS1) within the proposed Wind Farm Site, but as no earthworks are scheduled, therefore there is no potential for downstream water quality impacts as a result.

A small stand of Japanese knotweed was identified along northern extent of the TDR between POI 41 and 42. There is potential for the spread of this species along the TDR including to POI 53 which is within 50m of the western boundary of Lough Melvin SAC. However, as the location of the Japanese knotweed is c. 40m from the nearest over sail area (POI 41) there is no potential for the transmission of the species from this location along the TDR during construction or decommissioning phase.

In the absence of mitigation, the Proposed Project has potential to result in likely significant effects on Lough Melvin SAC in view of the conservation objectives, as a result of water quality degradation during the construction, operation and decommissioning phases. Therefore, the SAC is screened in for further assessment.

5.1.9 Lough Melvin SAC (NI)

Lough Melvin SAC (NI) (UK0030047) is located 8.6km downstream of the proposed Wind Farm Site with hydrological connectivity via the Lattone 35_010 (IE_NW_35L660960).(Section 3.1.2.1). As such, a hydrological pathway exists between the SAC and the Proposed Project.

In the absence of mitigation, the Proposed Project has the potential to result in the release of sediment laden surface water leading to siltation of downstream watercourses and/or contamination of watercourses with hydrological connectivity to the SAC (NI). The reduction in water quality, if severe enough, has the potential lead to significant effects on QI species and habitats, in view of the conservation objectives, consisting of (DAERA, 2015):

- Annex I habitat type 3130 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea; and
- Annex II species 1106 Atlantic Salmon.



There is potential for downstream water quality impacts associated with the Proposed Project during the construction, operation and decommissioning phases where vegetation clearance within the proposed Wind Farm Site constitutes potential for likely significant effects. During the operational phase the bat buffers will need maintenance, so there is potential for the clearance of Scrub (WS1) within the proposed Wind Farm Site, but as no earthworks are scheduled, therefore there is no potential for downstream water quality impacts as a result. .

In the absence of mitigation, there is potential for Proposed Project to result in likely significant effects on Lough Melvin SAC (NI) in view of the conservation objectives, as a result of water quality degradation during the construction, operation and decommissioning phases. Therefore, the SAC is screened in for further assessment.

5.1.10 Union Wood SAC

Union Wood SAC [000638] is located c. 13km downstream of the SAC via the Unshin_040. A hydrological pathway exists between the Proposed Project and the SAC. However, the SAC has only one QI namely (NPWS, 2021c):

- Annex I habitat type 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles.

According to the attributes and targets of the conservation objectives for Union Wood SAC this habitat type is not susceptible to changes in water quality status (NPWS, 2021c).

According to best practice guidance on the use of the source-pathway-receptor model in appropriate assessments, if the Qualifying Interests of the European site in view of the conservation objectives, are not vulnerable (either directly or indirectly) to any impact resulting from the Proposed Project, then a likely significant effect can also be ruled out at this stage of the screening process (OPR, 2021). As such, Union Wood SAC is screened out at this stage.

5.1.11 Unshin River SAC

Unshin River SAC [001898] is located 7.5km downstream of the southern extent of the proposed GCR with hydrological connectivity via the Unshin_040. The EPA stream Ballygrania (35B81) Unshin_040 is located c. 40m from the proposed GCR. Even though the works will be limited to the public road there is still potential for run-off from construction activities which could result in siltation and/or contamination of watercourses. As such, there is potential for likely significant effects on the SAC as a result of the Proposed Project.

The reduction in water quality, if severe enough, has the potential lead to likely significant effects on QI species and habitats, in view of the conservation objectives, consisting of (NPWS, 2021d):

- Annex I habitat type 3260 Water courses of plain to montane levels with the *Ranunculus fluitantis* and Callitriche-Batrachion vegetation;
- Annex I habitat type 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae);
- Annex II species 1106 Atlantic Salmon; and,
- Annex II species 1355 European otter.



With reference to these water quality impacts, there is no potential for likely significant effects to occur during the operation or decommissioning phase of the Proposed Project as the grid cable will remain in-situ.

The SAC also shares the Lavagh-Ballintogher and Ballymote GWBs with the southern extent of the proposed GCR. The construction works associated with the proposed GCR at this location is limited to works along the public roads network. As such, there is no potential for likely significant effects on the GWBs nor the SAC.

There is no potential for significant effects on the SAC during the operational phase as there will be no further works planned. Similarly, there is no potential for significant effects on the SAC during the decommissioning phase, as the proposed grid infrastructure will remain as a permanent part of the national infrastructure.

In the absence of mitigation, there is potential for the Proposed Project to result in likely significant effects on Unshin River SAC in view of the conservation objectives, during the construction phase. Therefore, the SAC is screened in for further assessment.

5.1.12 Ballysadare Bay SPA

Ballysadare Bay SPA is located 16.2km downstream of the proposed GCR with hydrological connectivity via the Ballysodare_010, Unshin_040, Unshin_050. The EPA stream Ballygrania (35B81; Unshin_040) is located c. 40m from proposed works associated with construction phase activities along the GCR. Even though the works will be limited to the public road there is still potential for run-off from construction activities which could result in contamination of watercourses. An impact to water quality status may lead to a reduction in the area or suitability of the wetland habitat available for migratory waterbirds that use it. As such, a hydrological pathway exists between the SPA and the proposed GCR. No hydrological connectivity exists between other elements of the Proposed Project and Ballysadare Bay SPA.

There is no potential for significant effects on Ballysadare Bay SPA during the operational or decommissioning phase, as the proposed grid infrastructure will remain in-situ as a permanent part of the national infrastructure.

Ballysadare Bay SPA [004129] is designated for several species, namely (NPWS, 2013b);

- [A046] Light-bellied Brent goose (*Branta bernicla hrota*),
- [A141] Grey plover (*Pluvialis squatarola*),
- [A149] Dunlin (*Calidris alpina alpina*),
- Annex I species [A157] Bar-tailed godwit (*Limosa lapponica*),
- [A162] Redshank (*Tringa tetanus*); and,
- [A999] Wetlands.

None of the SCI species listed above were recorded within the proposed Wind Farm Site in the last 5 years of survey data. As such, there is no potential for collision risk for these species (Appendix 6: EIAR Chapter 6 - Ornithology).

In the absence of mitigation, there is potential for the Proposed Project to result in likely significant effects on Ballysadare Bay SPA in view of the conservation objectives, during the construction phase. Therefore, the SAC is screened in for further assessment.



5.1.13 Cummeen Strand SPA

Cummeen Strand SPA [004035] is designated for the following species:

- [A046] Light-bellied Brent Goose (*Branta bernicla hrota*);
- [A130] Oystercatcher (*Haematopus ostralegus*);
- [A162] Redshank (*Tringa totanus*); and,
- [A999] Wetlands.

Cummeen Strand SPA is located c. 20m at nearest distance to along the TDR. Oystercatcher and redshank are present in desk study records within the overlapping 1 km grid square G6836 (POI 13) on the NBDC website (Table 10). Therefore, there is potential for likely significant effects on SCI birds due to disturbance. The proposed vegetation clearance is scheduled for the construction phase and will be necessary for the decommissioning phase to facilitate the transport of abnormal indivisible loads.

In addition, there is hydrological connectivity from POI 21 and the SPA via the Willsborough Stream_010.

Again, accommodations at POI 21 consist of vegetation removal to accommodate the over sail area. Risks of siltation therefore are reduced to negligible given that the watercourse is c. 50m from the proposed vegetation clearance. This 50m separation distance ensures there is no potential for likely significant effects associated with contamination of watercourses following an accidental contamination event during the proposed activities. As such, there is no potential for likely significant effects on Cummeen Strand SPA as a result of proposed accommodations at POI 21.

The SCI species were not identified within the proposed Wind Farm Site during last 5 years of survey data and as such there is no potential for collision risk for these species (Appendix 6, Appendix 6-14 Avian Collision Risk Report).

In the absence of mitigation, the Proposed Project has potential to result in **likely significant effects on Cummeen Strand SPA**, in view of the conservation objectives, through disturbance/displacement of SCI species, during the construction and decommissioning phases. Therefore, Cummeen Strand SPA is screened in for further assessment.

5.1.14 Donegal Bay SPA

Donegal Bay SPA [004151] is located 16.5 km from proposed Wind Farm Site. The SPA is designated for;

- Annex I species [A003] Great Northern Diver (*Gavia immer*);
- [A046] Light-bellied Brent Goose (*Branta bernicla hrota*);
- [A065] Common Scoter (*Melanitta nigra*);
- [A144] Sanderling (*Calidris alba*); and,
- [A999] Wetlands.

No SCI species for this SPA were observed during bird surveys at the proposed Wind Farm Site in the last 5 years. As such, there is no potential for collision risk for these species (Appendix 6, Appendix 6-14 Avian Collision Risk Report).



Records exist on the NBDC website for great northern diver at the 1 km grid square G9278 where POI 48 is located, and where over sail areas are proposed (Table 10). Great northern diver is considered to have a relatively high sensitivity to human disturbance (Goodship and Furness, 2022). The closest accommodations are 300 m from the SPA. Therefore, there is potential for likely significant effects through disturbance/displacement on great northern diver as well as the above listed SCI species. The proposed vegetation clearance is scheduled for the construction phase and will also be necessary for the decommissioning phase to facilitate the transport of abnormal indivisible loads.

There is downstream hydrological connectivity via the Abbey_010, Bradoge_020, Clarcarricknagun_010, Drowes_010 between Donegal Bay SPA and the POI 50, 51, 52, and 53 where over sail and over run areas are proposed along the TDR. Therefore, there is potential for water quality impacts and subsequent likely significant effects on the SCI wetland and waterbirds.

In the absence of mitigation, there is potential for the Proposed Project to result in significant effects on Donegal Bay SPA, in view of the conservation objectives, through disturbance/displacement of SCI species and/or water quality impacts on wetland and waterbirds, during the construction and decommissioning phase. Therefore, Donegal Bay SPA is screened in for further assessment.

5.1.15 Drumcliff Bay SPA

Drumcliff Bay SPA [004013] is designated for:

- [A144] Sanderling (*Calidris alba*);
- Annex I species [A157] Bar-tailed Godwit (*Limosa lapponica*);
- [A999] Wetlands.

Proposed accommodations associated with the over sail areas at POI 55 along the TDR, will involve the temporary clearing any obstructions (road signage) to allow over sail of the blades along the N15. No vegetation clearance is necessary at this location. As Drumcliff Bay SPA is in close proximity to POI 55 (c. 250 m), potential exists for likely significant effects on SCI species within the SPA that are sensitive to disturbance. Established disturbance distances for Bar-tailed Godwit is 200-300m (Goodship and Furness, 2022). No disturbance distances for sanderling are listed in Goodship and Furness (2022). However, typical disturbance distance for non-breeding waders is between 200-300m (Goodship and Furness, 2022). As such POI 55 is located within the potential range for disturbance to SCI species, which constitutes potential for likely significant effects. Records exist for bar-tailed godwit at the 1 km grid square G6742, where POI 55 is located. There is no hydrological pathway from POI 55 to the SPA as the closest river waterbody (Drumcliff_020) is c. 100m from POI 55.

