TOBIN

An AtkinsRéalis Company

Appendix C –
EIA Addendum Report

BnM

BUILT ON KNOWLEDGE

A1. INTRODUCTION 1-1

A1.1 Background 1-1

A1.2 Purpose of the EIAR Addendum Report 1-1

A1.3 Structure and Content of the Addendum Report 1-3

A1.4 Establishing the Likely Future Receiving Environment 1-4

A1.5 Draft Cutaway Bog Decommissioning and Rehabilitation Plans for Derryaroge, Derryadd and Lough Bannow Bogs 1-5

A7. ADDENDUM TO CHAPTER 7 BIODIVERSITY 7-1

A7.1 Introduction 7-1

A7.2 Statement of Authority 7-4

A7.3 Methodology for Assessment of Impacts and Effects 7-5

A7.4 Ecological Impact Assessment 7-19

A7.5 Conclusion 7-57

A7.6 References 7-58

A8 ADDENDUM TO CHAPTER 8 ORNITHOLOGY 8-1

A8.1 Introduction 8-1

A8.2 Statement of Authority 8-4

A8.3 Methodology for Assessment 8-4

A8.4 Review of the Impact Assessment and the Likely Future Receiving Environment 8-8

A8.5 Overall Conclusions 8-23

A8.6 References 8-25

A9. ADDENDUM TO CHAPTER 9 LANDS SOILS AND GEOLOGY 9-1

A9.1 Introduction 9-1

A9.2 Statement of Authority 9-2

A9.3 Methodology for Assessment of Effects 9-2

A9.4 Assessment of Land, Soils and Geology Effects 9-4

A9.5 Mitigation Measures 9-5

A9.6 Residual Effects 9-5

A9.7 Conclusion 9-5

A9.8 References 9-6



A10. ADDENDUM TO CHAPTER 10 HYDROLOGY AND HYDROGEOLOGY 10-1
A10.1 Introduction 10-1
A10.2 Statement of Authority 10-2
A10.3 Methodology for Assessment of Effects 10-2
A10.4 Hydrology and Hydrogeology Assessment 10-4
A10.5 Mitigation Measures 10-6
A10.6 Residual Effects 10-6
A10.7 Conclusion 10-6
A10.8 References 10-7

A18. ADDENDUM TO CHAPTER 18 CLIMATE 18-1
A18.1 Introduction 18-1
A18.2 Statement of Authority 18-1
A18.3 Methodology for Assessment of Impacts and Effects 18-2
A18.4 Greenhouse Gas Assessment 18-4
A18.5 GHG Significance of Effects 18-6
A18.6 Mitigation 18-7
A18.7 Residual Effects 18-7
A18.8 Conclusion 18-7
A18.9 References 18-8

A21. ADDENDUM TO CHAPTER 21 SCHEDULE OF MITIGATION MEASURES 21-1
A21.1 Introduction 21-1
A21.2 Schedule of EIAR Mitigation Measures 21-1



A1. INTRODUCTION

A1.1 BACKGROUND

TOBIN (An Atkins Realis Company) applied to An Coimisiún Pleanála (ACP) for planning permission to construct a renewable energy development which will comprises 22 no. Wind Turbines & 1 no. 110 kV Electrical Substation & all associated works (hereafter referred to as the proposed development) within the townlands of Aghamore, Annaghbeg, Annaghmore, Ards, Ballynakill, Barnacor, Cloonbearla, Cloonbony, Cloonbrock, Cloonfiugh, Cloonfore, Cloonkeel, Cloontabeg, Cloontamore, Coolnahinch, Corlea, Corralough, Derraghan Beg, Derraghan More, Derryad, Derryaroge, Derryart, Derrygeel, Derryglogher, Derrynaskea, Derryoghil, Derryshannoge, Grillagh, Kilmakinlan, Kilnacarrow, Lyneen, Mosstown, Mount Davys, Rappareehill at Lanesborough, County Longford and within the townland of Ballypheasan, Co. Roscommon. The planning application for the proposed development was accompanied by an Environmental Impact Assessment Report (EIAR) prepared by TOBIN on behalf of the Applicant (Bord na Móna Powergen Limited) and submitted to ACP on the 9th May 2025 (case number ABP-322485-25).

On the 17th July 2025, a letter was issued by ACP inviting the Applicant to make a submission in response to the observations received in relation to the live Strategic Infrastructure Development (SID) planning application before them for consideration. The Response to Submission's following ACP's request was submitted on the 15th September 2025.

On the 15th September 2025, a further letter was issued by ACP inviting the Applicant to make a submission in response to further observations received in relation to the live SID planning application before them for consideration. The Response to Submission's following ACP's request was submitted on the 13th October 2025.

On the 30th of March 2026, the Applicant was requested by ACP to provide further information on a number of points (See Appendix A), in accordance with section 37F (1)(a) of the Planning and Development Act 2000, as amended. ACP has requested, as part of the response format and timeframe of the ACP Further Information (FI) request, that particular points of the FI be addressed by way of an addendum to the previously submitted Environmental Impact Assessment Report (hereafter referred to as "the EIAR") as relevant, and should clearly indicate where changes to the original documents are made.

A1.2 PURPOSE OF THE EIAR ADDENDUM REPORT

In response to the further information request dated 30th March 2026, this Addendum Report (hereafter referred to as "the Addendum") has been prepared in order to update the EIAR and associated appendices, where appropriate, in order to allow ACP to complete a robust environmental impact assessment of the proposed development. In the preparation of this Addendum, the project team, as detailed in Chapter 1 Section 1.12 of the previously submitted EIAR, have considered the extent to which each chapter of the EIAR, where relevant and associated appendices are required to be updated, with particular regard to item no. 2 of the letter:

> *"The Commission notes the concerns outlined in the submissions received regarding the interplay between the draft cutaway bog decommissioning and rehabilitation works on the proposed wind farm development, the baseline characterisation and the dynamic*

nature of the site, and concerns that baseline surveys are unlikely to capture the current improved ecological value of the site arising from natural regeneration.

It is also noted that decommissioning works on the site are still ongoing and an application for substitute consent for historic peat harvesting is currently before the Commission.

Having regard to the above, the Commission seeks clarity as to whether the EIAR baseline represents the findings at the time of surveys or whether consideration has been given to the likely future receiving environment following further bogland rehabilitation and completion of decommissioning on site.

In carrying out the EIA, it is necessary to measure impact against a definitive baseline to appropriately assess the actual impact of the proposed development thereby requiring clarity on the appropriate environmental baseline. This is particularly the case for the water, soils, climate and biodiversity environmental factors.

The applicant should, therefore, consider the presentation of two scenarios ("existing" and "likely future receiving environment") as the environmental baseline for the relevant environmental factors addressed in the EIAR and a revised EIAR or an Addendum to the existing EIAR should be submitted to the Commission."

The Addendum should be read as a response to item no. 2, 3, 4 and 5 of the FI letter. The Addendum presents relevant updates or changes to the previously submitted EIAR, where appropriate, to assess the likely significant effects of the proposed development having regard to the "*the dynamic nature of the site"* and "*Likely Future Receiving Environment following further bogland rehabilitation and completion of decommissioning on site*". For Chapters where the Project team have confirmed that no relevant updates or changes are necessary, these have been excluded from the Addendum. The Addendum should be read in conjunction with the original EIAR submitted.

Similarly, ACP has requested an addendum to the Natura Impact Statement (NIS) to address item no. 1 of the further information letter:

"The Commission notes that since the planning application was lodged, site specific conservation objectives have been published for Lough Ree SPA (004064) (NPWS, April 2025).

The applicant is requested to provide an updated detailed assessment of the implications of the proposed development in view of the site-specific conservation objectives and the attributes and targets required to meet these objectives for the species for which the SPA is designated.

Of particular concern is impacts on the listed population of ***Whooper Swan****, the conservation objective of which is to* ***restore favourable conservation condition****.*

The Commission is of the view that the assessment based on generic conservation objectives presented in the Natura Impact Statement is not adequate to address implications for the integrity of the SPA in view of the site specific conservation objectives in particular those which relate to ecologically important areas outside of the SPA of which the proposed development site could be considered to comprise, now, and in the future in view of bog rehabilitation plans.

The revised assessment should consider all potential impacts against targets and attributes as relevant to the listed bird species and where the conservation objective is to restore favourable conservation condition, provide detail on how the proposed development (alone or in combination with other plans and project) will not delay or prevent that objective for the SPA.

In addition, the Commission seeks clarification on the exact population levels used in the estimation of increase in background mortality as part of the Collision Risk Model assessment for the Lough Ree ***SPA populations.*** *The Commission notes that the significance of predicted collision risk is considered at National scale and regional or local scale as described in the Collision Risk Model Report, EIAR Appendix 8.4 prepared by Tom Gittings. The population reference level used for Lough Ree appears to incorporate a wider area (see Section 2.7, page 22) and thus higher numbers of birds than for which the SPA baseline was determined. Therefore, that being the case, the Commission requests that an updated estimate of mortality thresholds is provided for the relevant species listed for Lough Ree as defined by the* ***SPA population*** *cited in the Conservation objectives.*

The updated assessment for Lough Ree SPA should be provided as an addendum to the Natura Impact Statement and should include a revised screening stage and detailed assessment (stage 2) in view of the site specific conservation objectives to inform the Commission's Appropriate Assessment of the implications of the proposed development on the integrity of the SPA."

The original application was supported by a combined Appropriate Assessment Screening Report (AASR) – NIS. This combined report has been updated to show the additional analyses, clarifications and supporting information required to address the matters raised in the FI, which is now titled 'Revised Stage 1 Appropriated Assessment Screening and Stage 2 Appropriate Assessment Natura Impact Statement'.

A revised NIS was prepared rather than a standalone addendum to the previously submitted NIS. This approach ensured that all matters raised by ACP in relation to Appropriate Assessment were addressed within a single, consolidated assessment document. It also enabled matters raised by ACP in relation to Biodiversity and Ornithology assessments presented within the EIAR, to be fully considered and aligned with the revised Appropriate Assessment documentation.

The preparation of the revised NIS was considered the most robust and transparent approach, as it enabled the original assessment to be reviewed against the published SSCOs for Lough Ree SPA and incorporated the additional analyses, clarifications and supporting information required by the RFI within a single document. It also ensured consistency between the Stage 1 Screening assessment and the Stage 2 Appropriate Assessment, providing a basis to inform ACP's Appropriate Assessment of the proposed development.

A1.3 Structure and Content of the Addendum Report

The purpose of the Addendum is to provide an overview of the conditions within the Likely Future Receiving Environment that are predicted to differ from the baseline environment, as described in original EIAR, at the time of construction, during the operational and

decommissioning phases, and to assess any likely significant effects due to the proposed development activities. The impact assessment on the Likely Future Receiving Environment included in this Addendum report is limited to the proposed infrastructure within the proposed wind farm site, as defined by the red line boundary (Figure 1.1 of the EIAR), and does not extend to the Turbine Delivery Route (TDR). This is because the TDR lies outside the proposed development area assessed in this Addendum and, unlike the transitional peatland conditions within the proposed wind farm site, is generally static in nature, with no anticipated changes to baseline environmental conditions that would materially alter the conclusions of previous assessments.

The Addendum follows the same structure as the previously submitted EIAR to facilitate review of relevant changes or updates. The following Chapter Addendums are included in this report in response to the FI request:

- Chapter 1 Introduction;
- Chapter 7 Biodiversity;
- Chapter 8 Ornithology;
- Chapter 9 Lands, Soils and Geology;
- Chapter 10 Hydrology and Hydrogeology;
- Chapter 18 Climate; and,
- Chapter 21 Mitigation Measures.

It is not intended that the Addendum replaces the submitted EIAR, rather the Addendum is read in conjunction with the submitted EIAR. Only the sections of the EIAR where relevant changes or updates have been identified are provided below.