The SPA is located c. 950m from POI 56 and as such there is no potential for disturbance to SCI species as a result of the proposed accommodations. A hydrological pathway exists between POI 56 and the SPA via the Cregg 35_010, which lies within 50m of the over sail area. However, the proposed accommodations are limited to the clearing any obstructions (road signage) along the N15. Therefore, there is no realistic potential for a contamination and/or siltation event associated with POI 56. As such, there is no potential likely significant effects on the downstream SPA, or the SCI Wetlands, as a result of water quality degradation.



The SCI species were not identified within the proposed Wind Farm Site during the last 5 years of field surveys and as such there is no potential for collision risk for these species (Appendix 6, Appendix 6-14 Avian Collision Risk Report).

In the absence of mitigation, there is potential for the Proposed Project to result in **likely significant effects on Drumcliff Bay SPA**, in view of the conservation objectives, through disturbance/displacement of SCI species, during the construction and decommissioning phase. Therefore, Drumcliff Bay SPA is screened in for further assessment.

5.1.16 Lough Derg (Donegal) SPA

Lough Derg (Donegal) SPA [004057] is located c. 31km north-east of the proposed Wind Farm Site. The SPA is designated for two SCIs, namely (NPWS, 2012a);

- A183 Lesser Black-backed Gull (*Larus fuscus*)
- A184 Herring Gull (*Larus argentatus*)

Both lesser black-backed gull and herring gull were recorded at the proposed Wind Farm Site during field surveys, but with no evidence of territory holding, foraging or roosting during the breeding season.

The maximum recorded foraging distance from nesting sites for Lesser black-backed gull is 553km (NPWS, 2025g). The overall mean foraging distance for the species is 43km, which puts Lough Derg SPA within the potential Zol for the proposed Wind Farm Site for mean foraging distances during the breeding season, which is located c. 31km away (NPWS, 2025g).

Peak counts of Lesser black-backed gull represent <1% of the ROI population (Appendix 6, Appendix 6-14 Avian Collision Risk Report). Flight activity levels were reasonably high throughout the study period (>10,000 seconds) but were based on low numbers of observations, being recorded during the breeding season only, with a mean of c. 27 observations per breeding season (10, 15, 26 and 57 times in the B21, B22, B23 and B24 seasons respectively). No breeding was confirmed on-site, and all records reflected commuting birds rather than foraging or roosting individuals. Based on this evidence, a potential collision pathway for significant effects exists.

The maximum recorded foraging distance from nesting sites for Herring gull is 92km with an overall mean foraging distance of 15km from breeding site (NPWS, 2025g). This puts SPA population within the potential Zol of the proposed Wind Farm Site for maximum foraging distances during the breeding season. Peak count of Herring gull in the breeding season represents <1% of the ROI population (Appendix 6, Appendix 6-14 Avian Collision Risk Report). The species was recorded 4 times (B23 season only) across all survey types combined, reflecting occasional commuting flights only. No confirmed breeding or functional usage of the proposed Wind Farm Site was identified. Based on this evidence, a potential collision pathway for significant effects exists.

The periods used in the flight activity survey design broadly equate to the breeding and non-breeding season periods for most bird species, defined by NatureScot (2025) guidance as April – August (breeding season) and September – March (non-breeding season). There was a slight discrepancy in that the MKO baseline surveys (Appendix 6, Appendix 6-14 Avian Collision Risk) considered September part of the breeding season and are included this way in their baseline bird reports; however, for the purposes of the Collision Risk Model used in the EIAR Chapter 6



-Ornithology, Appendix 6-14 Avian Collision Risk Report, considered September's survey effort and flight activity results as part of the non-breeding season as per NatureScot (2025) guidance.

In the absence of mitigation, **there is potential for the Proposed Project to result in likely significant effects on Lough Derg (Donegal) SPA** through collision risk to SCI species, in view of their conservation objectives, during the operation phase. Therefore, Lough Derg (Donegal) SPA is screened in for further assessment.

5.1.17 Pettigoe Plateau SPA (NI)

Pettigoe Plateau SPA is located 18 km northeast of the proposed Wind Farm Site. Pettigoe Plateau SPA is designated for its breeding population of European golden plover. European golden plover was recorded during field surveys (Appendix 6). European golden plover has a core foraging range of 3 km from nest sites (NatureScot, 2016). The proposed Wind Farm site therefore lies well outside the foraging range for breeding golden plover from Pettigoe Plateau SPA. Therefore, there are no pathways for likely significant effects on the breeding population of European Plover within Pettigoe Plateau SPA.

According to best practice guidance on the use of the source-pathway-receptor model in appropriate assessments, if the SCIs of the European site are not vulnerable (either directly or indirectly) to any impact resulting from the Proposed Project, then a **likely significant effect can be ruled out at this stage of the screening process** (OPR, 2021). As such, Pettigoe Plateau SPA NI is screened out at this stage.

5.1.18 Sligo/Leitrim Uplands SPA

Sligo/Leitrim Uplands SPA [004187] is located 9.2km north-west of the proposed Wind Farm Site. The SPA is designated for two SCIs, namely (NPWS, 2025d);

- Annex I species [A103] Peregrine (*Falco peregrinus*); and,
- Annex I species [A346] Chough (*Pyrrhocorax pyrrhocorax*).

No choughs were observed during the last five years of bird surveys. Peregrine was recorded three times in breeding season 2025. The sightings did not indicate regular or functional usage of the proposed Wind Farm Site by the species (Appendix 6). The species was assessed as an occasional visitor only. Therefore, there is no function link between peregrine and the proposed Wind Farm Site. The number of predicted collisions for the species are zero (Appendix 6).

The SPA shares the Glencar GWB with the proposed Wind Farm Site. As previously mentioned, the Glencar GWB is karstified, meaning flow direction and path lengths are highly variable flow pathways (GSI, 2025b). According to the conservation objectives for Sligo/Leitrim Uplands SPA, neither of these species are sensitive to changes in ground water quality status. As such, there is no potential for the Proposed Project to result in a significant effect on these SCI bird species.

The nearest POI along the TDR is 216m from the SPA with plenty of hedgerows, treelines and other intervening features providing screening to reduce likelihood of disturbance. The TDR accommodations comprise of trimming a hedge, and the surrounding habitats comprise grassy verges, grazed, wet grassland, hedgerows and treelines adjacent to the busy N16 road, making it highly unlikely the SCI species (peregrine or chough) use the habitats present or nearby for roosting/nesting. There is also no desk study records for the same contained within the overlapping 1 km grid square G7442 on the NBDC website. Therefore, there is no plausible pathway for likely significant effects on SCI birds due to disturbance.



Sligo/Leitrim Uplands SPA is located upstream of the POI 25 where the hedge trimming to accommodate the overail area is located. Therefore, there is no hydrological pathway for likely significant effects from POI 25 or any other element of the Proposed Project.

According to best practice guidance on the use of the source-pathway-receptor model in appropriate assessments, if the SCIs of the European site, in view of the conservation objectives, are not vulnerable (either directly or indirectly) to any impact resulting from the Proposed Project, then a likely significant effect can be ruled out at this stage of the screening process (OPR, 2021). As such, Sligo/Leitrim Uplands SPA is screened out at this stage.

Table 13: Identification of European Sites Within the Zone of Influence of the Proposed Project

European Sites)	Statutory Instrument (S.I./ Conservation Objectives Version	QI/SCIs	Connectivity	Potential for Likely Significant Effects
Special Areas of Conservation				
<p>Arroo Mountain SAC [001403]</p> <p>Distance: 1.2km north-west of the proposed Wind Farm Site</p>	<p>S.I. No. 63 of 2022 C.O. Version 1 (31 Aug 2016)</p> <p>npws.ie/sites/default/files/protected-sites/conservation_objectives/C0001403.pdf</p>	<ul style="list-style-type: none"> Northern Atlantic wet heaths with Erica tetralix [4010] European dry heaths [4030] Alpine and Boreal heaths [4060] Blanket bogs (* if active bog) [7130] Petrifying springs with tufa formation (Cratoneurion) [7220] Calcareous and calcshist screes of the montane to alpine levels (Thlaspietea rotundifolii) [8120] Calcareous rocky slopes with chasmophytic vegetation [8210] 	<p>Physical: Arroo Mountain SAC is located c. 1.2km to the north-west from the proposed Wind Farm Site. Due to the separation distances involved there is no physical pathway between the proposed project and the SAC.</p> <p>Hydrological: The SAC is located upstream of the proposed Wind Farm Site, TDR and GCR. There is no hydrological pathway between the Proposed Project and the SAC.</p> <p>Hydrogeological: Arroo Mountain SAC shares the Glenaniff and Glencar GWBs with the proposed Wind Farm Site. As stated in Section 3.1, both of these GWBs are karstified aquifers (GSI, 2025a; GSI, 2025b). As such, a potential hydrogeological pathway exists between the proposed project and the SAC, through the Glenaniff and Glencar GWBs.</p> <p>Ecological: No ecological pathway was identified for impacts upon the listed QI's, beyond the ground water dependant habitats (see above).</p>	<p>Yes – A source-pathway receptor link was identified.</p>
<p>Ballysadare Bay SAC [000622]</p> <p>Distance: 8.9km north-west of the proposed GCR</p>	<p>S.I. No. 66 of 2022 C.O. Version 1 (20 Nov 2013)</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/C0000622.pdf</p>	<ul style="list-style-type: none"> Estuaries [1130] Mudflats and sandflats not covered by seawater at low tide [1140] 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] Humid dune slacks [2190] <i>Vertigo angustior</i> (Narrow-mouthed Whorl Snail) [1014] 	<p>Physical: Ballysadare Bay SAC is located 8.9km north-west of the proposed GCR and 25.2km south-west of the proposed Wind Farm Site. Due to the separation distances involved there is no physical pathway between the proposed project and the SAC.</p> <p>Hydrological: Ballysadare Bay SAC is located c. 17km downstream of the south-western extent of the proposed GCR via the Unshin_40. As such, a hydrological pathway exists between the proposed project and the SAC.</p> <p>Hydrogeological: No potential hydrogeological pathway was identified between the SAC and the proposed project.</p> <p>Ecological: No potential ecological pathway was identified between the SAC and the proposed Wind Farm Site and GCR.</p>	<p>Yes – A source-pathway receptor link was identified.</p>