Additional figures have been provided in the Addendum where necessary. Figures provided in the EIAR, and the Addendum should be viewed as for illustrative purposes only. For any design related figures, the Planning Drawings (Appendix 1-2 of the EIAR) which accompany the Planning Application should be consulted.

A1.4 Establishing the Likely Future Receiving Environment

The following specific phases of the proposed development are presented in the Addendum, as follows:

- The current intervening period between the submission of the planning application through to the granting of planning permission, if granted, currently anticipated to be approximately 2026–2030.
- The Construction Phase is assumed to commence approximately five years in the future, in 2031, and continue for 2 years until 2033.
- Operational Phase is anticipated to commence in 2033 and continue for the 30-year operational lifespan of the proposed project, until approximately 2063.
- Decommissioning Phase is anticipated to commence following the Operational Phase and continue for an undefined period of time.

The dates presented above are preliminary and illustrative only and are contingent upon planning permission being granted and the subsequent commencement of the proposed

development. They do not represent fixed dates for the commencement or completion of any project Phase.

In order to establish the Likely Future Receiving Environment for each of the Phases described above, it is important to highlight Section 2.1.1.1 of Chapter 2 of the original EIAR which details the Integrated Pollution Control (IPC) Licence (Reg. No. P0504-01), licensed by the Environmental Protection Agency (EPA), the proposed wind farm site is subject of. As stated in Section 2.1.1.1:

> *"Condition 10 of the IPC licence instructs Bord na Móna to produce draft peatland rehabilitation plans for each bog of the Mountdillion Bog Group, within which the proposed wind farm site is located, upon cessation of peat extraction. These draft plans will be agreed by the EPA prior to implementation. Please see Appendix 7-2a – 7-2c for the draft Cutaway Bog Decommissioning and Rehabilitation Plans for Derryaroge, Derryadd and Lough Bannow Bogs."*

The following section outlines the process for which the Applicant has prepared and will in the future, implement and update the Draft Cutaway Bog Decommissioning and Rehabilitation Plans for Derryaroge, Derryadd and Lough Bannow Bogs.

A1.5 Draft Cutaway Bog Decommissioning and Rehabilitation Plans for Derryaroge, Derryadd and Lough Bannow Bogs

In accordance with Condition 10.2.1 of the IPC Licence, the licensee must prepare a plan for the permanent rehabilitation of the cutaway boglands within the licenced area. Condition 10.2.2 of the IPC Licence requires these plans to be reviewed and updated every two years, with any measures outlined in the plans to be approved in writing by the EPA before their implementation. In accordance with these conditions, the licensee has prepared Draft Cutaway Bog Decommissioning and Rehabilitation Plans ('Draft Rehabilitation Plans') for each of the bog units which comprise the site. These plans will, by necessity, remain draft until such a time as they are agreed in writing with the EPA. The Draft Rehabilitation Plans have the flexibility to change, in response to stakeholder consultation and in order to adapt to the evolving conditions and dynamic nature of the site as necessary, ensuring the correct habitat management measures are implemented in the correct place. The overarching aim of the Draft Rehabilitation Plans is to environmentally stabilise the bogs, which is achieved through the encouragement of re-vegetation of bare peat areas, as well as through targeted active management as appropriate, such as drain blocking at suitable locations.

The Draft Rehabilitation Plans are included in Appendix 7-2a – 7-2c of the EIAR.

While natural revegetation has occurred on the site as part of its management since the cessation of peat extraction, no targeted rehabilitation measures have been implemented within the proposed wind farm site to date, inclusive of drain blocking. As per the conditions of the IPC Licence, management measures which are required to maintain environmental stability, including hydrological management are ongoing.

Once agreed with the EPA as per Condition 10.2.2 of the IPC Licence, measures outlined in the Draft Rehabilitation Plans will commence upon the completion of the construction phase of the proposed development. The rehabilitation measures will be developed to accommodate and integrate with the proposed wind farm infrastructure. The implementation of site rehabilitation

measures with the development of renewables infrastructure will maximise the environmental and climate benefits that a site of this nature can deliver.

A7. ADDENDUM TO CHAPTER 7 BIODIVERSITY

A7.1 INTRODUCTION

An Environmental Impact Assessment Report (EIAR) was prepared by TOBIN on behalf of Bord na Móna Powergen Limited in support of the planning application for the proposed Derryadd Wind Farm and associated supporting infrastructure (the "proposed development"). EIAR Chapter - 7 Biodiversity describes the existing baseline within the proposed Wind Farm site and assesses the likely significant effects of the proposed development on biodiversity with particular regard to identified Key Ecological Receptors (KERs).

This document constitutes an Addendum Chapter to Chapter 7 - Biodiversity and has been prepared in response to a request from An Coimisiún Pleanála (see Appendix A) to assess the likely significant effects of the proposed development having regard to the "*Likely Future Receiving Environment following further bogland rehabilitation and completion of decommissioning on site*" (An Coimisiún Pleanála, 2026). It is important to note that no targeted peatland rehabilitation measures have been implemented within the proposed Wind Farm site to date, inclusive of drain blocking and re-wetting. Furthermore, the ongoing pumping regime and maintenance of some active drainage channels has continued across the site, although the extent of drainage maintenance has reduced substantially since peat extraction activities ceased. As such, the peatland habitats within the proposed Wind Farm site are not likely to have undergone significant natural regeneration during the intervening period since baseline surveys were conducted and construction to start. The survey findings presented in EIAR Chapter 7 – Biodiversity, Section 7.8 are considered to remain broadly representative of the current ecological condition of the proposed Wind Farm site, as the habitats surveyed likely remain in degraded condition because the rehabilitation measures listed in the Draft Cutaway Bog Decommissioning and Rehabilitation Plans have not been implemented to date (EIAR Chapter 7 – Biodiversity, Appendices 7.2a, 7.2b and 7.2c). Therefore, it is considered likely that the current extent and condition of the habitats have not changed materially during the period since baseline surveys were conducted and that the impact assessment in the EIAR Chapter 7 – Biodiversity remains valid.

This Addendum should be read in conjunction with EIAR Chapter 7 – Biodiversity which, provides a comprehensive overview of the proposed development, including the baseline environment, impact assessment, mitigation measures, residual effects, enhancement measures, and conclusions, based on the existing baseline data. This Addendum Chapter presents only those KERs for which conditions within the Likely Future Receiving Environment are predicted to differ from the existing baseline, as described in EIAR Chapter 7 – Biodiversity, Section 7.8. Accordingly, the impact assessment presented in this Addendum Chapter addresses only the likely significant effects on KERs within the Likely Future Receiving Environment that differ from the existing baseline assessment as presented in EIAR Chapter 7 – Biodiversity, Section 7.11.

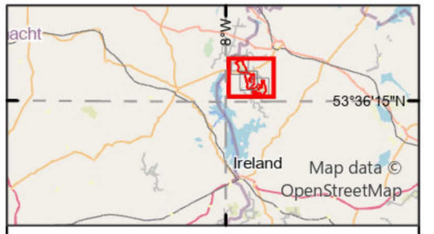
The impact assessment on the Likely Future Receiving Environment included in this Addendum is limited to the proposed infrastructure within the Wind Farm site, as defined by the red line boundary (Figure 1), and does not extend to the Turbine Delivery Route (TDR). This is because the TDR lies outside the proposed development area assessed in this Addendum and, unlike the transitional peatland conditions within the proposed wind farm site, is generally static in nature,

with no anticipated changes to baseline environmental conditions that would materially alter the conclusions of previous assessments.

The remainder of this Addendum Chapter is structured as follows:

- **Section A7.3 Methodology for Assessment of Impacts and Effects -** outlines the approach used to identify KERs, establish the Likely Future Receiving Environment, and assess the potential ecological impacts of the proposed development.
- **Section A7.4 Key Ecological Receptors** – identifies the KERs within the Likely Future Receiving Environment that may be impacted by the proposed development.
- **Section A7.5 Ecological Impact Assessment** - presents an assessment of likely significant effects on KERs during the construction, operation and Decommissioning Phases of the proposed development.
- **Section A7.5.5 Mitigation Measures** - lists mitigation measures to reduce the magnitude of significant effects on KERs.
- **Section A7.7 Conclusion** – summarises the main findings of the assessment.





Legend

- Proposed wind farm site
- Site Layout
- Turbine Layout

0 1 2
Kilometers

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chkd
A	10/07/2026	First issue	K.K	I.H

Client: Bord na Móna

Project: Derryadd Wind Farm

Title: Figure 1: Proposed Wind Farm Site Layout: Infrastructure

Scale @ A3: 1:34,000

Prepared by:	Checked by:	Date:
K.Kale	I.Heanue	July 2026

TOBIN
Tel: +353-(0)1-8030406
Email: info@tobin.ie
www.tobin.ie

TOBIN Consulting Engineers will not be liable for any use of this document for any purpose other than that for which it was originally prepared and provided. Except where specifically and explicitly agreed in writing by TOBIN Consulting Engineers as copyright holder, no part of this document may be reproduced or transmitted in any form and the document shall not be relied upon by any third party for any purpose.

Map Ref: 11399-0129-INFRA-S.BO-TOB-A

Draft: A

A7.2 STATEMENT OF AUTHORITY

This Addendum Chapter was authored by Senior Ecologist Meadhbh Costigan (B.A. (Hons), M.Sc., ACIEEM) and senior reviewed by Dr. James Forde (B.Sc. (Hons), M.Sc., Ph.D., MCIEEM).

Meadhbh Costigan is a Senior Ecologist with TOBIN, with 6 years' experience in environmental consulting, primarily engaged in the preparation of impact assessments for the renewable energy sector. Her work focusses on the identification and assessment of Annex I habitat types. She has significant experience in peatland ecology including Habitat Condition Assessments, the National Survey of Upland Habitats, as well as the preparation of peatland restoration plans using LiDAR data. Meadhbh graduated from Trinity College Dublin with a BA (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 an additional 2 years' experience as a research scientist at the Institute of Systematic Botany, University of Zurich under the Marie Skłodowska-Curie Actions programme funded by the European Commission. She is an Associate member of CIEEM and is an elected member of the CIEEM Irish Section Committee.

James is a Senior Ecologist and Technical Director of the TOBIN E&P division. James holds a B.Sc. (hons) and M.Sc. degrees in marine ecology, and a Ph.D. in ecology. James is also a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). James has almost 20 years' academic and environmental consultancy experience. He has an extensive understanding of ecology and appreciation of the objectives and mechanisms of national and international environmental legislation and policy. He has significant experience in preparing and reviewing ecological reports including Screenings for AA, Natura Impact Statement (NIS), EcIA reporting, and EIAR. James has provided strategic technical and environmental advice for developments across a wide range of sectors, including onshore and offshore renewables, telecommunications, flood relief schemes, port and harbour developments, energy generation and transmission.

A7.3 Methodology for Assessment of Impacts and Effects

This section provides an overview to the approach taken to establish the Likely Future Receiving Environment and assess the potential ecological impacts of the proposed development.

A7.3.1 Establishing the Likely Future Receiving Environment

The Likely Future Receiving Environment considered within this addendum refers to the anticipated receiving environment during the specific phases of the proposed development, as follows:

- An intervening period between the submission of the planning application through to the granting of planning permission, if granted, currently anticipated to be approximately 2026–2030. During this period there would be no effects associated with the proposed development, as no sources for impacts will be present. Natural regeneration of the site would continue, influencing the receiving environment present at the commencement of construction.
- Construction Phase is taken to commence approximately 5 years into the future, in. 2031, and continue for 2 years until 2033. During this period, the receiving environment would reflect the natural regeneration that has occurred during the intervening period.
- Operational Phase is anticipated to commence in 2033 and continue for the 30-year operational lifespan of the proposed development, until approximately 2063. During this period, habitats would continue to develop following the implementation of targeted rehabilitation and natural succession, with the greatest changes in the Likely Future Receiving Environment expected during this phase.
- Decommissioning Phase is anticipated to commence following the Operational Phase and continue for an undefined period of time. The receiving environment would reflect the longer-term development of habitats following on-going rehabilitation and natural succession.

The dates presented above are preliminary and illustrative only and are contingent upon planning permission being granted and the subsequent commencement of the proposed development. They do not represent fixed dates for the commencement or completion of any project Phase. Bogland rehabilitation and completion of decommissioning has not yet taken place within the proposed wind farm site. For the purposes of this assessment, it is assumed that rehabilitation measures will commence following completion of construction activities within relevant areas of the site and will continue during the Operational Phase. Accordingly, the receiving environment is expected to evolve progressively over time, with habitat enhancement occurring in tandem with the implementation of rehabilitation measures.

This approach best captures the potential for "*current improved ecological value of the site arising from natural regeneration*" likely to develop within the Likely Future Receiving Environment during the intervening period between grant of planning permission and commencement of construction (An Coimisiún Pleanála, 2026). It is considered to provide a more representative indication of the likely condition of the site at the time of construction as it takes into account the "*dynamic nature of the site…arising from natural regeneration*" (An Coimisiún Pleanála, 2026).

The assessment of the Operational Phase takes account of the potential changes to the Likely Future Receiving Environment arising from the implementation of bogland rehabilitation

measures during the operational lifespan of the proposed development, as illustrated in the Draft Cutaway Bog Decommissioning and Rehabilitation Plans (EIAR Chapter 7 – Biodiversity, Appendices 7.2a, 7.2b and 7.2c). The Decommissioning Phase is considered from the point at which the Operational Phase ends. While a detailed decommissioning programme will be determined closer to the end of the operational life of the Wind Farm, the condition and distribution of habitats at that stage will depend on the trajectory of habitat evolution, natural regeneration and rehabilitation over the preceding period of time. Decommissioning activities are anticipated to be temporary and relatively short-term in duration when compared to the Operational Phase.

A7.3.2 Trend-Based Approach of the Likely Future Receiving Environment

A a qualitative trend-based approach has been adopted to inform the assessment of likely significant effects against a realistic range of likely future environmental conditions, referred to as the "Likely Future Receiving Environment". The impact assessment does not quantify habitat loss at a particular point in time but instead consideration is given to whether the extent and condition of habitats is likely to increase or decrease. These trends will have implications for the species they support, inclusive of protected fauna.

The assessment therefore assesses the likely significant effects associated with the proposed development on the Likely Future Receiving Environment in the period prior to construction, as well as during the Construction, Operational and Decommissioning Phases.

During the intervening period before the Construction Phase begins, the Likely Future Receiving Environment is expected to reflect the continuation of natural regeneration processes observed during baseline surveys, with due consideration to the dynamic nature of the site.

During the Operational phase, the assessment takes account of the anticipated implementation of bogland rehabilitation measures. These measures are expected to support the rehabilitation and enhancement of habitats over time. Given the dynamic and transitional nature of the pioneer cutaway habitats currently present across the site, the Likely Future Receiving Environment is expected to continue evolving throughout the Operational phase as natural regeneration processes progress and rehabilitation measures are implemented. The Likely Future Receiving Environment during the Operational Phase is therefore considered in terms of the anticipated ecological trajectory towards improved ecological condition.

The Decommissioning phase is similarly considered in the context of the ecological trends expected to have developed over the preceding Operational Phase. The assessment recognises that the condition and distribution of habitats at the time of decommissioning will depend on the trajectory and rate of natural regeneration and rehabilitation.

Accordingly, the Likely Future Receiving Environment represents a reasonable and precautionary prediction of the ecological trajectory of the site, based on the current baseline, observed habitat characteristics, known ecological processes and the anticipated implementation of rehabilitation measures. It is not intended to provide a definitive prediction of future habitat extent or condition, but rather to establish the likely ecological context against which the potential effects of the proposed development are assessed.

A7.3.3 Identification of KERs

The methodologies used to identify KERs, characterise potential effects, and determine their significance are presented in EIAR Chapter 7 – Biodiversity, Section 7.6.

Habitats which have been identified as **Local Importance (Lower Value)** in EIAR Chapter 7 - Biodiversity, such as Exposed gravel or till (ED1) and Cutover bog (PB4), are considered to remain materially unchanged with likely moderate decreases in extent due to scrub and grassland establishment. This predicted decrease in extent reflects the expected establishment and expansion of scrub and pioneer grassland across these more open areas. Some areas of exposed peat, gravel or underlying substrate are expected to remain where vegetation establishment is constrained by local conditions. These Local Importance (Lower Value) habitats are not considered further in the assessment; however, they are referenced in the Addendum to EIAR Chapter 8 – Ornithology (Appendix C).

The following provides an overview of the KERs of the Likely Future Receiving Environment that may be affected by the proposed Wind Farm development. It lists the relevant habitats and species, identified within the proposed Wind Farm site, along with their potential sensitivities to the proposed works.

A7.3.3.1 Habitats

The habitat types included within the Likely Future Receiving Environment prior to the Construction Phase are listed in Table 1 along with their ecological valuation and future trends. These Fossitt 2000 habitat types correspond to those identified during baseline surveys and presented in EIAR – Chapter 7 Biodiversity. Given the relatively short period between the baseline surveys and the anticipated commencement of construction and recognising that natural successional processes on cutaway peatlands typically occur gradually over time, the habitat categories remain consistent with those previously identified and no substantive succession to new habitat types is anticipated. However, minor changes in habitat condition, species composition and habitat extent may occur as natural regeneration processes continue across the site.

These habitats and ecological valuations are relevant for the Construction Phase although the ecological impact assessment during the Construction Phase is considered in detail in Section A7.4.1.

The habitat types included within the Likely Future Receiving Environment during the Operational Phase are listed in Table 2 along with their ecological valuation and future trends. Fossitt habitat types have been grouped into broader categories to allow for variability within the projected Likely Future Receiving Environment, as per the draft Cutaway Bog Decommissioning and Rehabilitation Plans (EIAR Chapter 7 Biodiversity, Appendices 7-2a, 7-2b, 7-2c). It is these broader categories which will be referred to throughout the impact assessment (Table 2).

Habitats with an ecological valuation of Local Importance (Lower Value) have already been treated in EIAR Chapter 7 – Biodiversity, and as such require no further consideration.

Table 1: Trends for Key Ecological Receptors within the Likely Future Receiving Environment prior to the Construction Phase–of the Proposed Wind Farm Site as a Result of Natural Regeneration

Fossitt Code	Habitat Name	Ecological Valuation	Trends
Polygon Habitats			
GS2	Dry meadows and grassy verges	Local Importance (Higher Value)	Supports pollinators and protected species. The extent and condition of this habitat will likely increase across the site prior to the Construction Phase. This is considered a likely moderate positive effect, as the increase in extent and condition of the habitat is consistent with existing and emerging baseline trends. The impact assessment for the Construction Phase is summarised in Table 4.
GS3	Dry humid acid grassland	Local Importance (Higher Value)	Provides foraging opportunities for protected species. The extent and condition of this habitat will likely increase across the site prior to the Construction Phase. This is considered a likely moderate positive effect, as the proposed measures would alter the character of the environment in a manner that is consistent with existing and emerging baseline trends. The impact assessment for the Construction Phase is summarised in Table 4.
FL8	Other artificial lakes and ponds	Local Importance (Higher Value)	These habitats regularly inundate and serve as a foraging resource for waterfowl. Water quality was noted as poor. The extent and condition of this habitat is not likely increase across the site prior to the Construction Phase as no bog rehabilitation measures will take place during this period. Depressions which form the physical basis for these are to remain static. Accordingly, the existing baseline is considered representative of the likely extent of these habitats at the commencement of construction. Any such change in habitat extent is considered non-material and would not alter the conservation status, ecological function or integrity of the habitats or affect their relevance to the assessment of European site interests.

Fossitt Code	Habitat Name	Ecological Valuation	Trends
			This is considered an imperceptible effect, as while the effect is measurable, it would not result in any significant ecological consequence. The impact assessment for the Construction Phase is summarised in Table 4.
FS1	Reed and large sedge swamps	Local Importance (Higher Value)	Provides shelter, foraging, and breeding habitat for waterfowl. The extent and condition of this habitat is not likely increase across the site prior to the Construction Phase as no bog rehabilitation measures will take place during this period. This is considered an imperceptible effect, as while the effect is measurable, it would not result in any significant ecological consequence. The impact assessment for the Construction Phase is summarised in Table 4.
PB1	Raised bog	County Importance	Raised bogs are ecologically valuable due to high plant diversity and their role in carbon sequestration. Raised bog has links with the priority Annex I habitat type 7110 *Active Raised bog and 7120 Degraded raised bog. However, given the timescales required for the development of Annex I active raised bog habitat, no transition to Annex I habitat is anticipated prior to the Construction Phase. This is considered an imperceptible effect, as while the effect is measurable, it would not result in any significant ecological consequence. The impact assessment for the Construction Phase is summarised in Table 4.
PF1	Rich fen and flush	National Importance	A wetland habitat within limited extent within Derryaroge Mineral Island. This habitat is typically more species rich then poor fen. The extent of this habitat type is not likely to increase

Fossitt Code	Habitat Name	Ecological Valuation	Trends
			significantly across the proposed Wind Farm site as it is dependent upon mineral rich substrates. This habitat has links with the Annex I habitat type 7210 *Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* and 7230 Alkaline fens. The extent and condition of this habitat is not likely to increase across the site prior to the Construction Phase as no rehabilitation measures will take place during this period. This is considered an imperceptible effect, as while the effect is measurable, it would not result in any significant ecological consequence. The impact assessment for the Construction Phase is summarised in Table 4.
PF2	Poor fen and flush	Local Importance (Higher Value)	A wetland habitat which has been identified as supporting high species diversity. The extent and condition of this habitat is not likely to increase across the site prior to the Construction Phase as no bog rehabilitation measures will take place during this period. This is considered an imperceptible effect, as while the effect is measurable, it would not result in any significant ecological consequence. The impact assessment for the Construction Phase is summarised in Table 4.
WN2	Oak-ash-hazel woodland	Local Importance (Higher Value)	A woodland habitat with limited extent within Derryaroge Mineral Island. The extent of this habitat type is not likely to increase significantly across the proposed Wind Farm site as it is dependent upon mineral rich substrates. This is considered an imperceptible effect, as while the effect is measurable, it would not result in any significant ecological consequence. The impact assessment for the Construction Phase is summarised in Table 4.

Fossitt Code	Habitat Name	Ecological Valuation	Trends
WN6	Wet willow-alder-ash woodland	Local Importance (Higher Value)	The extent of this habitat is highly limited and localised to floodplains. Similar to Scrub (WS1), the extent and condition of this habitat will likely increase across the site prior to the Construction Phase due to the growth and establishment rates associated with willow species (*Salix spp.*). This is considered a likely moderate positive effect, as the increase in the extent of the habitat would alter the character of the environment in a manner that is consistent with existing and emerging baseline trends. The impact assessment for the Construction Phase is summarised in Table 4.
WN7	Bog woodland	Local Importance (Higher Value)	This habitat supports diverse plant species and provides key ecological resources for protected fauna. Due to the establishment times associated with woodland habitats, the extent of this habitat type is not likely to increase significantly across the site prior to the Construction Phase. The extent of the habitat is likely to be localised and small (< 0.5 ha). This habitat has links with the priority Annex I habitat type 91D0 *Bog woodland. This is considered an imperceptible effect, as while the effect is measurable, it would not result in any significant ecological consequence. The impact assessment for the Construction Phase is summarised in Table 4.
WS1	Scrub	Local Importance (Higher Value)	This transitional habitat offers shelter and foraging for fauna. The extent of the habitat within the existing baseline is highly limited. The extent and condition of this habitat will likely increase across the site prior to the Construction Phase. This is considered a likely moderate positive effect, as the increase in the extent of the habitat would alter the character of the environment in a manner that is consistent with existing and emerging baseline trends.