European Sites)	Statutory Instrument (S.I./ Conservation Objectives Version	QI/SCIs	Connectivity	Potential for Likely Significant Effects
<p>Ben Bulben, Gleniff and Glenade SAC [000623] Distance: 8.3km north-west of the proposed Wind Farm Site.</p>	<p>S.I. No. 472/2022 C.O. Version 1 (21 Dec 2021) https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/C0000623.pdf</p>	<ul style="list-style-type: none"> • <i>Phoca vitulina</i> (Harbour Seal) [1365] • Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260] • Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] • European dry heaths [4030] • Alpine and Boreal heaths [4060] • <i>Juniperus communis</i> formations on heaths or calcareous grasslands [5130] • Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (*important orchid sites) [6210] • Species-rich <i>Nardus</i> grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230] • Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] • Blanket bogs (* if active bog) [7130] • Transition mires and quaking bogs [7140] • Petrifying springs with tufa formation (Cratoneurion) [7220] • Alkaline fens [7230] • Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladanii</i>) [8110] 	<p>Physical: Ben Bulben, Gleniff and Glenade SAC is located c. 8.3km north-west of the proposed Wind Farm Site. Due to the separation distances involved there is no physical pathway between the Proposed Project and the SAC.</p> <p>Hydrological: The Ben Bulben, Gleniff and Glenade SAC is located ca 9.5km upstream of the north-western extent of the proposed Wind Farm Site as well as c. 137m west of POI 25 along the TDR. There is no hydrological pathway between the proposed project and the SAC.</p> <p>Hydrogeological: The Ben Bulben, Gleniff and Glenade SAC shares the Glencar GWB with the proposed Wind Farm Site. As such, a potential hydrogeological pathway exists between the proposed project and the SAC, via the Glencar GWB.</p> <p>Ecological: The Annex II species 1355 European otter (<i>Lutra lutra</i>) is a QI of the SAC and is a highly mobile species, with home ranges extending over tens of kilometres (Chanin, 2003). As such, a potential ecological pathway exists between the proposed project and the upstream SAC.</p>	<p>Yes – A source-pathway receptor link was identified.</p>



European Sites)	Statutory Instrument (S.I.)/ Conservation Objectives Version	QI/SCIs	Connectivity	Potential for Likely Significant Effects
		<ul style="list-style-type: none"> • Calcareous and calcshist screes of the montane to alpine levels (<i>Thlaspietea rotundifolii</i>) [8120] • Calcareous rocky slopes with chasmophytic vegetation [8210] • <i>Vertigo geyeri</i> (Geyer's Whorl Snail) [1013] • <i>Lutra lutra</i> (European otter) [1355] 		
<p>Boleybrack Mountain SAC [002032]</p> <p>Distance: 3.8km south-east of the proposed Wind Farm Site.</p>	<p>S.I. No. 157/2022 C.O. Version 1 (17 Aug 2016) https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/C002032.pdf</p>	<ul style="list-style-type: none"> • Natural dystrophic lakes and ponds [3160] • Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010] • European dry heaths [4030] • Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) [6410] • Blanket bogs (* if active bog) [7130] 	<p>Physical: The Boleybrack Mountain SAC is located 3.8km south-east of the proposed Wind Farm Site and 4.8km south-east of the proposed GCR at nearest distance. Due to the separation distances involved there is no physical pathway between the proposed project on the SAC.</p> <p>Hydrological: The SAC is located upstream of the Proposed Project. There is no hydrological pathway between the proposed project and the SAC.</p> <p>Hydrogeological: Boleybrack Mountain SAC shares the Glenfarne GWB with the Survey Area of the proposed Wind Farm Site but the boundary of the proposed Wind Farm Site does not encompass the Glenfarne GWB. As such, no hydrogeological pathway exists between the lands within the Application Boundary of the proposed Wind Farm Site and the SAC.</p> <p>Ecological: There is no ecological pathway between the SAC and the proposed Wind Farm Site and GCR.</p>	<p>No – A source-pathway-receptor-link was not identified.</p>
<p>Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC [000627]</p> <p>Distance: 12.7km north-west of the proposed GCR</p>	<p>S.I. No. 268 of 2024 C.O. Version 2 (02 Jul 2024) https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/C000627.pdf</p>	<ul style="list-style-type: none"> • Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • 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] 	<p>Physical: Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC is located 22km south-west from the proposed Wind Farm Site and 12.7km north-west of the GCR at nearest distance. However, the TDR borders the boundary of the SAC where vegetation clearance is proposed for 76m and as such a physical pathway exists.</p> <p>Hydrological: Hydrological connectivity via the Garavogue_010 which passes through the proposed over sail area at POI 13 along the TDR and discharges into the SAC 0m from the POI. In addition, there is hydrological connectivity from POI 21 and the SAC via the Willsborough Stream_010.</p> <p>Hydrogeological: The SAC does not share any GWB with the proposed Wind Farm Site or GCR. There is no hydrogeological pathway between the proposed project and the SAC.</p>	<p>Yes – a source-pathway-receptor link was identified.</p>



European Sites)	Statutory Instrument (S.I./ Conservation Objectives Version	QI/SCIs	Connectivity	Potential for Likely Significant Effects
		<ul style="list-style-type: none"> Juniperus communis formations on heaths or calcareous grasslands [5130] Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210] Petrifying springs with tufa formation (Cratoneurion) [7220] Vertigo angustior (Narrow-mouthed Whorl Snail) [1014] Petromyzon marinus (Sea Lamprey) [1095] Lampetra fluviatilis (River Lamprey) [1099] Phoca vitulina (Harbour Seal) [1365] 	<p>Ecological: There is no ecological pathway between the proposed project and the SAC.</p>	
<p>Glenade Lough SAC [001919]</p> <p>Distance: 7.6km to the north-west of the proposed Wind Farm Site.</p>	<p>S.I. No. 259/2016</p> <p>C.O. Version 1 (26 Nov 2021)</p> <p>npws.ie/sites/default/files/protected/sites/conservation_objectives/C0001919.pdf</p>	<ul style="list-style-type: none"> Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation [3150] <i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092] <i>Najas flexilis</i> (Slender Naiad) [1833] 	<p>Physical: Glenade Lough SAC is located 7.6km to the north-west of the proposed Wind Farm Site. Due to the separation distances involved there is no physical pathway between the proposed project and the SAC.</p> <p>Hydrological: Glenade Lough SAC is located ca 7.7km upstream of the north-western extent of the GCR. As such, there is no hydrological pathway between the proposed project and the SAC.</p> <p>Hydrogeological: Glenade Lough SAC shares the Glencar GWB with the proposed Wind Farm Site. As such, a potential hydrogeological pathway exists between the proposed project and the SAC.</p> <p>Ecological: There is no ecological pathway between the proposed project and the SAC.</p>	<p>Yes – A source-pathway-receptor link was identified.</p>
<p>Lough Gill SAC (001976)</p> <p>Distance: 0m, GCR overlaps the SAC</p>	<p>S.I. No. 330/2023</p> <p>C.O. Version 1 (15 Dec 2021)</p> <p>https://www.npws.ie/sites/default/files/protected-</p>	<ul style="list-style-type: none"> Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation [3150] Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites) [6210] 	<p>Physical: At nearest distance the SAC is located c. 165m south of the southern entrance of the proposed Wind Farm Site. The GCR is located within the boundary of Lough Gill SAC. A physical pathway exists between the proposed project and the SAC.</p> <p>Hydrological: The proposed Wind Farm Site is located c. 2.2km upstream of the SAC at nearest distance. The proposed Wind Farm Site is hydrologically connected to the SAC via 11 WFD river waterbodies (Section 3.1). Furthermore, six watercourse crossings along the GCR are within the</p>	<p>Yes – A source-pathway-receptor link was identified.</p>



European Sites)	Statutory Instrument (S.I./ Conservation Objectives Version	QI/SCIs	Connectivity	Potential for Likely Significant Effects
	sites/conservation_objectives/C0001976.pdf	<ul style="list-style-type: none"> • Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles [91A0] • Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0] • <i>Austropotamobius pallipes</i> (White-clawed Crayfish) [1092] • <i>Petromyzon marinus</i> (Sea Lamprey) [1095] • <i>Lampetra planeri</i> (Brook Lamprey) [1096] • <i>Lampetra fluviatilis</i> (River Lamprey) [1099] • <i>Salmo salar</i> (Atlantic Salmon) [1106] • <i>Lutra lutra</i> (European otter) [1355] 	<p>boundaries of the SAC (Section 3.1). As such, a hydrological pathway exists between the proposed project and the SAC.</p> <p>Hydrogeological: The proposed project and the SAC share two karstified GWBs Killarga and Killarga South. The QI habitat Alluvial forests is a ground water dependant habitat and as such a hydrogeological pathway for effects exists.</p> <p>Ecological: Lough Gill SAC is designated for mobile Annex II aquatic species consisting of Atlantic salmon, European otter, Lamprey spp. and white-clawed crayfish. These species are capable of movement within the aquatic environment including upstream migration. As such, a potential ecological pathway exists between the proposed project and the SAC.</p>	
<p>Lough Melvin SAC (000428)</p> <p>Distance: 2km north of the proposed Wind Farm Site</p>	<p>S.I. No. 520 of 2021 C.O. Version 1 (03 Dec 2021)</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/C0000428.pdf</p>	<ul style="list-style-type: none"> • Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130] • Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] • <i>Salmo salar</i> (Atlantic Salmon) [1106] • <i>Lutra lutra</i> (European otter) [1355] 	<p>Physical: Lough Melvin SAC is located 2km north of the proposed Wind Farm Site. Due to the separation distances involved, no physical pathway exists between the proposed project and the SAC.</p> <p>Hydrological: Lough Melvin SAC is located at an approximate hydrological distance downstream of 6.4km via the Lattone_35_010 River. As such, a hydrological pathway exists between the SAC and the proposed project.</p> <p>Hydrogeological: No hydrogeological pathway exists between the proposed project and the SAC.</p> <p>Ecological: Lough Melvin SAC is designated for mobile Annex II aquatic species consisting of Atlantic salmon and European otter. These species are capable of movement within the aquatic environment including upstream migration. As such, a potential ecological pathway exists between the proposed project and the SAC.</p>	<p>Yes – A source-pathway-receptor link was identified.</p>
<p>Lough Melvin SAC NI (UK0030047)</p> <p>Distance: 5.8km north of the</p>	<p>Regulations 6-7 and 10-12 of The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 as amended by The Conservation (Natural Habitats,</p>	<ul style="list-style-type: none"> • Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130] 	<p>Physical: Lough Melvin SAC Northern Ireland (NI) is located 5.8km north of the proposed Wind Farm Site. Due to the separation distances involved, no physical pathway exists between the proposed project and the SAC (NI).</p> <p>Hydrological: The SAC (NI) is hydrologically connected to the proposed Wind Farm Site at an approximate downstream hydrological distance of</p>	<p>Yes – A source-pathway-receptor link</p>