Fossitt Code	Habitat Name	Ecological Valuation	Trends
Linear Habitats			
FW2	Depositing/lowland rivers	Local Importance (Higher Value)	The extent and condition of this habitat will remain unchanged prior to the Construction Phase. This is considered an imperceptible effect, as while the effect is measurable, it would not result in any significant ecological consequence. The impact assessment for the Construction Phase is summarised in Table 4.
FW4	Drainage ditches	Local Importance (Higher Value)	The extent and condition of this habitat will remain unchanged prior to the Construction Phase. This is considered an imperceptible effect, as while the effect is measurable, it would not result in any significant ecological consequence. The impact assessment for the Construction Phase is summarised in Table 4.
WL1	Hedgerows	Local Importance (Higher Value)	Provides ecological corridors for species like bats. The extent and condition of this habitat will remain unchanged prior to the Construction Phase. This is considered an imperceptible effect, as while the effect is measurable, it would not result in any significant ecological consequence. The impact assessment for the Construction Phase is summarised in Table 4.
WL2	Treelines	Local Importance (Higher Value)	Offers shelter, breeding, and foraging for fauna while connecting important habitats. The extent and condition of this habitat will remain unchanged prior to the Construction Phase. This is considered an imperceptible effect, as while the effect is measurable, it would not result in any significant ecological consequence. The impact assessment for the Construction Phase is summarised in Table 4.

Table 2: Trends for Key Ecological Receptors within the Likely Future Receiving Environment during the Operational Phase of the Proposed Wind Farm Site as a Result of Natural Regeneration

Codes	Habitat Name	Ecological Valuation	Trends
Polygon Habitats			
WN7	Bog Woodland	Local Importance (Higher Value)	This habitat supports diverse plant species and provides key ecological resources for protected fauna. The extent and condition of this habitat type is likely to increase significantly across the site during the Operational Phase. This habitat has links with the priority Annex I habitat type 91D0 *Bog woodland. The impact assessment for the Operational Phase is summarised in Table 11.
WN7	Bog woodland (WN7) with Pine or other conifers (generally Lodgepole)	Local Importance (Higher Value)	This habitat supports diverse plant species and provides key ecological resources for protected fauna. The extent and condition of this habitat type is likely to increase significantly across the site during the Operational Phase. This habitat has links with the priority Annex I habitat type 91D0 *Bog woodland. The impact assessment for the Operational Phase is summarised in Table 11.
WN7, PF2, GS, HH1	Bog woodland dominated - with pockets of open habitats	Local Importance (Higher Value)	The extent and condition of this habitat type is likely to increase significantly across the site during the Operational Phase. The impact assessment for the Operational Phase is summarised in Table 11.
WN7, WN2	Bog woodland with elements of Oak-Ash-Hazel woodland	Local Importance (Higher Value)	This habitat supports diverse plant species and provides key ecological resources for protected fauna. The WN7/WN2 habitat type is associated with gravel substrates and as such is a drier variant of the above mentioned WN7 habitat. This WN7/WN2 habitat type has no affinity with the priority Annex I habitat type 91D0 *Bog Woodland. The extent and condition of this habitat type is likely to increase locally across the site during the Operational Phase, however, any such occurrences are expected to be limited in extent and confined to discrete areas, reflecting the gradual and site-specific nature of habitat development. The impact assessment for the Operational Phase is summarised in Table 11.
WN7, WN2, WS1, PB1, HH1, HH3, PF2, GS3	Bog woodland with elements of Oak-Ash-Hazel, Bog woodland, heathland, and/or	County Importance	The extent of this habitat type is likely to be limited across the proposed Wind Farm site during the Operational Phase. The impact assessment for the Operational Phase is summarised in Table 11.

Codes	Habitat Name	Ecological Valuation	Trends
	degraded raised bog communities		
WN7, WS1, PB1, HH1, HH3, PF2, GS3	Bog woodland, heathland, and/or degraded raised bog communities	County Importance	The extent of this habitat type is likely to be limited across the proposed Wind Farm site during the Operational Phase. The impact assessment for the Operational Phase is summarised in Table 11.
FS1, PF1, PF2, WN6	Wetlands & rich fen mosaic	Local Importance (Higher Value)	The extent and condition of this habitat type is likely to increase significantly across the site during the Operational Phase. The impact assessment for the Operational Phase is summarised in Table 11.
FL, FS1, PF2, WN6	Wetlands mosaic (open water, Reedbeds, poor fen & wet Willow-dominated scrub/woodland)	Local Importance (Higher Value)	The extent and condition of this habitat type is likely to increase significantly across the site during the Operational Phase. The impact assessment for the Operational Phase is summarised in Table 11.
Linnear Habitats			
FW2, FW4	Riparian areas (streams or drains with fringing habitats)	County Importance/ Local Importance (higher value)	There will likely be no change in the extent of these habitats across the Operational Phase. The condition of these habitats is likely to improve as water quality improves following significant revegetation of the site. The impact assessment for the Operational Phase is summarised in Table 11.

A7.3.3.2 Protected Species

The species likely to be found within the Likely Future Receiving Environment are listed in Table 3, along with the ecological valuation and future trends.

Key potential impacts to these species include:

- Vertigo Whorl Snails: Drainage changes, peat excavation, borrow pits (modifying moisture conditions in wetland habitats).
- Marsh Fritillary: Grassland loss, excavation, drainage works (impacting food plant availability and larval development).
- Badgers: Excavation, drainage, access roads, construction traffic (disturbing setts, collision risks).
- Otter: Watercourse crossings, drainage, noise disturbance, pollution risk (affecting foraging and habitat connectivity).
- Bats: Tree removal, lighting, turbine operation (impacting roosts, commuting routes).

It should be noted that habitat development within the site is expected to occur progressively over time and that areas of bare peat are likely to persist within the habitat mosaic for a considerable period. Accordingly, the trends described below do not assume complete habitat establishment across the site, but rather a gradual increase in the extent, connectivity and ecological function of supporting habitats as natural regeneration and rehabilitation measures progress.

Table 3: Ecological valuation and trends for Species within the Proposed Wind Farm Site

Species	Ecological Valuation	Trends
Vertigo Whorl Snails (*Vertigo pygmaea, Vertigo antivertigo, Vertigo substriata*)	Local Importance (Higher Value)	These species are not listed in Annex II of the Habitats Directive. These species are Red Listed with *V. pygmaea* and *V. substriata both* listed as Near Threatened and *Vertigo antivertigo* listed as vulnerable. These snails depend on wet fen habitats, transition mires, and flushes, which are highly sensitive to hydrological changes. There will likely be no significant change in the extent and condition of supporting habitat during the period prior to the Construction Phase. However, during the Operational Phase the supporting habitat is likely to increase in extent and condition, following the implementation of rehabilitation measures. As such, the trend for the species is favourable within the Operational Phase.
Marsh Fritillary (*Euphydryas aurinia*)	International Importance	The species is listed on Annex II of the Habitats Directive. The species relies on wet grasslands and fens containing Devil's-bit Scabious (*Succisa pratensis*), its larval food plant. There will likely be no significant change in the extent and condition of supporting habitat prior to the Construction Phase. However, during the Operational

Species	Ecological Valuation	Trends
		Phase the supporting habitat is likely to have increased significantly in extent and connectivity, following the implementation of rehabilitation measures. As such, the trend for the species is favourable within the Operational Phase.
Badger (*Meles meles*)	Local Importance (Higher Value)	Badger and their resting places are protected under the Wildlife Act 1976 (as amended). Badgers use scrub, woodland, and hedgerows for foraging and sett building. There will likely be no significant change in the extent and condition of supporting habitat prior to the Construction Phase. However, during the Operational Phase the supporting habitat is likely to have increased significantly in extent and condition, following the implementation of rehabilitation measures. As such, the trend for the species is favourable within the Operational Phase.
Otter (*Lutra lutra*)	National Importance	Otter is listed on Annex II and IV of the Habitats Directive. The species relies on rivers, lakes, and wetland corridors for foraging and denning. There will likely be no significant change in the extent and condition of supporting habitat prior to the Construction Phase. However, during the Operational Phase the rehabilitation measures are expected to increase the extent of open water and wetland habitats across the site, enhancing foraging opportunities for otter. The development of wetland and riparian vegetation communities may also provide increased cover, resting opportunities and potential holt sites, while improvements in hydrological conditions and water quality may further enhance habitat suitability. As such, the trend for the species is considered favourable during the Operational Phase.
Leisler's Bat Nathusius' Pipistrelle Natterer's Bat Daubenton's Bat Whiskered Bat Brown Long-eared Bat.	Local to National Importance	These bat species are listed on Annex IV of the Habitats Directive. Bats rely on hedgerows, treelines and woodland edges for foraging and commuting. Prior to the Construction Phase and during the Construction Phase there will likely be no significant change in the extent and condition of supporting habitat. However, during the During the Operational Phase, the implementation of rehabilitation measures is expected to increase the extent and structural diversity of semi-natural habitats across the site, including wetland, scrub and transitional vegetation communities. These changes are likely to enhance insect abundance and foraging opportunities for bat species. While the development of substantial new roosting habitat in mature trees is not anticipated within the operational lifetime of the proposed development, the overall trend in habitat suitability for bat species is considered favourable during the Operational Phase.

A7.3.3.3 Bat Impact Assessment

A7.3.3.3.1 EUROBATS 200m Buffer

Predictions on the loss or damage to commuting and foraging habitat as a result of the proposed development within the Likely Future Receiving Environment have been provided, based on guidance outlined in Rodrigues *et al.* 2014, Roche *et al.* 2014, and Lundy *et al.* 2011. A GIS layer was produced to identify a 200m buffer around all turbines, representing the potential zone of influence for each individual turbine on local bat populations (Rodrigues *et al.* 2014). Habitats within these buffer zones were evaluated for suitability for commuting and foraging bat species.

A7.3.3.3.2 Bat Habitats

Habitats which are considered favourable for Irish bat species have been reported in Roche *et al.* (2014) and Lundy *et al* (2011). Mature broadleaved woodlands are considered particularly important habitats for bats as they support a high abundance and diversity of species (Rodrigues *et al.* 2014). However, within the study area, future habitat development is expected to result in a mosaic of scrub, wet woodland, fen, wetland and open habitats, reflecting the hydrological conditions likely to prevail following rehabilitation measures. While more mature woodland may develop locally in drier areas where suitable conditions exist, widespread transition to mature broadleaved woodland is not anticipated. Other important habitats for bat species include immature woodlands, conifer plantations, wetlands, and linear features such hedgerows and rivers (Rodrigues *et al.* 2014).

A7.3.3.3.3 Trends

A qualitative assessment has been undertaken based on the anticipated evolution of habitats across the site and professional ecological judgement informed by observed bat usage of comparable habitats. During the period prior to Construction Phase, no significant increase in bat activity is expected. As stated in Table 1, the trend for woodland and scrub habitats prior to the Construction Phase is considered to be imperceptible. During the Operational Phase, scrub, woodland and woodland-edge habitats are expected to increase in extent and structural diversity, giving an associated increase in the suitability of the site for foraging and commuting bats to occur. Accordingly, the assessment considers the potential for increased bat activity within the Likely Future Receiving Environment and evaluates impacts on a precautionary basis.

A7.3.3.4 Invasive Alien Species

A7.3.3.4.1 Invasive Alien Plant Species

Multiple shrubs of Rhododendron (*Rhododendron ponticum*), an Invasive Alien Plant Species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011, as amended), were recorded within a Hedgerow (WL2) adjacent to the N63. It is most likely that the Rhododendron shrubs were planted intentionally as they are growing in a linear alignment.

As stated in EIAR Chapter 7 Biodiversity, Section 7.8.2.5, there is no current likelihood of this species spreading aggressively throughout the surrounding area and no other Rhododendron shrubs were recorded within the proposed wind farm site. Therefore, the extent and

distribution of Rhododendron within the proposed wind farm site is not considered likely to change significantly from those recorded during the baseline surveys prior to the Construction Phase.

A7.3.3.4.2 Invasive Alien Animal Species

A live sighting of an American Mink (*Mustela vison*) was recorded during the multidisciplinary walkover survey toward the eastern boundary of the proposed wind farm site. American Mink is listed in Part 2 of the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I No. 477/2011). The species that can move well both on land and in water, and is a significant predator of waterbirds and fish (Roy *et al.*, 2009).

As stated in EIAR Chapter 7 Biodiversity, Section 7.8.2.6, it is not likely the works and activities associated with the proposed wind farm site will affect either positively or negatively the establishment and/or spread of the local American Mink population. As such, this species will not be considered further within the impact assessment.

A7.4 Ecological Impact Assessment

The assessment below is confined to those aspects of Chapter 7 - Biodiversity that require amendment or supplementary assessment having regard to the Likely Future Receiving Environment during the construction, Operational and Decommissioning Phases of the proposed Wind Farm site. Where no amendment to the original EIAR assessment or conclusions is required, the relevant section headings and associated text have been omitted from this document.

A7.4.1 Construction Phase

A7.4.1.1.1 Habitats

During the Construction Phase of the proposed Wind Farm site, an area of approximately 210 ha of habitats will be removed to accommodate the infrastructure and construction activities[1] (Table 4). The semi-natural habitats, which have been identified as present within the proposed Wind Farm site during baseline surveys are likely to persist through the anticipated intervening five period prior to the Construction Phase. Quantitative values for habitat loss within the Likely Future Receiving Environment cannot be reliably determined. Accordingly, the ecological valuation considers the extent and condition of habitats during existing baseline surveys alongside the likely future trends allowing for natural regeneration across the proposed Wind Farm site. The habitats have been evaluated as 'Local Importance (Higher Value)' to 'National Importance' are considered below (Section A7.4, Table 2).

In total, a direct loss of 210ha of semi-natural habitat is considered a **likely significant effect** which is negative and reversible due to the potential for natural regeneration and rehabilitation within the Likely Future Receiving Environment during the Operational Phase.

Oak-ash-hazel woodland and (WN2) and Rich fen and flush (PF1) are exclusively located on the mineral island in Derryaroge bog and as such, no habitat loss will occur for these habitat types. Similarly, there will be no loss of Depositing lowland river (FW2) within the construction Phase of the proposed Wind Farm site. As such, these habitats are excluded from Table 4.

[1] Also includes the proposed TDR works at POI 6, located within the proposed Wind Farm site

Table 4: Habitat loss during the Construction Phase

KER	Descriptor	Effect	Rationale
Bog woodland (WN7)	***Quality of Effects***	Negative	In baseline surveys, the Bog woodland (WN7) was assessed at 5 locations and did not meet the criteria for the priority Annex I habitat type 91D0* as a result of poor species diversity (inclusive of bryophyte diversity and *Sphagnum* cover). Prior to the Construction Phase, the Bog woodland (WN7) within the Likely Future Receiving Environment will not meet these criteria as there will be no rehabilitation of the hydrological regime, which has potential to promote the proliferation of *Sphagnum* species. As such, the condition of the habitat is not likely to change during this period. Similarly, the extent of this habitat type will not increase materially (rated as slight) across the site prior to the Construction Phase, due to the establishment times associated with woodland habitats. The direct loss of this habitat will result from the construction of the turbine hardstand as well as the associated access tracks. As the extent and condition of these habitats is not likely to increase or improve prior to the Construction Phase, there is no deviation from the conclusions of the impact assessment within the EIAR Chapter 7 – Biodiversity namely, **likely slight effect,** which is short-term**,** as any negative effects have the potential to be offset through natural regeneration and habitat rehabilitation measures during the Operational Phase.
	Significance	Slight	
	Extent and Context	No significant deviation from the extent and condition recorded during baseline surveys	
	Probability	Likely	
	Duration	Reversible	
Scrub (WS1)	***Quality of Effects***	Negative	A moderate increase in Scrub (WS1) cover is predicted within the Likely Future Receiving Environment prior to the Construction Phase. The direct loss of this habitat will result from the construction of the turbine hardstand as well as the associated access tracks. Given the transitional nature of scrub habitat, changes in habitat extent are considered more relevant than habitat condition in assessing its ecological value. The loss of this habitat associated with the Construction Phase is considered a **likely significant effect** which is reversible, as any negative effects will be offset through natural regeneration and habitat rehabilitation measures during the Operational Phase.
	Significance	Significant	
	Extent and Context	Significant increase in the extent of the habitat relative to baseline surveys	
	Probability	Likely	
	Duration	Reversible	
	Quality of Effects	Negative	

KER	Descriptor	Effect	Rationale
Wet willow-alder-ash woodland (WN6)	***Significance***	Significant	Although the extent of this habitat is limited to flood plains within the existing baseline, moderate increases in the cover of Wet willow-alder-ash woodland (WN6) is predicted within the Likely Future Receiving Environment prior to the Construction Phase, due to the growth and establishment rates associated with willow species (*Salix spp.*). The direct loss of this habitat will result from the construction of the turbine hardstand as well as the associated access tracks. The loss of this habitat associated with the Construction Phase is considered a **likely significant effect** which is reversible, as any negative effects will be offset through natural regeneration and habitat rehabilitation measures during the Operational Phase.
	Extent and Context	Significant increase in the extent of the habitat relative to baseline surveys	
	Probability	Likely	
	Duration	Reversible	
Dry meadows and grassy verges (GS2)/ Dry humid acid grassland (GS3)/ Wet grassland (GS4)	***Quality of Effects***	Negative	The extent of Dry meadows and grassy verges (GS2), Dry humid acid grassland (GS3) and Wet grassland (GS4) is highly limited within the existing baseline environment. A moderate increase in the extent and condition of these habitats is predicted prior to the Construction Phase, as pioneer grassland species colonise expanses of bare peat. The loss of these habitats associated with the Construction Phase is considered a **likely significant effect** which is reversible, as any negative effects have the potential to be offset through natural regeneration and habitat rehabilitation measures during the Operational Phase.
	Significance	Moderate	
	Extent and Context	Moderate increase in the extent and condition of the habitat relative to baseline surveys	
	Probability	Likely	
	Duration	Reversible	
	Quality of Effects	Negative	

KER	Descriptor	Effect	Rationale
Other artificial lakes and ponds (FL8)/ Reed and large sedge swamp (FS1)/ Poor fen and flush (PF2)/ Drainage ditches (FW4)	***Significance***	Slight-Moderate	The wetland habitats, including Other Artificial Lakes and Ponds (FL8), Reed and Large Sedge Swamp (FS1), Poor Fen and Flush (PF2), Drainage ditches (FW4), are widespread within the existing baseline environment. The extent of these habitats is not anticipated to increase significantly prior to the Construction Phase, as no rehabilitation measures are expected to be implemented during this period and the current pumping regime and maintenance of active drainage channels are expected to continue across the site. Accordingly, the existing baseline is considered representative of the likely extent of these habitats at the commencement of the Construction Phase, allowing for some localised natural regeneration. Any such change in habitat extent is considered non-material and would not alter the conservation status, ecological function or integrity of the habitats or affect their relevance to the assessment of European sites and their qualifying interests. As the extent and condition of these habitats are not likely to increase or improve prior to the Construction Phase, there is no deviation from the conclusions of the impact assessment within the EIAR Chapter 7 – Biodiversity namely, **likely slight-moderate negative effect**. Here the duration is considered to be reversible as any negative effects have the potential to be offset through natural regeneration and habitat rehabilitation measures during the Operational Phase.
	Extent and Context	No significant increase in the extent of the habitat relative to baseline surveys	
	Probability	Likely	
	Duration	Reversible	
Raised bog (PB1)	***Quality of Effects***	Negative	Although the Construction Phase of the proposed development would represent the loss of a highly diverse and rare habitat in the local context, the relatively minor area and proportion of this habitat loss, along with the transient nature of the proposed Wind Farm site determine the low significance of the ecological effects of this habitat area loss. As the extent and condition of this habitat is not likely to increase or improve prior to the Construction Phase, there is no deviation from the conclusions of the impact assessment within the EIAR Chapter 7 – Biodiversity namely, **likely slight negative effect,** which is permanent as this habitat is not likely to regenerate within the Operational Phase of the proposed Wind Farm site.
	Significance	Slight	
	Extent and Context	No significant increase in the extent of the habitat relative to baseline surveys	
	Probability	Likely	
	Duration	permanent	
Hedgerows (WL1)/	***Quality of Effects***	Negative	
	Significance	Significant	

KER	Descriptor	Effect	Rationale
Treelines (WL2)	***Extent and Context***	No significant increase in the extent of the habitat relative to baseline surveys	The extent and condition of this habitat will remain unchanged prior to the Construction Phase. As the extent and condition of these habitats is not likely to increase or improve prior to the Construction Phase, there is no deviation from the conclusions of the impact assessment within the EIAR Chapter 7 – Biodiversity namely, **likely significant effect,** which is permanent as this habitat is not likely to regenerate within the Operational Phase of the proposed Wind Farm site.
	Probability	Likely	
	Duration	Permanent	

A7.4.1.1.2 Protected Species

A7.4.1.1.2.1 Whorl Snail

Three Whorl Snail species were identified during baseline surveys (*Vertigo pygmaea, Vertigo antivertigo, Vertigo substriata*). None of these species are listed in Annex II of the Habitats Directive, however they are of conservation concern as they are Red Listed, although populations are widespread in Ireland (Chapter 7 – Biodiversity, Appendix 7.14, Section 4).

The Construction Phase has potential to result in significant effects on the local populations of Whorl Snail through a combination of:

- Habitat loss – if the proposed works will involve the removal of suitable habitat; and
- Effects on hydrological conditions – if the hydrological regime onsite is affected by the Construction Phase.

These Whorl Snail species favour habitats such as reed beds, wet grasslands, or waterside vegetation with sedges and rushes (Chapter 7 Biodiversity, Section 7.11.2.1.5.2 Whorl Snail). Wet grassland (GS4) is the only suitable habitat type which is predicted to regenerate naturally within the Likely Future Receiving Environment prior to the Construction Phase (Table 5). Those suitable habitats which are not predicted to increase in extent within the Likely Future Receiving Environment prior to the Construction Phase are, namely: Other artificial lakes and ponds (FL8), Reed and large sedge swamp (FS1), Poor fen and flush (PF2).

As such, it is not likely the range of local populations of Whorl Snail will significantly increase in extent across the proposed Wind Farm site prior to the Construction Phase. With regards to habitat loss, it is relevant to note that the infrastructure for the proposed Wind Farm site does not intersect any of the locations where Whorl Snail species have been identified, being separated by at least 50m. As such, the loss of suitable habitat for Whorl Snail population within the Likely Future Receiving Environment prior to construction is considered to be a **likely moderate negative effect** within is reversible and localised to suitable habitat (Table 5).