European Sites)	Statutory Instrument (S.I./ Conservation Objectives Version	QI/SCIs	Connectivity	Potential for Likely Significant Effects
proposed Wind Farm Site	etc.) (Amendment) Regulations (Northern Ireland) 2004 C.O. Version 2 (Jan 2015) https://www.daera-ni.gov.uk/sites/default/files/publications/doe/land-information-lough-melvin-conservation-objectives-2015.pdf	<ul style="list-style-type: none"> Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] <i>Salmo salar</i> (Atlantic Salmon) [1106] 	<p>8.6km via the Lattone_35_010 River. As such, a hydrological pathway exists between the SAC and the proposed project.</p> <p>Hydrogeological: No hydrogeological pathway exists between the proposed project and the SAC (NI).</p> <p>Ecological: Lough Melvin SAC NI is designated for Atlantic salmon, which is a highly mobile species capable of migrating upstream for suitable spawning grounds. As such, a potential ecological pathway exists between the proposed project and the SAC (NI).</p>	was identified.
Union Wood SAC (000638) Distance: 6.9km north-west of the GCR	S.I. No. 227 of 2017 C.O. Version 1 (11 Jan 2021) https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/C000638.pdf	<ul style="list-style-type: none"> Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] 	<p>Physical: Union Wood SAC is located 6.9km north-west of the GCR. Due to the separation distances involved, no physical pathway exists between the proposed project and the SAC.</p> <p>Hydrological: The proposed GCR is located c. 13km downstream of the SAC via the Unshin_040. A hydrological pathway exists between the proposed project and the SAC. However, the QI habitat Old sessile oak woods is a terrestrial habitat and as such will not be impacted by deterioration of water quality.</p> <p>Hydrogeological: No hydrogeological pathway exists between the SAC and the proposed project.</p> <p>Ecological: No ecological pathway exists between the SAC and the proposed project.</p>	No – A source-pathway-receptor link was not identified.
Unshin River SAC (001898) Distance: 4.6km west of the proposed GCR	S.I. No. 227 of 2017 C.O. Version 1 (15 Dec 2021) https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/C0001898.pdf	<ul style="list-style-type: none"> Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] 	<p>Physical: The SAC is located 4.6km west of the southern extent of the proposed GCR. Due to the separation distances involved, no physical pathway exists between the proposed project and the SAC.</p> <p>Hydrological: The SAC is located 7.5km downstream of the proposed GCR via the Unshin_040. A hydrological pathway exists between the SAC and the proposed GCR.</p> <p>Hydrogeological: The SAC shares the Lavagh-Ballintogher and Ballymote GWBs with the proposed GCR. A hydrogeological pathway exists between the SAC and the proposed project.</p> <p>Ecological: No ecological pathway exists between the proposed GCR and the SAC.</p>	Yes – A source-pathway-receptor link was identified.



European Sites)	Statutory Instrument (S.I.)/ Conservation Objectives Version	QI/SCIs	Connectivity	Potential for Likely Significant Effects
		<ul style="list-style-type: none"> Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae) [91E0] <i>Salmo salar</i> (Atlantic Salmon) [1106] <i>Lutra lutra</i> (European otter) [1355] 		
SPA				
Ballysadare Bay SPA (004129) Distance: 16.2km downstream of the GCR	S.I. No. 291/2011 C.O. Version 1 (25 Oct 2025) https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/C0004129.pdf	<ul style="list-style-type: none"> Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Grey Plover (<i>Pluvialis squatarola</i>) [A141] Dunlin (<i>Calidris alpina</i>) [A149] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157] Redshank (<i>Tringa totanus</i>) [A162] Wetlands [A999] 	<p>Physical: Ballysadare Bay SPA is located c. 25km southwest of the proposed Wind Farm Site at nearest distance. Due to the separation distances involved, no physical pathway exists between the proposed project and the SPA.</p> <p>Hydrological: The SPA is located 16.2km downstream of the proposed GCR with hydrological connectivity via the Unshin_040. A hydrological pathway exists between the SPA and the proposed GCR.</p> <p>Hydrogeological: No hydrogeological pathway exists between the SPA and the proposed project.</p> <p>Ecological: No ecological pathway exists between the proposed project and the SPA.</p>	<p>Yes – A source-pathway-receptor link was identified.</p>
Cummeen Strand SPA (004035) Distance: 20m from POI 13 on TDR	S.I. No. 268 of 2024 C.O. Version 1 (10 Sept 2013) https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/C0004035.pdf	<ul style="list-style-type: none"> Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046] Oystercatcher (<i>Haematopus ostralegus</i>) [A130] Redshank (<i>Tringa totanus</i>) [A162] Wetlands [A999] 	<p>Physical: The TDR borders the boundary of the SAC where vegetation clearance is proposed for 76m and as such a physical pathway exists.</p> <p>Hydrological: Cummeen Strand SPA is downstream of POI 13 and POI 21 along the TDR with hydrological connectivity through the Garavogue_010 (IE_WE_35G010200) and Willsborough Stream_010 (IE_WE_35W010300) respectively.</p> <p>Hydrogeological: No hydrogeological pathway exists between the SPA and the proposed project.</p> <p>Ecological: Cummeen Strand SPA is designated for a number of bird species which can be sensitive to disturbance from construction and operational activities. As such, due to the proximity of the proposed accommodations to potentially suitable habitat a potential ecological pathway, via disturbance/displacement impacts exists between the proposed project and the SPA.</p>	<p>Yes – A source-pathway-receptor link was identified</p>



European Sites)	Statutory Instrument (S.I./ Conservation Objectives Version	QI/SCIs	Connectivity	Potential for Likely Significant Effects
<p>Donegal Bay SPA (004151)</p> <p>Distance: 300 m from POI 53</p>	<p>S.I. No. 295/2011 C.O. Version 1 (17 May 2012)</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/C0004151.pdf</p>	<ul style="list-style-type: none"> • Common scoter (w) [A065] • Great northern diver (w) [A003] • Light-bellied brent goose (w) [A046] • Sanderling (w) [A144] • Wetlands [A999] 	<p>Physical: Donegal Bay SPA is located 300 m from POI 53 along the TDR at nearest distance where vegetation clearance is proposed and as such a physical pathway exists.</p> <p>Hydrological: There is downstream hydrological connectivity via the Abbey_010, Bradoge_020, Clarcarricknagun_010, Drowes_010) between Donegal Bay SPA and the POI 50, 51, 52, and 53 where over sail and over run areas are proposed along the TDR.</p> <p>Hydrogeological: No hydrogeological pathway exists between the SPA and the proposed project.</p> <p>Ecological: Donegal Bay SPA is designated for a number of bird species which can be sensitive to disturbance from construction and operational activities. As such, due to the proximity of the proposed accommodations to potentially suitable habitat, a potential ecological pathway, via disturbance/displacement impacts exists between the proposed project and the SPA.</p>	<p>Yes – A source-pathway-receptor link was identified</p>
<p>Drumcliff Bay SPA (004013)</p> <p>Distance: 250 m from POI 55 (part 2)</p>	<p>S.I. No. 40/2012 C.O. Version 1 (04 Sep 2013)</p> <p>https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/C0004013.pdf</p>	<ul style="list-style-type: none"> • Sanderling (w) [A144] • Bar-tailed godwit <i>Limosa lapponica</i> (w) [A157] • Wetlands [A999] 	<p>Physical: Drumcliff Bay SPA is located 250 m from POI 55 (part 2) along the TDR at nearest distance where vegetation clearance is proposed and as such a physical pathway exists.</p> <p>Hydrological: A hydrological pathway between POI 56 and the SPA exists via the CREGG 35_010.</p> <p>Hydrogeological: No hydrogeological pathway exists between the SPA and the proposed project.</p> <p>Ecological: Drumcliff Bay SPA is designated for two bird species which can be sensitive to disturbance from construction and operational activities. As such, due to the proximity of the proposed accommodations to potentially suitable habitat, a potential ecological pathway, via disturbance/displacement impacts exists between the proposed project and the SPA.</p>	<p>Yes – A source-pathway-receptor link was identified.</p>
<p>Lough Derg (Donegal) SPA (004057)</p> <p>Distance from WF: c. 31km</p>	<p>S.I. No. 244/2010 C.O. Version 1 (28 Mar 2025)</p>	<ul style="list-style-type: none"> • Lesser Black-backed Gull (<i>Larus fuscus</i>) [A183] • Herring Gull (<i>Larus argentatus</i>) [A184] 	<p>Physical: Lough Derg (Donegal) SPA is located c. 31km north-east of the proposed Wind Farm Site. There is no physical pathway for likely significant effects on the integrity of the SPA.</p> <p>Hydrological: No hydrological pathway exists between the SPA and the proposed project.</p>	<p>Yes – A source-pathway-receptor link</p>



European Sites)	Statutory Instrument (S.I./ Conservation Objectives Version	QI/SCIs	Connectivity	Potential for Likely Significant Effects
	https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/C0004057.pdf		<p>Hydrogeological: No hydrogeological pathway exists between the SPA and the proposed project.</p> <p>Ecological: The mean foraging distance for Lesser black-backed gull is c. 43km as such the SPA is within the potential Zol of the Proposed Project.</p>	was identified.
<p>Pettigoe Plateau SPA NI (UK9020051)</p> <p>Distance: 17km north-east of the proposed Wind Farm Site</p>	<p>Regulations 6-7 and 10-12 of The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 as amended by The Conservation (Natural Habitats, etc.) (Amendment) Regulations (Northern Ireland) 2004</p> <p>C.O. Version 2 (Jan 2015)</p> <p>https://www.daera-ni.gov.uk/sites/default/files/publications/doe/pettigoe-plateau-SPA-conservation-objectives-2015.pdf</p>	<ul style="list-style-type: none"> Golden plover (<i>Pluvialis apricaria</i>) [A140] 	<p>Physical: Pettigoe Plateau SPA is located c. 17km north-east of the proposed Wind Farm Site. Due to the separation distances involved, no physical pathway exists between the proposed project and the SPA.</p> <p>Hydrological: The SPA is located upstream of the proposed Wind Farm Site and as such no hydrological pathway exists.</p> <p>Hydrogeological: The SPA is present within a different GWB (Ballyshannon East) to the proposed Wind Farm Site. As such, no hydrogeological pathway exists between the SPA and the proposed Wind Farm Site.</p> <p>Ecological: The core foraging range for golden plover is 3 km with a maximum range of 12 km (SNH, 2016). Therefore, it is not considered likely that golden plover species recorded within the proposed Wind Farm Site are part of this SPA population. As such, no ecological pathway exists between the proposed project and the SPA.</p>	No – No source-pathway-receptor link was identified.
<p>Sligo/Leitrim Uplands SPA (004187)</p> <p>Distance: 9.2km north-west of the proposed Wind Farm Site</p>	<p>S.I. No. 75/2010</p> <p>C.O. Version 1 (21 Mar 2025)</p> <p>npws.ie/sites/default/files/protected-sites/conservation_objectives/C0004187.pdf</p>	<ul style="list-style-type: none"> Peregrine (<i>Falco peregrinus</i>) [A103] Chough (<i>Pyrrhocorax pyrrhocorax</i>) [A346] 	<p>Physical: The Sligo/Leitrim Uplands SPA is located 9.2km north-west of the proposed Wind Farm Site. Due to the separation distances involved, no physical pathway exists between the proposed project and the SPA.</p> <p>Hydrological: The SPA is located upstream of the Proposed Project and as such no hydrological pathway exists.</p> <p>Hydrogeological: The SPA shares the Glencar GWB with the proposed Wind Farm Site. As such, a hydrogeological pathway exists between the SPA and the proposed Wind Farm Site. However, as the SCIs are not known to be sensitive to changes in ground water quality status and not dependent on groundwater bodies for foraging, resting or breeding, no hydrogeological pathway exists</p> <p>Ecological: No ecological pathway exists between the proposed project and the SPA.</p>	No – No source-pathway-receptor link was identified.



6. SCREENING CONCLUSIONS

In summary, the potential impacts on SACs and SPAs within the Zol of the Proposed Project consist of:

- Habitat loss;
- Alteration of groundwater flow;
- Contamination of groundwater bodies;
- Sedimentation/contamination of surface waterbodies;
- Disturbance/displacement of QI/SCI species;
- Collision risk for SCI species with wind turbines;
- Spread of invasive alien species.