With regards to effects on hydrological conditions, although the sensitivity amongst the Whorl Snail species varies, changes to water levels may result in indirect effects on the suitability of the habitat for local Whorl Snail populations. The Construction Phase of the proposed Wind Farm will involve water abstraction to accommodate the proposed construction works, with effects on habitats is considered short-term as the local water table will naturally be replenished post-construction. The indirect degradation of potentially suitable habitat for Whorl Snail within the Likely Future Receiving Environment as a result of water abstraction during the Construction Phase is estimated to be a **likely moderate negative effect** within is reversible and localised to suitable habitat (Table 5).

Direct mortality of Whorl snail individuals may occur during the Construction Phase as a result of vegetation clearance, excavation, soil stripping and other ground-disturbing activities within suitable habitat in the Likely Future Receiving Environment, as the future distribution of local Whorl snail populations cannot be reliably predicted. The effect is considered a **likely significant negative effect**, which is permanent in duration. The extent of the effect is limited to Whorl snail individuals occurring within the footprint of the proposed development and the ZoI for indirect effects.

Table 5: Description of Potential Effects from Construction Phase of the Proposed Wind Farm on Whorl Snail Species

KER		Descriptor	Effect
Vertigo pygmaea, Vertigo antivertigo, Vertigo substriata	Habitat loss	***Quality of Effects***	Negative
		Significance	Moderate
		Extent and Context	Localised to suitable habitat within the Likely Future Receiving Environment
		Probability	Likely
		Duration	Reversible
	Habitat degradation due to hydrological conditions	***Quality of Effects***	Negative
		Significance	Moderate
		Extent and Context	Localised to suitable habitat within the Likely Future Receiving Environment
		Probability	Likely
		Duration	Reversible
	Direct Mortality	***Quality of Effects***	Negative
		Significance	Significant
		Extent and Context	Limited to Whorl snail located within the footprint of the development
		Probability	Likely
		Duration	Permanent

A7.4.1.1.2.2 Marsh Fritillary

As presented in EIAR Chapter 7 – Biodiversity, Section 7.7.2.2.3.3, the presence of Marsh Fritillary within the proposed Wind Farm site was identified as scarce. However, significant extents of the larval food plant devils-bit-scabious (*Succisa pratensis*) were identified as relatively abundant (EIAR Chapter 7 – Biodiversity, Section 7.8.2.4.4). The mapped extent of suitable Marsh Fritillary habitats within the existing baseline environment included the following habitat types:

- Cutover bog PB4;
- Bog woodland WN7;
- Scrub WS1;
- Raised bog PB1; and
- Dry humid acid grassland GS3.

It is important to note, under the existing baseline environment known populations of Marsh Fritillary are separated from the proposed infrastructure by a minimum 50m and none of the estimated drawdown zones from the water abstraction for the Construction Phase intersects the locations where the species was recorded.

The Construction Phase has potential to result in significant effects on the local populations of Marsh Fritillary through a combination of:

- Habitat loss – if the proposed works will involve the removal of suitable habitat; and
- Effects on hydrological conditions – if the hydrological regime onsite is affected by the Construction Phase.

Habitats with potential to support local populations of Marsh Fritillary within the Likely Future Receiving Environment are considered likely to increase in extent prior to the Construction Phase. The mapped extent of habitats with Marsh Fritillary records within the existing baseline environment consist of the following habitat types:

- Scrub WS1
- Dry humid acid grassland GS3

A sub-set of these habitat types will be suitable for Marsh Fritillary as they rely on the abundance of devils bit scabious. Furthermore, a sub-set of this suitable habitat will likely undergo direct habitat loss during the Construction Phase. Any negative effects associated with the Construction Phase are considered reversible as extensive natural regeneration of suitable habitat is likely to occur during the Operational Phase.

As such, the loss of suitable habitat for Marsh Fritillary populations within the Likely Future Receiving Environment prior to construction is considered to be a **likely moderate effect** which is reversible and localised to suitable habitat (Table 6).

Marsh Fritillary is highly sensitive to habitat drainage (Lavery, 1993). As such, the water abstraction for the Construction Phase could potentially affect suitable habitat for the species. The drainage effects on habitats are considered short-term as the local water table will naturally be replenished post-construction. The indirect degradation of potentially suitable habitat for Marsh Fritillary within the Likely Future Receiving Environment as a result of water abstraction

during the Construction Phase is estimated to be a **likely moderate effect** which is reversible and localised to suitable habitat (Table 6).

Direct mortality of Marsh Fritillary individuals may occur during the Construction Phase as a result of vegetation clearance, excavation, soil stripping and other ground-disturbing activities within suitable habitat in the Likely Future Receiving Environment. The future meta-population structure will be dynamic in line with the species ecology. The effect is considered a **likely significant negative effect**, which is permanent in duration. The extent of the effect is limited to Marsh Fritillary individuals occurring within the footprint of the proposed development and the ZoI for indirect effects.

Table 6: Description of Potential Effects from Construction Phase of the Proposed Wind Farm on Marsh Fritillary

KER		Descriptor	Effect
Marsh Fritillary	Habitat loss	***Quality of Effects***	Negative
		Significance	Moderate
		Extent and Context	Localised to suitable habitat within the Likely Future Receiving Environment
		Probability	Likely
		Duration	Reversible
	Water Abstraction	***Quality of Effects***	Negative
		Significance	Moderate
		Extent and Context	Localised to suitable habitat within the Likely Future Receiving Environment
		Probability	Likely
		Duration	Reversible
	Direct Mortality	***Quality of Effects***	Negative
		Significance	Significant
		Extent and Context	Limited to Marsh Fritillary larvae located within the footprint of the development
		Probability	Likely
		Duration	Permanent

A7.4.1.1.2.3 Badger

Indirect evidence of Badger activity was found within the existing baseline environment during field surveys demonstrating its local presence (e.g. tracks, latrines and snuffle holes), as presented in EIAR Chapter 7 – Biodiversity, Section 7.7.2.2.3.5).

Badger generally forage within open grassland and locate setts within woodland and scrub (NRA, 2009). It is likely that grassland areas within the Likely Future Receiving Environment encompass suitable Badger foraging habitat and that woodland areas within the Likely Future Receiving Environment will encompass potential Badger resting habitat/setts.

Potentially suitable foraging habitats within the Likely Future Receiving Environment prior to the Construction Phase is comprised of;

- Dry meadows and grassy verges (GS2)
- Dry humid acid grassland (GS3)
- Wet grassland (GS4)

The extent and condition of these habitats are likely to increase significantly within the likely Future Receiving Environment prior to the Construction Phase, as pioneer grassland species colonise expanses of bare peat. The loss of this foraging habitat is considered **not significant** as the habitat loss will cause noticeable changes in the character of the environment but without significant consequences, as suitable foraging habitat for the species will be retained during the Construction Phase (Table 7).

Potentially suitable resting habitats within the Likely Future Receiving Environment prior to the Construction Phase is comprised of;

- Bog woodland (WN7)
- Scrub (WS1)
- Wet willow-alder-ash woodland (WN6)

The extent of Bog woodland (WN7) is not likely to undergo significant change within the likely Future Receiving Environment prior to the Construction Phase, due to the establishment times typically associated with this habitat. This contrasts with Scrub (WS1) and Wet willow-alder-ash woodland (WN6) for which the establishment times of typical species are generally shorter and, therefore, changes in their extent may occur within the Likely Future Receiving Environment prior to the Construction Phase. If a number of active and occupied Badger sets were destroyed during the proposed vegetation clearance, especially during the breeding season, this could have negative consequences for the conservation status of the local Badger population. The potential for the destruction of Badger setts constitutes a **likely significant effect** which is permanent negative (Table 7).

Table 7:Description of Potential Effects from Construction Phase of the Proposed Development on Badger

KER		Descriptor	Effect
Badger	Destruction of Breeding/Resting sites	***Quality of Effects***	Negative
		Significance	Significant
		Extent and Context	Significant increase in the extent of the suitable resting habitat relative to baseline surveys
		Probability	Likely
		Duration	Permanent
Badger	Loss of Foraging Habitat	***Quality of Effects***	Negative
		Significance	Not significant
		Extent and Context	Significant increase in the extent of the suitable foraging habitat relative to baseline surveys
		Probability	Likely
		Duration	Reversible

A7.4.1.1.2.4 Otter

Otters are generally found along rivers and wetlands, with their holts often located along watercourses. The following habitats are likely to persist within the Likely Future Receiving Environment prior to construction;

- Other artificial lakes and ponds (FL8)
- Reed and large sedge swamp (FS1)
- Drainage ditches (FW4)

The extent of these habitats is not anticipated to increase significantly prior to the Construction Phase, as no rehabilitation measures are expected to be implemented during this period and the current pumping regime and maintenance of active drainage channels are expected to continue across the site. Accordingly, the existing baseline is considered broadly representative of the likely extent of these habitats at the commencement of construction, with some potential for localised natural regeneration.

The loss of suitable foraging habitat for otter is considered **not significant** as the habitat loss will cause noticeable changes in the character of the environment but without significant consequences, as suitable foraging habitat for the species will be retained during the Construction Phase. The effects are considered reversible as they have potential to be offset through natural regeneration and habitat rehabilitation measures during the Operational Phase.

If a number of active and occupied otter holts were destroyed during the proposed vegetation clearance, especially if the holts were natal holts, this could have negative consequences for the conservation status of the otter population. The potential for the destruction of otter holts as a

result of this habitat loss constitutes a **likely significant effect** which is permanent negative (Table 8).

Table 8: Description of Potential Effects from Construction Phase of the Proposed Wind Farm on Otter

KER	Descriptor	Effect	
Otter	Loss of Foraging Habitat	***Quality of Effects***	Negative
		Significance	Not significant
		Extent and Context	No significant increase in the extent of the habitat relative to baseline surveys
		Probability	Likely
		Duration	Reversible
Otter	Disturbance/Destruction of Breeding/Resting sites	***Quality of Effects***	Negative
		Significance	Significant
		Extent and Context	No significant increase in the extent of the habitat relative to baseline surveys
		Probability	Likely
		Duration	Permanent

A7.4.1.1.2.5 Bats

In EIAR Chapter 7 Biodiversity, Appendix 7-6 Bat Assessment Report in Section 4.1.2, the following habitat types were identified within the existing baseline as suitable habitat for bats, following best practice guidance (Roche *et al.* 2014);

- Woodland;
- Water bodies & aquatic habitats;
- Linear habitat;
- Scrub; and
- Conifer plantation.

Accordingly, prior to the Construction Phase the Likely Future Receiving Environment, the potentially suitable for commuting/foraging habitat for bats species are;

- Bog woodland (WN7);
- Other artificial lakes and ponds (FL8), Reed and large sedge swamp (FS1), and Poor fen and flush (PF2);
- Hedgerows (WL1), Treelines (WL2), and Drainage ditches (FW4);
- Scrub (WS1); and
- Conifer plantation (WD4).

Of these habitats, Scrub (WS1) is the only habitat assessed as of Local Importance (Higher value) or above which is likely to increase in cover within the Likely Future Receiving Environment prior to the Construction Phase (Table 4). The limited loss of suitable commuting/foraging habitat for local bat populations, and the timing for vegetation clearance and general works

during the Construction Phase of the proposed wind farm (EIAR Chapter 7 – Biodiversity, Section 3.8.1) mitigate any potential effects associated with habitat loss. Considering the general landscape favourability for bat species of the proposed wind farm site being considered to be low to medium at time of baseline surveys (Lundy *et al.*, 2011; EIAR Chapter 7- Biodiversity Appendix 7.14),

The loss of suitable foraging/commuting habitat on local bat populations within the Likely Future Receiving Environment during the Construction Phase, is considered to be **not significant** (Table 9).