Habitat Loss

The construction phase of the GCR will result in the loss of 10m of Hedgerow (WL1) habitat within the boundaries of Lough Gill SAC to facilitate the proposed temporary launch pit at HDD Site 1. A further 0.01ha of (Mixed) broadleaved woodland (WD1) c. 70m beyond the boundary of Lough Gill SAC in Miltown Forest Recreation Area. This habitat may be of value for commuting and/or resting European otter, which is a QI species for the SAC. As a result, there is potential for likely significant effects on the QI species European otter. There will be no further loss of habitat along the GCR during the operation or decommissioning phases.

There is no potential for likely significant effects as a result of the direct loss of habitat at POI 13 along the TDR, which is partially located within Cummeen Strand/Drumcliff bay SPA.

Alteration of Groundwater Flow

The construction phase of the proposed Wind Farm Site has the potential to impact groundwater flow through dewatering at turbine hardstand locations and borrow pits. As such, there is potential for likely significant effects on the following European sites in light of the relevant conservation objectives:

- Arroo Mountain SAC;
- Ben Bulben, Gleniff and Glenade SAC;
- Glenade Lough SAC;
- Lough Gill SAC.

There is no potential for alteration of groundwater flow during the construction, operation or decommissioning phase of the GCR or TDR.

Contamination of Groundwater Bodies

The construction phase of the proposed Wind Farm Site has the potential to impact groundwater due to the presence of karstic features and karstified aquifers in the Survey Area of the proposed Wind Farm site. As such, there is potential for likely significant effects on the following European sites in light of the relevant conservation objectives:

- Arroo Mountain SAC;
- Ben Bulben, Gleniff and Glenade SAC;
- Glenade Lough SAC;



- Lough Gill SAC.

There is no potential for the contamination of groundwater bodies during the construction, operation or decommissioning phase of the GCR or TDR.

Sedimentation/contamination of Surface Water

The release of sediment laden water or otherwise polluted surface water has the potential to reduce water quality in the watercourses draining the Proposed Project that discharge into the European sites. As such, there is potential for likely significant effects on the following European sites in light of the relevant conservation objectives:

- Ballysadare Bay SAC;
- Ballysadare Bay SPA;
- Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC;
- Lough Gill SAC;
- Lough Melvin SAC;
- Lough Melvin SAC (NI);
- Unshin River SAC;
- Cummeen Strand SPA;
- Donegal Bay SPA; and,
- Drumcliff Bay SPA.

There is potential for likely significant effects as a result of sedimentation and/or pollution of watercourses during the construction, operation and decommissioning phases of the proposed Wind Farm Site. For the GCR the potential for likely significant effects as a result of sedimentation and/or pollution of watercourses is limited to the construction phase. For the TDR the potential for likely significant effects as a result of sedimentation and/or pollution of watercourses is limited to the construction and decommissioning phases.

Disturbance/Displacement of QI/SCI species

The potential for likely significant effects along the GCR as a result of disturbance/displacement to QI/SCI species is limited to the construction phase. For the TDR, the potential for likely significant effects as a result of disturbance/displacement to QI/SCI species is identified during the construction and decommissioning phases. There is no potential for disturbance/displacement of QI/SCI species as a result of the proposed Wind Farm Site during any phase of the Proposed Project. As such, there is potential for likely significant effects on the following European sites in light of the relevant conservation objectives for QI/SCI species:

- Ben Bulben, Gleniff and Glenade SAC;
- Lough Gill SAC;
- Cummeen Strand SPA;
- Donegal Bay SPA; and,
- Drumcliff Bay SPA.



Collision Risk for SCI Species with Wind Turbines

Both of the SCI species listed for Lough Derg (Donegal) SPA, Lesser black-backed gull and Herring gull have been observed within the proposed Wind Farm Site (Section 5.1.16). Based on this evidence there is potential for collision risk during the operational phase of the proposed Wind Farm Site.

None of the SCI species listed for the other SPAs assessed above were regularly recorded functionally using the lands within the proposed Wind Farm Site in the last 5 years of survey data. As such, there is no potential for likely significant effects as a result of collision risk for the listed SCI species and the overall integrity of the following SPAs;

- Ballysadare Bay SPA;
- Cummeen Strand SPA;
- Donegal Bay SPA;
- Drumcliff Bay SPA;
- Sligo/Leitrim Uplands SPA; and,
- Pettigoe Plateau SPA NI.

Spread of Invasive Alien Species

There is potential for the spread of invasive alien species from proposed works along the GCR, specifically the Third Schedule (S.I. No. 477/2011) listed species, namely Japanese knotweed, Himalayan balsam, and Rhododendron, as stands of these species have already been identified at several locations along the GCR during field surveys. This constitutes potential for likely significant effects through the spread of invasive alien species within Lough Gill SAC. The potential spread of invasive species to Lough Gill SAC is limited to the construction phase where proposed trenching works will take place along the proposed GCR. There is no potential for the spread of invasive species to Lough Gill SAC during the operation or decommissioning phase of the Proposed Project as the grid cable will be left in-situ and as such no further works are scheduled along the GCR.

Summary

Therefore, in line with the recommendations of guidance documents and case law it is considered that the Proposed Project should progress to the next stage of the appropriate assessment process to determine if it will adversely affect the integrity of the identified European sites.



7. IN-COMBINATION EFFECTS

The potential effects of the Proposed Project are considered in-combination with any other relevant plans or projects. Projects which have been completed, approved or which are proposed, as well as proposals within county development plans, located within the Zol of the Proposed Project, have been considered in the in-combination assessment, and are discussed hereunder.

The information was sourced from a search of the local authorities planning registers (Leitrim Co. Co., 2025), the EIA portal (EIA, 2025), planning applications (MyPlan, 2025), and the Northern Ireland Planning Register (Planning Portal, 2025). The identification of potential environmental effects was collated from EIAR documents and planning drawings. A 10km radius was observed for the Zol for in-combination effects for the proposed Wind Farm Site. A reduced 0.5km Zol for in-combination effects was identified for the TDR and GCR due to the localised magnitude of the potential effects associated with these components of the Proposed Project. As planning permissions generally lapse after 5 years for standard projects, and 10 years for wind farms, the search is limited to this timeframe.

The search excluded retention applications (i.e. typically local-scale residential or commercial developments where an impact has already occurred), incomplete, withdrawn, and refused applications, unless subject to appeal or challenge within the period of time. Very minor planning applications were excluded from the long list on the basis that, given their minor nature, these were not likely to have an in-combination effect noticeable over the effects of the Proposed Project in isolation. Examples of planning applications which were excluded from the long list were applications to construct or demolish conservatories, house extensions, loft conversions, changes of use for single or small numbers of buildings, construction of outbuildings, modifications to driveways and retention applications for similar developments. Applications which have been refused, withdrawn or deemed invalid were discounted on the basis that they are unlikely to progress, unless through successful appeal or resubmission.

As well as other projects within the Zol, the in-combination effect considers proposals for plans within county development plans.

7.1.1 Forestry

The implementation of the Proposed Project necessitates the felling of 133.3ha of Conifer plantation (WD4). The proposed method of removal is clear-fell, as standard forestry practice in Ireland. The removal of this forestry during the construction phase has potential to cause siltation and acidification of watercourses.

The felling and re-planting of forestry throughout the rest of the Survey Area for the proposed Wind Farm Site will continue throughout the lifetime of the Proposed Project. Of the 655ha of Conifer plantation (WD4) currently occupying the Survey Area for the proposed Wind Farm Site, the vast majority (i.e. 590ha, equating to 90% of the area), will be harvested during the 35-year lifetime of the Proposed Project, as per the Forestry Licence (Forestry License Viewer, n.d.).

The effect of clear-felling and replanting operations over the lifetime of the Proposed Project will likely contribute to significant in-combination effects through the acidification and siltation of downstream waterways. As previously stated, the proposed Wind Farm Site is located within an upland area. The high rainfall and peaty soil make this site susceptible to acidification of waterways (Giller *et al.* 2002). Tree removal promotes surface run-off pathways and soil



leaching (Nisbet and Evans, 2014), and one of the main consequences of increased acidity is the leaching out of aluminium found to be toxic to fish (including salmonids) and macroinvertebrates (Giller *et al.* 2002). It is important to note that the effects of clear felling on acidification are complex and can be difficult to discern at a catchment level (Forestry Commission, 2014). Nevertheless, it is relevant to consider in-combination effects on water quality between the Proposed Project and the harvest schedule for forestry within the Survey Area for the proposed Wind Farm Site. The potential likely significant effects on downstream aquatic ecology which extends to QI species and groundwater dependant habitats for Lough Gill SAC, Lough Melvin SAC and Lough Melvin SAC (NI). No other European sites are located downstream of the proposed Wind Farm Site where the forestry felling is to take place. As such, forestry operations within the Survey Area for the proposed Wind Farm Site are screened in for further assessment of in-combination effects.

7.1.2 Wind Farms

7.1.2.1 *Derrykillew, Ballyshannon, Co. Donegal.*

Planning permission for the 5 turbine Wind Farm at Derrykillew, Ballyshannon, Co. Donegal was granted 18/03/2016. The Wind Farm is outside of the Zol of the Proposed Project and does not share hydrological pathways (An Bord Pleanala, 2015). As such, there is no potential for in-combination effects with the Proposed Project. Derrykillew, Ballyshannon Wind Farm is screened out at this stage.

7.1.2.2 *Faughary Wind Farm*

There is one operational wind farm located west of the proposed Project, namely Faughary Wind Farm containing three (3) 119-metre high Enercon wind turbines. The nearest turbine is located 530m west of T6 of the proposed Wind Farm Site.

Any effects arising from the construction and operation of Faughary Wind Farm are established and contribute to the current baseline conditions. The wind farm does not give rise to ongoing construction-related pressures, and its operational footprint is limited in scale. However, in-combination effects cannot be ruled out entirely, particularly in respect of shared hydrological pathway to Lough Gill SAC via the Owenmore (Manorhamilton)_020. As such, Faughary Wind Farm is screened in for further assessment.

7.1.2.3 *Carrickeeny Wind Farm*

Carrickeeny Wind Farm (ACP ref. 312895) with four (4) operating turbines is located approximately 8km to the west. Carrickeeny Wind Farm is upstream and hydrologically connected to Lough Gill SAC via the Shanvaus_010. This constitutes a shared pathway for in-combination effects with the Proposed Project. However, Carrickeeny Wind Farm has been operational since 2014, and any effects arising from its construction and operation contribute to the existing ecological baseline within the Zol of the Wind Farm. The scheme represents a small-scale development with a limited operational footprint and does not give rise to ongoing construction-related pressures.

However, in-combination effects on Lough Gill SAC are possible due to the shared hydrological pathway via the Shanvaus_010. As such, Carrickeeny Wind Farm is screened in for further assessment.



7.1.2.4 Tullynamoyle Wind Farm

Tullynamoyle Wind Farm (ACP ref. 312895) is located approximately 10 km to the south of the Proposed Project and consists of 15 turbines with planning for a 4-turbine extension and ancillary works.

Belhavel Lough is located downstream of Tullynamoyle Wind Farm (Jennings O'Donovan, 2015a). The AA concluded that there is no potential for significant effects on Lough Gill SAC as Belhavel Lough acts as an intervening depositional waterbody. As such, Belhavel Lough will intercept and reduce the potential likely significant effects on Lough Gill SAC and its QIs. This negates the potential for in-combination effects on water quality with the Proposed Project. Tullynamoyle Wind Farm is screened out at this stage.

7.1.3 Other Projects

7.1.3.1 Quarry Extension at Kerrigan Quarries Carrickoghil, Killarga

Kerrigan Quarries Carrickoghil, Killarga (Planning Ref: 15176) is located c. 10km south of the proposed Wind Farm Site. An application for planning permission for the extension of the existing quarry at Carrickoghil, Killarga, Co Leitrim, included an AA screening report and EIS. Contamination and siltation were considered potential likely significant effects on water quality as a result of the quarry extension (ESPI, 2015a). The quarry drains into the BONET_050 (EPA Stream Orcusconny 35017) which forms a hydrological pathway with downstream Lough Gill SAC and constitutes a shared potential pathway for likely significant effects with the proposed Wind Farm Site. Subsequent effects on European otter species as a result of reduction in food resources, following deterioration of water quality were also considered (ESPI, 2015b).

As such, in-combination effects cannot be ruled out entirely and the quarry extension is screened in for further assessment.

7.1.3.2 Flood Relief Scheme, Dromahair

The proposed Flood Relief Scheme at Dromahair (ACP. Ref 322018), Co. Leitrim has potential for likely significant effects on the integrity of Lough Gill SAC, as identified during the NIS as a hydrological pathway with this development exists (TOBIN, 2024a). Potential likely significant effects on water quality and/or disturbance were assessed as potentially adversely affecting the SAC population of European otter. The potential for in-combination effects must be considered, including the nature, scale, timing, and duration of construction works and operational activities.

On this basis, as a pathway for in-combination effects has been identified and the Flood Relief Scheme at Dromahair is screened in for further assessment of in-combination effects.

7.1.3.3 Wastewater treatment plant, Rossinver

The upgrade of the existing wastewater treatment plant (WwTP) in Rossinver (ACP. Ref 320024) is located 1.4km south of Lough Melvin (TOBIN, 2024b). The contamination and siltation through the release of surface water run-off during construction is the primary pathway for potential likely significant effects on Lough Melvin SAC, Lough Melvin SAC (NI), and Lough Melvin ASSI (TOBINb, 2024). This pathway has been considered in the context of potential in-combination effects with the Proposed Project, having regard to the nature of the works and the scale and duration of construction activities. The WwTP upgrade represents a small-scale, temporary source of potential degradation of surface water, with limited duration



and spatial extent, and subject to standard construction-phase mitigation. Similarly, the construction phase of the Proposed Project is limited to 24 month period where potential likely significant effects on water quality are most likely to occur. As such there is potential for in-combination effects on water quality, specifically if the construction phase of the WwTP and Proposed Project overlap.

As such, there is potential for in-combination effects with Rossinver WwTP on Lough Melvin SAC and Lough Melvin SAC (NI). Rossinver WwTP screens in for further assessment of in-combination effects.

7.1.4 Plans

The Proposed Project is located in Leitrim County administrative area. The Leitrim County Development Plan 2023-2029 includes objectives and policies which are associated with the protection of the natural environment, European sites and watercourses (NH Policy 1 - NH Policy 5, and NH Objectives 1 - NH Objectives 6) (Leitrim Co. Co., 2025a). All new plans and projects proposed within the county must adhere to the above-mentioned policies and objectives. Adherence to the Council's policies and objectives will therefore ensure that all plans and projects proposed will not result in significant effects on biodiversity and European sites, and includes the requirement that any future proposed plans or projects to be subject to Screening for AA to examine and assess their effects on European sites, alone and in-combination with other plans and projects. There is no potential for negative in-combination effects between the Leitrim County Development Plan 2023-2029 and the Proposed Project.

The Co. Leitrim Biodiversity Action Plan 2022-2027 lists the eight SACs within the county (Leitrim Co. Co., 2022). The newly issued Draft Biodiversity Action Plan 2025-2030 for Co. Leitrim aims to "record, conserve, restore and promote biodiversity" (Leitrim Co. Co., 2025). During the public consultation process, it was revealed that the main concern of participants was habitat loss. The main threats to biodiversity in Leitrim were identified as climate change, habitat loss and invasive alien species. The Draft Plan makes reference to a range of ecological features present in Leitrim including: uplands, peatlands, limestone pavements, woodlands, hedgerows, and FPO species. No specific objectives for these features were identified in the Draft Plan. Objectives listed in the Draft Plan relevant to this appropriate assessment screening report include:

- **Objective 2:** Protect and restore natural habitats and native species; and,
- **Objective 3:** Tackle and raise awareness of Invasive Alien Species (IAS).

There is no potential for negative in-combination effects between the Co. Leitrim Biodiversity Action Plan 2022-2027 and the Proposed Project. Leitrim County Development Plan 2023-2029 and Co. Leitrim Biodiversity Action Plan 2022-2027 screen out at this stage.



8. TRANSBOUNDARY EFFECTS

Annex IV of the Environmental Impact Assessment Directive (2011/92/EU) as amended implements the Espoo and Aarhus Conventions in the EU, and as such mandates a description of transboundary effects (European Commission, 2025). Transboundary effects are defined as likely significant effects on the environment within the territory of another European Economic Area Member States (EEA States) (Planning Inspectorate, 2025).

At nearest distance, the proposed Wind Farm Site is located 3.6km south of the border with Northern Ireland. Accordingly, the potential for transboundary effects has been considered, with particular regard to shared pathways between the Proposed Project and European sites.

The WFD river waterbody Lattone 35_010 (WFD Code: IE_NW_35L660960), constitutes a potential pathway for likely significant effects between the proposed Wind Farm Site and Lough Melvin NI SAC (NI) Northern Ireland (UK0030047). The potential for likely significant effects on Lough Melvin SAC (NI) is considered in Section 5.1.9.

In the absence of mitigation, there is potential for Proposed Project to result in likely significant effects on Lough Melvin SAC (NI) in view of the conservation objectives, as a result of water quality degradation during the construction, operation and decommissioning phases of the Proposed Project. Therefore, Lough Melvin NI SAC (NI) is screened in for further assessment.

Pettigoe Plateau SPA (NI) is designated for its breeding population of European golden plover. The proposed Wind Farm Site falls well outside the foraging range for breeding golden plover (3km) from Pettigoe Plateau SPA. Therefore, there are no pathways for likely significant effects on the breeding population of European Plover within Pettigoe Plateau SPA. Therefore, Pettigoe Plateau SPA NI is screened out at this stage. The potential for likely significant effects on Lough Melvin SAC (NI) is considered in Section 5.1.17.



9. CONCLUSION

The potential for likely significant effects on the European sites within the Zol of the Proposed Project, individually or in combination with other plans and projects, cannot be excluded beyond reasonable scientific doubt, in view of best scientific knowledge, on the basis of objective information and in light of the conservation objectives of the relevant European sites.

The impact assessment has considered all elements of the Proposed Project in full, inclusive of the TDR and GCR as well as the design flexibility in relation to turbine models.

The in-combination effects assessment identifies plans and projects which have the potential to result in likely significant effects on European sites when considered in-combination with the Proposed Project, inclusive of forestry operations, wind farms and other projects.

The potential for transboundary effects has been assessed, and in the absence of mitigation, there is potential for Proposed Project to result in likely significant effects on Lough Melvin SAC (NI) in view of the conservation objectives, as a result of water quality degradation during the construction, operational and decommissioning phases of the Proposed Project. Therefore, Lough Melvin NI SAC (NI) is screened in for further assessment. The screening for in-combination effects, has identified plans and projects with potential to result in likely significant effects cumulatively with the Proposed Project, on European sites.

This conclusion has been reached without taking any mitigation measures into account. Therefore, it is considered that the Proposed Project should progress to the next stage of the appropriate assessment process to determine if it will adversely affect the integrity of thirteen European sites and to propose mitigation.

We therefore submit that the competent authority, in this case An Coimisiún Pleanála, can determine that an Appropriate Assessment is required for the following European sites:

- Arroo Mountain SAC;
- Ballysadare Bay SAC;
- Ballysadare Bay SPA;
- Ben Bulbin, Gleniff and Glenade SAC;
- Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC;
- Cummeen Strand SPA;
- Donegal Bay SPA;
- Drumcliff Bay SPA;
- Glenade Lough SAC;
- Lough Derg (Donegal) SPA;
- Lough Gill SAC;
- Lough Melvin SAC;
- Lough Melvin SAC (NI); and,
- Unshin River SAC.



10. REFERENCES

- Beaumont, W.R.C., 2016. *Electricity in Fish Research and Management: Theory and Practice*. Oxford: Wiley Blackwell.
- CEN (2003) *Water Quality – Sampling of Fish with Electricity*. European Standard. Document CEN EN 14011:2000.
- Chanin. (2003). *Ecology of the European otter*. Conserving Natura 2000 Rivers Ecology Series No 10. Peterborough, English Nature. Available from: [European otter\[1\].pdf](#) [accessed: 12/09/2025].
- CIEEM. (2018). *Guidelines for Ecological Impact Assessment (EclA)*. Chartered Institute of Ecology and Environmental Management. Available from: [Guidelines for Ecological Impact Assessment \(EclA\) | CIEEM](#) [accessed: 07/10/2025].
- Cutts, N., Hemingway, K. & Thomson, S., 2013. *Waterbird Disturbance Mitigation Toolkit: Disturbance Distances and Thresholds for Selected Waterbird Species*. Institute of Estuarine & Coastal Studies, University of Hull, Hull.
- Davis, M. L. (2019) *The population and conservation genetics of the Marsh Fritillary butterfly Euphydryas aurinia in the British Isles*. PhD Thesis, Edge Hill University. Available at: https://research.edgehill.ac.uk/ws/portalfiles/portal/21583442/M_Davis_PhD_Thesis_Amend.ed.pdf (Accessed: 3 February 2026).
- DAERA NI (2015). *Pettigoe Plateau – Special Protection Area (SPA) UK9020051 Conservation Objectives*. Available from: <https://www.daera-ni.gov.uk/sites/default/files/publications/doe/pettigoe-plateau-SPA-conservation-objectives-2015.pdf> [accessed: 10/12/2025].
- DAERA (2015) *Lough Melvin SAC UK0030047 Conservation Objectives*. Available at: [Lough Melvin SAC Conservation Objectives 2015](#) [accessed: 10/12/2025].
- Department of Communications, Energy & Natural Resources (DCENR). (n.d.). *Geological Survey Ireland Spatial Resources: Map Series*. ESRI ArcGIS Online. Available at: <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228> [accessed: 30/09/2025].
- Department of Agriculture, Food and the Marine (DAFM), 2019. *Standards for Felling and Reforestation*. Department of Agriculture, Food and the Marine, Dublin. Available at: <https://www.gov.ie/en/publication/8c5c2-standards-for-felling-and-reforestation/> [Accessed 5 February 2026].
- Daly, O.H., O'Neill, F.H., & Barron, S.J. (2023). *The monitoring and assessment of four EU Habitats Directive Annex I woodland habitats*. Irish Wildlife Manuals, No. 146. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage, Ireland. Available: [IWM146.pdf](#) [accessed: 08/12/2025].
- Department of Housing, Local Government and Heritage (2025a) *National Survey of Native Woodlands 2003-2008*. Available at: [accessed: 01/10/2025]. Available at: [National Survey of Native Woodlands 2003-2008 - Dataset - data.gov.ie](#) [accessed: 01/10/2025].