Table 9: Description of Potential Effects from Construction Phase of the Proposed Wind Farm on Bats

KER	Descriptor	Effect
All bat species	***Quality of Effects***	Negative
	Significance	Not Significant
	Extent and Context	Limited to Bog woodland (WN7) and Scrub (WS1)
	Probability	Likely
	Duration	Reversible

A7.4.1.2 Invasive Alien Plant Species

There is potential for the spread of Rhododendron through the transmission of contaminated material during the Construction Phase, as the species is located c. 25m from the compound in the north of the Derryadd bog. The resulting effects of the spread of Rhododendron to semi-natural habitat types, such as Bog woodland (WN7), can be highly significant. Rhododendron can outcompete the native shrub layer, forming dense thickets that limit natural tree regeneration (Higgins, 2008). The duration of the effects of the potential spread of this species can potentially be permanent, if left unmanaged (Table 10).

Table 10: Description of Potential Effects the Spread of Rhododendron during the Operational Phase

KER	Descriptor	Effect
Spread of Rhododendron	***Quality of Effects***	Negative
	Significance	Significant
	Extent and Context	Proposed wind farm site and wider environment
	Probability	Likely
	Duration	Permanent

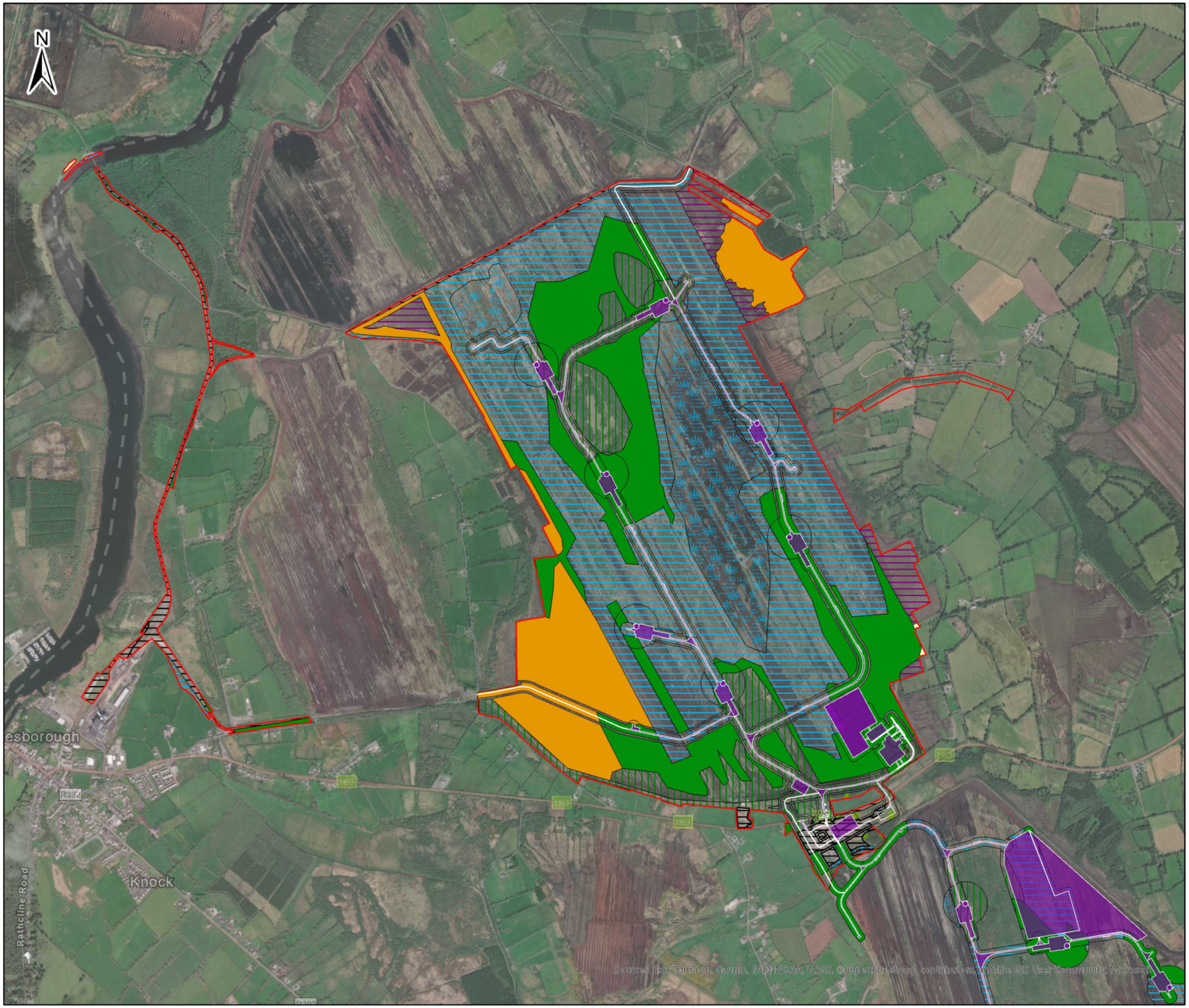
A7.4.2 Operational Phase

The Likely Future Receiving Environment for the Operational Phase of the proposed Wind Farm site represents the anticipated improved ecological condition following the successful implementation of peatland rehabilitation measures, including a widespread drain blocking, modifying outfalls, and reducing pumping as appropriate (EIAR Chapter 7 – Biodiversity, Appendices 7.2a, 7.2b and 7.2c).

A7.4.2.1 Habitats

Maps illustrating the Likely Future Receiving Environment have been presented in the relevant GIS Map Books (EIAR Chapter 7 – Biodiversity, Appendix 7.2a, 7.2b, 7.2c). These maps have been reproduced here in Figure 2, Figure 3 and Figure 4. The habitat mapping is representative of the receiving environment projected into the future Operational Phase of the proposed wind farm site, following successful decommissioning and rehabilitation measures, as presented in the Draft Cutaway Bog Decommissioning and Rehabilitation Plans. This reflects how the site habitats could develop and evolve over a 50-100 year period and should be used as indicative/predictive maps, rather than the specific extent of various habitats predicated after intensive habitat modelling Fossitt habitat types have been grouped into broader categories to allow for variability within the projected Likely Future Receiving Environment.

The Operational Phase has potential to result in **likely significant positive effects** on habitats as the completion of decommissioning and the implementation of peatland rehabilitation measures take effect (Table 11).





Legend

- Derryarogue Boundary
- Site Layout

Likely Future Receiving Environment

- Raised bog (Degraded raised bog) (PB1a)
- Oak-Ash-Hazel woodland (WN2)
- Bog woodland (WN7)
- Conifer plantation (WD4)
- Depositing/landland rivers (FW2)
- Bog woodland (WN7) dominated - with pockets of open habitats (PF1, GS, HH1)
- Bog woodland & wetland mosaic (WN7, FL, FS1, PF1, WN6)
- Bog woodland with elements of Oak-Ash-Hazel woodland (WN7/ WN2)
- Wetlands mosaic (FL, FS1, PF2, WN6)
- Riparain areas (streams or drains with fringing habitats)
- Works areas (can contain BL3, ED2, ED3, WS1, GS, HD1)
- Access (tracks or railways with associated habitats)
- Agriculture (GA1, GS4, BC)
- Bog woodland and heathland mosaic (WN7/HH1/HH3/PF2/ GS3)

0 300 600
Meters

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING\
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE\
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES\
4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chkd.
A	10/07/2026	First issue	K.K	I.H

Client: Bord na Móna

Project: Derryadd Wind Farm

Title: Figure 2: Likely Future Receiving Environment within Derryaroge Bog

Scale @ A3: 1:18,000

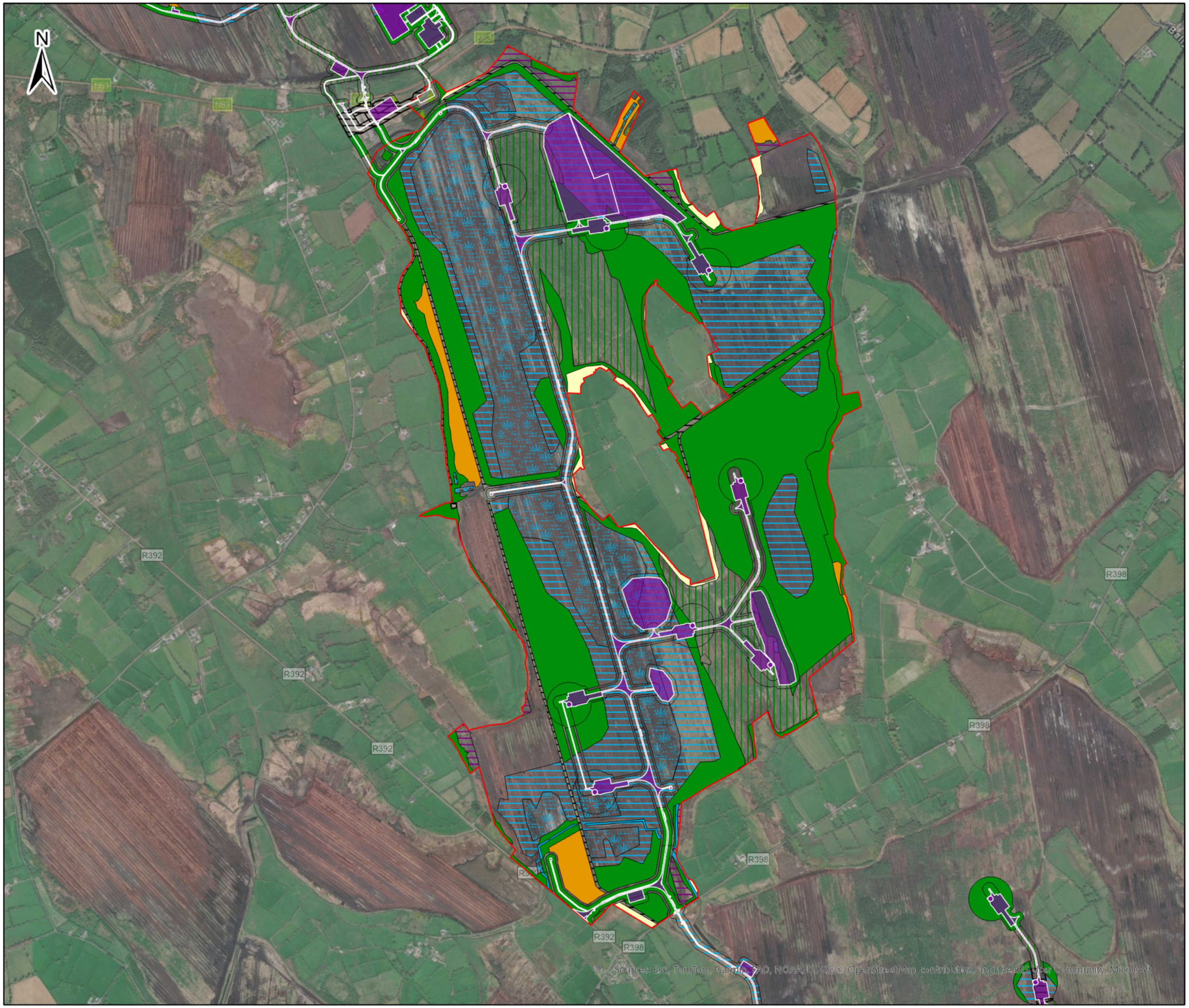
Prepared by:	Checked by:	Date:
K.Kale	I.Heanue	July 2026

TOBIN
Tel: +353-(0)1-8030406
Email: info@tobin.ie
www.tobin.ie

TOBIN Consulting Engineers will not be liable for any use of this document for any purpose other than that for which it was originally prepared and provided. Except where specifically and explicitly agreed in writing by TOBIN Consulting Engineers as copyright holder, no part of this document may be reproduced or transmitted in any form and this document shall not be relied upon by any third party for any purpose.