Department of Housing, Local Government and Heritage (2025b) Irish Semi-natural Grassland Survey 2007-2012. Available at: [Irish Semi-natural Grassland Survey 2007-2012 - Dataset - data.gov.ie](https://data.gov.ie) [accessed: 01/10/2025].

DoEHLG (2009). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, Dublin. Available from: [Appropriate Assessment of Plans and Projects in Ireland](#) [accessed: 07/10/2025].

EIA Portal (2025). Environmental Impact Assessment (EIA) Portal – Information. Available from: <https://www.gov.ie/en/publication/9f9e7-eia-portal/> [Accessed: 12/09/2025].

Environment Agency (EA), 2003. *River Habitat Survey in Britain and Ireland: Field Survey Guidance Manual*. Bristol: Environment Agency. Available from: <https://www.environment-agency.gov.uk/research/library/publications/33198.aspx> [accessed: 07/10/2025].

European Commission (EC), 2013. Interpretation Manual of European Union Habitats – EUR28. Directorate-General for Environment. Available from: https://cdr.eionet.europa.eu/help/natura2000/Documents/Int_Manual_EU28.pdf [accessed: 07/10/2025].

Fossitt, J.A., 2000. A Guide to Habitats in Ireland. Dublin. Available from: [A Guide to Habitats in Ireland - Fossitt.pdf](#) [accessed: 07/10/2025].

Goodship, N.M. and Furness, R.W. (MacArthur Green). (2022). Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283.

GSI (2025a) 1st Draft Glenaniff GWB Description November 2004. Available at: [Microsoft Word - Glenaniff.doc](#) [accessed: 25/09/2025].

GSI (2025b) 1st Draft Glencar GWB Description August.2004. Available at: [Microsoft Word - Glencar.doc](#) [accessed: 25/09/2025].

GSI (2025c) 1st Draft Killarga South GWB Description August 2004. Available at: [Microsoft Word - Killarga South.doc](#) [accessed: 25/09/2025].

GSI (2025d) 1st Draft Ballintogher GWB Description August 2004 Ballintogher GWB: Summary of Initial Characterisation. Available at: [Microsoft Word - Ballintogher.doc](#) [accessed: 13/10/2025].

GSI (2025e) 1st Draft Ballymote GWB Description August 2004 Ballymote GWB: Summary of Initial Characterisation. Available at: [Microsoft Word - Ballymote.doc](#) [accessed: 13/10/2025].

Hendry, K. & Cragg-Hine, D., 2003. *Ecology of the Atlantic Salmon*. London: Conservancy Council.

Holdgate, M. W. (1979) 'A Perspective of Environmental Pollution. Cambridge University Press.'

IFI (2010). IFI Biosecurity Protocol for Field Survey Work. Available from: [research biosecurity biosecurity for fieldsurveys 2010.pdf](#) [accessed: 07/10/2025].

IAQM (2024). Guidance on the assessment of dust from demolition and construction. January 2024 (Version 2.2)

Kelly, J., O'Flynn, C., and Maguire, C. 2013. Risk analysis and prioritisation for invasive and non-native species in Ireland and Northern Ireland. A report prepared for the Northern Ireland Environment Agency and National Parks and Wildlife Service as part of Invasive Species Ireland. Available from: [Microsoft Word - Risk analysis and prioritization 29032012 FINAL.docx](#) [accessed: 22/08/2025].

Kettunen, M., Terry, A., Tucker, G. & Jones, A. (2007). Guidance on the maintenance of landscape connectivity features of major importance for wild flora and fauna – Guidance on the implementation of Article 3 of the Birds Directive (79/409/EEC) and Article 10 of the Habitats Directive (92/43/EEC). Institute for European Environmental Policy (IEEP), Brussels. Available at: [Microsoft Word - Adaptation Fragmentation Guidelines FINAL Aug 07.doc](#) [accessed: 22/08/2025].

Leitrim County Council (2025) Online Planning Search. Available at: <https://www.leitrim.ie/council/services/planning-building/planning-permission/online-planning-search/> [accessed: 12 September 2025].

Leitrim County Council (2025a) Leitrim County Development Plan 2023-2029. Available at: [untitled](#) [accessed: 10 November 2025].

Leitrim County Council (2025b) Draft Biodiversity Action Plan 2025-2030. Available at: [Microsoft Word - Portrait Pages Draft Leitrim County Council BAP Aug 2025 V1.3.docx](#) [accessed: 28/11/2025].

Leitrim County Council (2022) *County Leitrim Biodiversity Action Plan 2022–2027*. Available at: <https://actionforbiodiversity.ie/app/uploads/2023/08/County-Leitrim-Biodiversity-Action-Plan-2022-2027.pdf> [accessed: 29/09/2025].

Lucey, J., Bowman, J.J., Klabby, K.J., Cunningham, P., Lehane, M., MacCarthaigh, M., McGarrigle, M.L. and Toner, P.F. 1999. Water Quality in Ireland, 1995 – 1997. EPA.

Matson, R., Delanty, K., Shephard, S., Coghlan, B. and Kelly, F. (2018). Moving from multiple pass depletion to single pass timed electrofishing for fish community assessment in wadeable streams. *Fisheries Research*, 198, 99-108.

Maitland, P.S. (2003). Ecology of the River, Brook and Sea Lamprey. *Conserving Natura 2000 Rivers Ecology Series No. 5*. English Nature, Peterborough.

My Plan (2025). National Planning Application Database. Available from: <https://www.myplan.ie/national-planning-application-map-viewer/> [accessed: 12/09/2025].

National Biodiversity Data Centre (NBDC) (2025a) Biodiversity Maps Available from: <https://maps.biodiversityireland.ie/Map> [accessed: 08/10/2025].

NBDC (2025b) National Biodiversity Data Centre, Ireland, Himalayan Balsam (*Impatiens glandulifera*), Available from: <https://maps.biodiversityireland.ie/Species/28772> [accessed 22/09/2025].

NBDC (2025c) National Biodiversity Data Centre, Ireland, Japanese Knotweed (*Fallopia japonica*). Available from: <https://maps.biodiversityireland.ie/Species/41674> [accessed 22/09/2025].

NBDC (2025d) National Biodiversity Data Centre, Ireland, *Rhododendron ponticum*, Available from: <https://maps.biodiversityireland.ie/Species/29245> [accessed 22/09/2025].

NPWS (2025a). National Parks and Wildlife Service Protected Sites. Available at: <https://www.npws.ie/protected-sites> [accessed 13/11/2025].

NPWS (2025b) *The Status of EU Protected Habitats and Species in Ireland*. Available at: <https://www.npws.ie/protected-sites> [Accessed 10 October 2025].

NPWS (2025c) Habitats and Species Spatial Data. Datasets for download. Available from: <https://www.npws.ie/maps-and-data/habitat-and-species-data> [accessed: 12/09/2025].

NPWS (2025d). Conservation Objectives: Sligo/Leitrim Uplands SPA 004187. Version 1. NPWS, Department of Housing, Local Government and Heritage. Available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004187.pdf [accessed 09/12/2025]

NPWS (2025e) Conservation Objectives: Sligo/Leitrim Uplands SPA 004187. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage. Available at: [CO004187.pdf](https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004187.pdf) [accessed 09/12/2025]

NPWS (2025f) Conservation Objectives: Pettigo Plateau Nature Reserve SPA 004099. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage

NPWS (2025g) Conservation Objectives: Lough Derg (Donegal) SPA 004057. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage. Available at: [CO004057.pdf](https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004057.pdf) [accessed 09/12/2025].

NPWS (2021a) Conservation Objectives: Ben Bulbin, Gleniff and Glenade Complex SAC 000623. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage. [accessed 09/12/2025]

NPWS (2021b) Conservation Objectives: Glenade Lough SAC 001919. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

NPWS (2021c) Conservation Objectives: Union Wood SAC 000638. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage. Available: [CO001898.pdf](https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001898.pdf) [accessed 09/12/2025]

NPWS (2021d) Conservation Objectives: Unshin River SAC 001898. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

NPWS (2021e) Conservation Objectives: Union Wood SAC 000638. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage. Available at: [ConservationObjectives.rdl](https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001898.pdf) [accessed 09/12/2025]

NPWS (2020). Ben Bulbin, Gleniff and Glenade Complex SAC Site Synopsis. Available online at: <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000623.pdf> [accessed 09/12/2025]

NPWS (2016a). Lough Melvin SAC Site Synopsis. Available online at: <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000428.pdf> [accessed 09/12/2025]

NPWS (2016b). Lough Gill SAC Site Synopsis. Available online at: <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY001976.pdf> [accessed 09/12/2025]

NPWS (2016c). Arroo Mountain SAC Site Synopsis. Available online at: <https://www.npws.ie/protected-sites/sac/001403> [accessed 09/12/2025]

NPWS (2016d) Conservation Objectives: Arroo Mountain SAC 001403. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. Available from: [ConservationObjectives.rdl](#) [accessed 13/11/2025].

NPWS (2016d). Cummeen Strand/Drumcliff Bay (Sligo Bay) SAC Site Synopsis. Available online at: <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000627.pdf> [accessed 09/12/2025]

NPWS (2016e) Conservation Objectives: Boleybrack Mountain SAC 002032. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs. Available online at: [ConservationObjectives.rdl](#) [accessed 09/12/2025]

NPWS (2015). Sligo/Leitrim Uplands SPA Site Synopsis. Available online at: <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004187.pdf> [accessed 09/12/2025]

NPWS (2014a). Cummeen Strand SPA Site Synopsis. Available online at: <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004035.pdf> [accessed 09/12/2025]

NPWS (2014b). Drumcliff Bay SPA Site Synopsis. Available online at: <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004013.pdf> [accessed 09/12/2025]

NPWS (2013a) Ballysadare Bay SAC Site Synopsis. Available online at: <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY001403.pdf> [accessed 09/12/2025].

NPWS (2013b) Conservation Objectives: Ballysadare Bay SAC 000622. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. Available from: [ConservationObjectives.rdl](#) [accessed 13/11/2025].

NPWS (2013c). Boleybrack Mountain SAC Site Synopsis.. Available online at: <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY002032.pdf> [accessed 09/12/2025].

NPWS (2013d). Glenade Lough SAC Site Synopsis.. Available online at: <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY001919.pdf> [accessed 09/12/2025].

NPWS (2012a) Lough Derg (Donegal) SPA Available at: [SITE SYNOPSIS](#) [accessed 09/12/2025].

NPWS (2012b) Conservation Objectives Donegal Bay SPA Available at: https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004151.pdf [accessed 09/12/2025].

NPWS (2010a). Ballysadare Bay SPA Site Synopsis.. Available online at: <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004129.pdf> [accessed 09/12/2025].

NPWS (2010b). Donegal Bay SPA Site Synopsis.. Available online at: <https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004151.pdf> [accessed 09/12/2025].

National Roads Authority (NRA) (2009) *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*. Dublin: Transport Infrastructure Ireland. Available from: <https://www.tii.ie/media/4nthqz3a/ecological-surveying-techniques-for-protected-flora-and-fauna-during-the-planning-of-national-road-schemes.pdf> [accessed: 7/10/2025].

National Roads Authority (NRA) (2006) Guidelines for the Treatment of European otters prior to the Construction of National Roads Schemes. Available from: <https://www.tii.ie/media/wsmlbxmv/guidelines-for-the-treatment-of-European-otters-prior-to-the-construction-of-national-road-schemes.pdf> [accessed: 07/10/2025].

NatureScot (2016). Assessing connectivity with Special Protection Areas (SPAs). NatureScot, Scotland. Available at: <https://www.nature.scot/sites/default/files/2022-12/Assessing%20connectivity%20with%20special%20protection%20areas.pdf> [Accessed 9 Dec. 2025].

O'Connor, W. (2007). A survey of juvenile lamprey populations in the Corrib and Suir catchments. Irish Wildlife Manuals No. 26. National Parks and Wildlife Service.

O'Grady, M.F. (2006). Channels and challenges: enhancing Salmonid rivers. Irish Fresh- water Fisheries Ecology and Management Series: Number 4. Central Fisheries Board, Dublin.

O'Rourke, E. & Lysaght, L. (2014) *Risk Assessment of Rhododendron ponticum*, Final version, Invasive Species Ireland. Available at: <https://invasives.ie/app/uploads/2025/02/Rhododendron-ponticum-Rhododendron.pdf> [accessed: 22/09/2025].

OPR (Office of the Planning Regulator) (2021) Appropriate Assessment Screening for Development Management. OPR Practice Note PN01. Available from: [9729-Office-of-the-Planning-Regulator-Appropriate-Assessment-Screening-booklet-15.pdf](https://www.opr.ie/sites/default/files/2021-12/9729-Office-of-the-Planning-Regulator-Appropriate-Assessment-Screening-booklet-15.pdf) [accessed: 20/10/2025.]

Planning Inspectorate (2025) *Nationally Significant Infrastructure Projects: Advice on Transboundary Impacts and Process*. GOV.UK. Available at: [Nationally Significant Infrastructure Projects: Advice on Transboundary Impacts and Process - GOV.UK](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/114444/Nationally_Significant_Infrastructure_Projects_Advice_on_Transboundary_Impacts_and_Process_-_GOV.UK) [accessed: 06/01/2025].

Planning Portal (2025) *Planning Register – Simple Search*. Planning System NI. Available from: [Northern Ireland Public Register](https://www.planningportal.gov.uk/planning-register/simple-search) [accessed: 24/11/2025].

Parnell, J., & Curtis, T., (2012) Webb's An Irish Flora. 8th ed. Cork: Cork University Press.

Peay, S. (2002). A Survey and Monitoring Protocol for the White-Clawed Crayfish *Austropotamobius pallipes* in the UK SAC Rivers. LIFE in UK Rivers Project Contract No. LIF 02-11-37. English Nature, Peterborough. Available at:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/290346/sw1-067-tr-e-e.pdf Accessed June 2024. [accessed: 07/10/2025].

Perrin, P.M., Barron, S.J., Roche, J.R. & O’Hanrahan, B. (2014). Guidelines for a National Survey and Conservation Assessment of Upland Vegetation and Habitats in Ireland. Version 2.0. Irish Wildlife Manuals, No. 79. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland. Available from: [IWM79.pdf](#) [accessed: 07/10/2025].

Reid, N., Hayden, B., Lundy, M.G., Pietravalle, S., McDonald, R.A. & Montgomery, W.I. (2013) National European otter Survey of Ireland 2010/12. Irish Wildlife Manuals No. 76. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

Sigaard, P., Pertoldi, C., Madsen, A.B., Søgaaard, B. and Loeschcke, V. (2008) ‘Patterns of genetic variation in isolated Danish populations of the endangered butterfly *Euphydryas aurinia*’, *Biological Journal of the Linnean Society*, 95(4), pp. 677–687. Available at: [Patterns of genetic variation in isolated Danish populations of the endangered butterfly Euphydryas aurinia - SIGAARD - 2008 - Biological Journal of the Linnean Society - Wiley Online Library](#) [accessed: 07/10/2025].

Stace, C., 2019. New Flora of the British Isles. 4th edition. London: C & M Floristics.

Smith, G. F., O’Donoghue, P., O’Hora, K., & Delaney, E. (2011). Best Practice Guidance for Habitat Survey and Mapping. Kilkenny: The Heritage Council. Available from: [best practice guidance habitat survey mapping onscreen version 2011 8mb.pdf](#) [accessed: 07/10/2025].

Sundseth, K. and Roth, P. (2014) ‘Article 6 of the Habitats Directive - Rulings of the European Court of Justice. European Commission.’

Scott Wilson, Levett-Therivel Sustainability Consultants, Treweek Environmental Consultants and Land Use Consultants. 2006. Appropriate Assessment of plans. Vailable from: <http://www.landuse.co.uk/Downloads/AppropriateAG.pdf> [accessed: 09/10/2025].

SNH (2016). Scottish Natural Heritage. Assessing Connectivity with Special Protection Areas (SPAs) Guidance. Version 3 – June 2016. Available from: [Assessing connectivity with special protection areas.pdf](#) [accessed: 08/10/2025].

TOBIN (2025) Lissinagroagh Wind Farm Volume II Environmental Impact Assessment Report.

TOBIN (2024a) Rossinver Wastewater Treatment Plant, Rossinver, Co. Leitrim Appropriate Assessment Screening and Natura Impact Statement. Available at: [aa-screening-and-nis rossinver-treatment-plant.pdf](#) [accessed: 25/11/2025].

TOBIN (2024b) Leitrim County Council Dromahair Flood Relief Scheme. Natura Impact Statement. Available at: [leitrim.ie/council/services/planning-building/planning-permission/local-authority-projects-laps-an-bord-pleanala/dromahair-flood-relief-scheme-2025/annex-b.pdf](#) [accessed: 24/11/2025].

Toner, P., Bowman, K., Clabby, K., Lucey, J., McGarrigle, M., Concannon, C., Clenaghan, C., Cunningham, P., Delaney, J., O’Boyle, S., MaCarthaigh, M., Craig, M., and Quinn, R. (2005). Water Quality in Ireland 2001-2003. Environmental Protection Agency, Wexford.

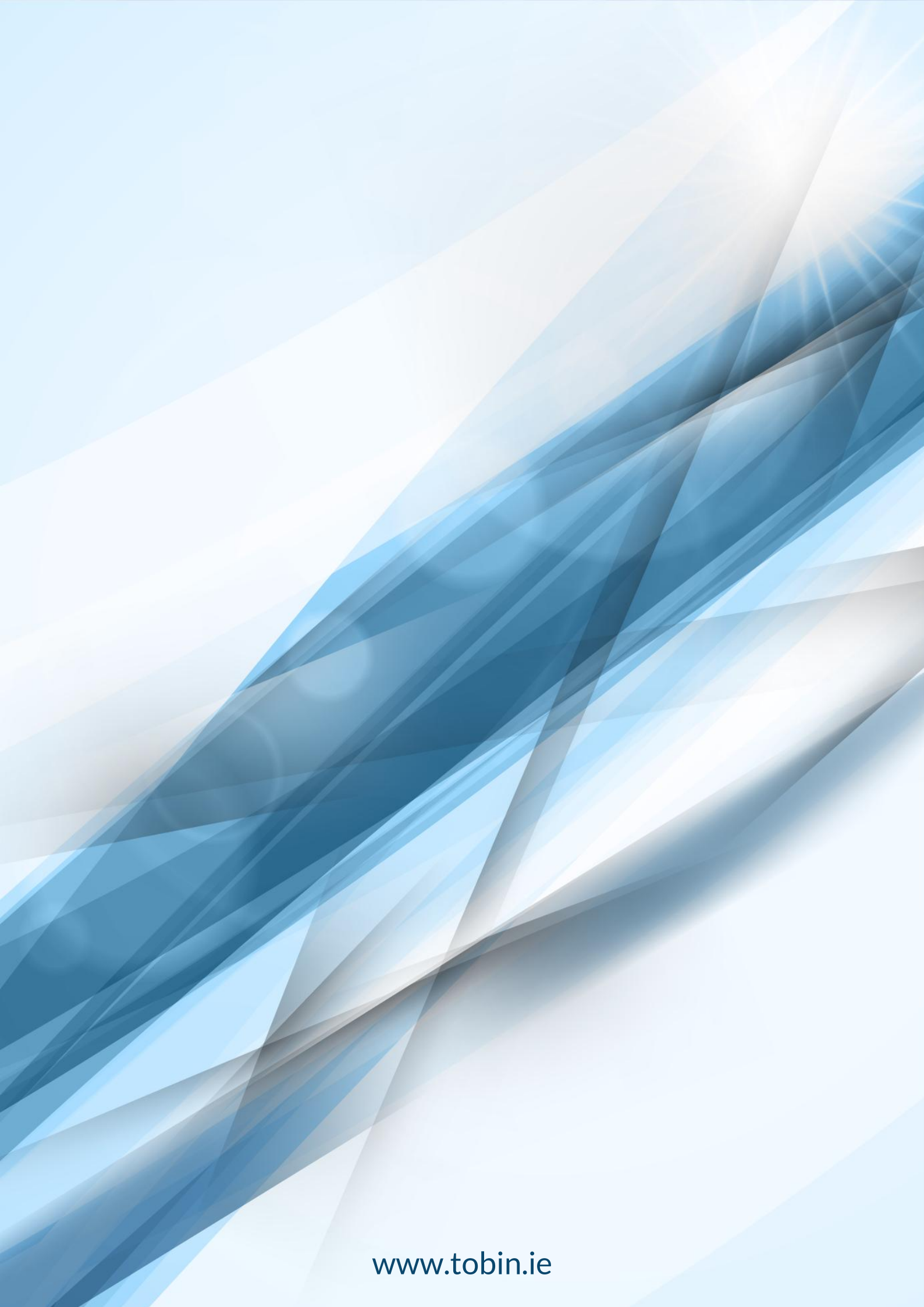
Wilson, S. & Fernández, F. (2013) National survey of limestone pavement and associated habitats in Ireland. Irish Wildlife Manuals, No. 73. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Ireland. Available from: [Microsoft Word - IWM 73 Limestone pavement.docx](#) [accessed: 07/10/2025].

Appendix 1: EIA Chapter 2 – Description of the Proposed Project

Appendix 2: Scoping Consultation Responses

Appendix 3: Aquatic Baseline Report

Appendix 4: Annex I Habitat Condition Assessment



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