Map Ref: 11399-0130-DE.YOGUE-S.BO-TOB-A

Draft: A





Legend

- Derryadd Boundary
- Site Layout

Likely Future Receiving Environment

- Raised bog (Degraded raised bog) (PB1a)
- Bog woodland (WN7)
- Conifer plantation (WD4)
- Depositing/landland rivers (FW2)
- Bog woodland (WN7) dominated - with pockets of open habitats (PF1, GS, HH1)
- Bog woodland & wetland mosaic (WN7, FL, FS1, PF1, WN6)
- Bog woodland with elements of Oak-Ash-Hazel woodland (WN7/WN2)
- Wetlands mosaic (FL, FS1, PF2, WN6)
- Riparain areas (streams or drains with fringing habitats)
- Works areas (can contain BL3, ED2, ED3, WS1, GS, HD1)
- Access (tracks or railways with associated habitats)
- Agriculture (GA1, GS4, BC)
- Bog woodland and heathland mosaic (WN7/HH1/HH3/PF2/ GS3)

0 300 600
Meters

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING\
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE\
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES\
4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chkd.
A	10/07/2026	First issue	K.K	I.H

Client:
Bord na Móna

Project:
Derryadd Wind Farm

Title:
Figure 3:
Likely Future Receiving Environment within Derryadd Bog

Scale @ A3: 1:18,000

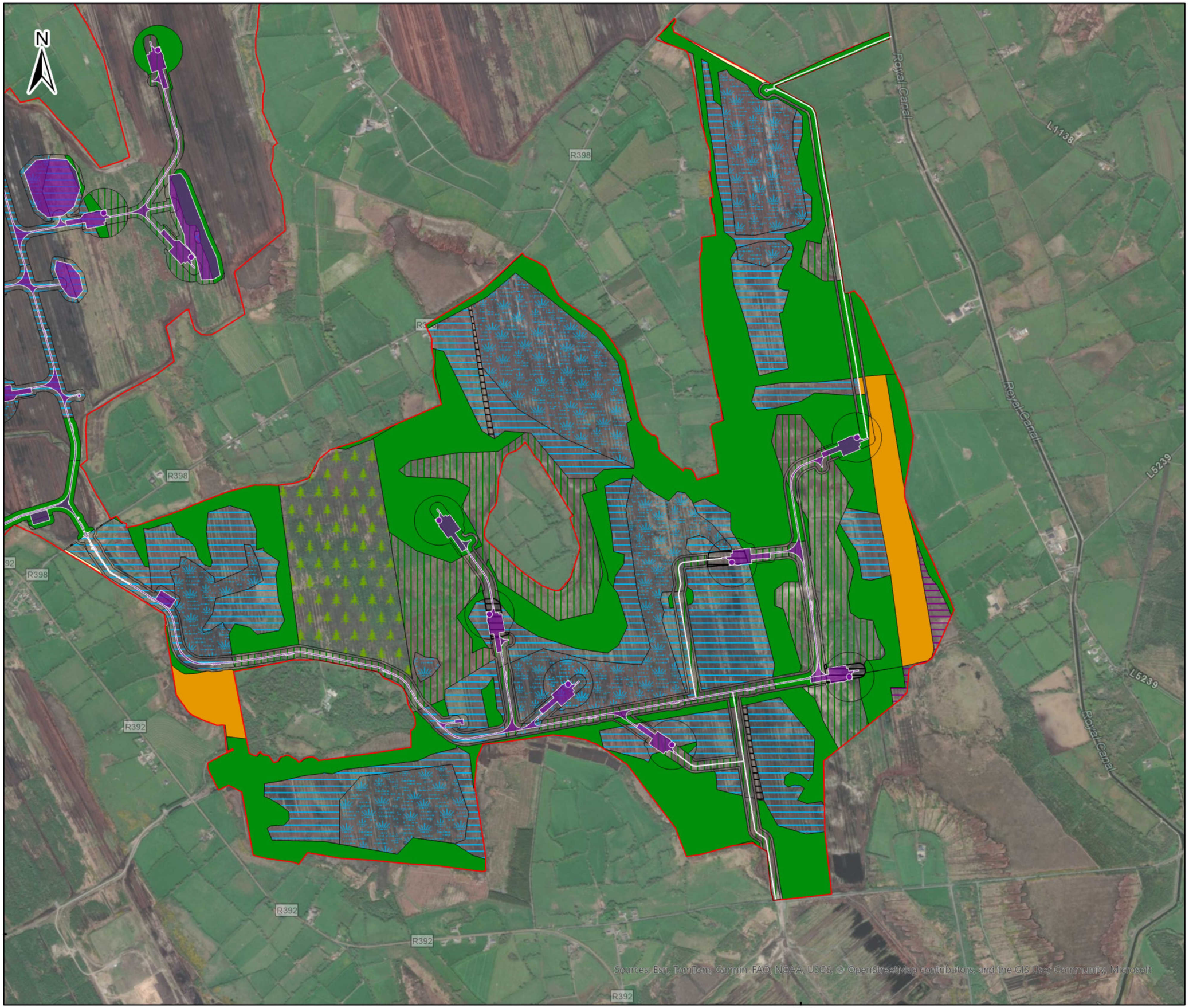
Prepared by:	Checked by:	Date:
K.Kale	I.Heanue	July 2026

TOBIN
Tel: +353-(0)1-8030406
Email: info@tobin.ie
www.tobin.ie

TOBIN Consulting Engineers will not be liable for any use of this document for any purpose other than that for which it was originally prepared and provided. Except where specifically and explicitly agreed in writing by TOBIN Consulting Engineers as copyright holder, no part of this document may be reproduced or transmitted in any form and this document shall not be relied upon by any third party for any purpose.

Map Ref: 11399-0131-DE.YADD-S.BO-TOB-A

Draft: A



53.370.N

609600



Legend

- Proposed wind farm site
- Site Layout

Likely Future Receiving Environment

- Raised bog (Degraded raised bog) (PB1a)
- Conifer plantation (WD4)
- Bog woodland (WN7) dominated - with pockets of open habitats (PF1, GS, HH1)
- Bog woodland & wetland mosaic (WN7, FL, FS1, PF1, WN6)
- Bog woodland with elements of Oak-Ash-Hazel woodland (WN7/ WN2)
- Wetlands mosaic (FL, FS1, PF2, WN6)
- Access (tracks or railways with associated habitats)
- Agriculture (GA1, GS4, BC)
- Bog woodland and heathland mosaic (WN7/HH1/HH3/ PF2/GS3)

0 300 600
Meters

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING\
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE\
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES\
4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chkd.
A	10/07/2026	First issue	K.K	I.H

Client:
Bord na Móna

Project:
Derryadd Wind Farm

Title:
Figure 4:
Likely Future Receiving Environment within Lough Bannow Bog

Scale @ A3: 1:16,000

Prepared by:	Checked by:	Date:
K.Kale	I.Heanue	July 2026

TOBIN
Tel: +353-(0)1-8030406
Email: info@tobin.ie
www.tobin.ie

TOBIN Consulting Engineers will not be liable for any use of this document for any purpose other than that for which it was originally prepared and provided. Except where specifically and explicitly agreed in writing by TOBIN Consulting Engineers,as copyright holder, no part of this document may be reproduced or transmitted in any form and this document shall not be relied upon by any third party for any purpose.

Map Ref: 11399-0131-DE.YADD-S.BO-TOB-A

Draft: A

Table 11: Description of Likely Significant Effects on Habitats during the Operational Phase

KER	Descriptor	Effect	Trends
Bog woodland (WN7)	***Quality of Effects***	Positive	This habitat category largely represents where Bog woodland (WN7) is likely to persist and increase in extent during the Operational Phase, generally in the higher drier areas where scrub develops towards woodland. This habitat has links with the priority Annex I habitat type 91D0 *Bog woodland. Sphagnum -rich bog woodland habitat has been recorded at several locations across the Derryadd cutaway bogs but does not qualify yet as the Annex I types due to its lower diversity and poor structure. Small patches <0.2 ha of Annex I bog woodland could develop on site within the Likely Future Receiving Environment associated with the Operational Phase, if this habitat development is consistent with other BnM cutaway sites. This is considered a **likely significant positive effect**, which is permanent, as the extent and condition of these habitats are expected to improve within the Likely Future Receiving Environment during the Operational Phase.
	Significance	Significant	
	Extent and Context	Significant increase in the extent of this habitat type within the Operational Phase	
	Probability	Likely	
	Duration	Permanent	
Bog woodland & wetland mosaic (WN7, FL, FS1, PF2, WN6)	***Quality of Effects***	Positive	This habitat mosaic represents areas of cutaway with relatively shallow residual peat and with a more variable topography (dry mounds, wet hollows) and is likely to develop in somewhat wetter parts of the site (compared to Bog woodland WN7) during the Operational Phase. The drier areas are developing scrub and pioneer vegetation and will move towards Bog woodland (WN7) during timeframe of the windfarm. Wetter hollows that contain bare peat and wetter pioneer vegetation will move towards Wet willow-alder-ash woodland (WN6), Poor fen and flush (PF2) and Reed and large sedge swamp (FS1). Permanently wet areas could develop small patches of aquatic vegetation or remain as open water. Key factors in the development of this mosaic are topography and the hydrological gradient. Rehabilitation and re-wetting will generally promote extent of wetter habitats. Reedbeds and wetter vegetation types tend to develop at a faster rate compared to vegetation types on deeper residual peat. Some Reed and large sedge swamp (FS1) will become well established during lifetime of the windfarm. Poor fen and flush (PF2) vegetation will still be transitional and rudimentary. This is considered a **likely significant positive effect**, which is permanent, as the extent and condition of these habitats are expected to improve within the Likely Future Receiving Environment during the Operational Phase.
	Significance	Significant	
	Extent and Context	Significant increase in the extent of this habitat type	
	Probability	Likely	
	Duration	Permanent	

KER	Descriptor	Effect	Trends
Bog woodland (WN7) dominated - with pockets of open habitats (PF2, GS, HH1)	***Quality of Effects***	Positive	This habitat mosaic represents areas of mixed dry cutaway where Bog Woodland (WN7) is expected to dominate during the Operational Phase. Bog woodland (WN7) and scrub are expected to increase in cover over time. Patches of bare peat and pioneer vegetation may be retained for some time (decades) and develop as patches of open vegetation (Poor fen and flush (PF2), Wet grassland (GS4) and heather (*Calluna vulgaris*) dominated vegetation). The development and retention of these open pockets of habitats could be influenced by the level of grazing (e.g. deer) in the future. This is considered a **likely significant positive effect**, which is permanent, as the extent and condition of these habitats are expected to improve within the Likely Future Receiving Environment during the Operational Phase.
	Significance	Significant	
	Extent and Context	Significant increase in the extent of this habitat type	
	Probability	Likely	
	Duration	Permanent	
Bog woodland and heathland mosaic (WN7/HH1/HH 3/PF2/GS3)	***Quality of Effects***	Positive	This habitat mosaic represents areas of deeper residual peat that was deemed somewhat drier. The likely habitats for this environment are Bog woodland (WN7) and more heather dominated vegetation (Dry siliceous heath HH1). Some drier grassland may develop depending on the overall level of grazing. Small wetter pockets of habitats could develop with the Operational Phase, and these will have rushes (*Carex* spp.), bog cotton (*Eriophorum* spp.) and *Sphagnum* mosses. More acidic vegetation communities and habitats on drier peat are slower in general to develop in comparison to those on shallower peat. This habitat mosaic is the likeliest to be transitional and to retain some bare peat during the Operational Phase. This is considered a **likely significant positive effect**, over the medium-term, as the extent and condition of these habitats are expected to improve within the Likely Future Receiving Environment during the Operational Phase.
	Significance	Significant	
	Extent and Context	Significant increase in the extent of this habitat type	
	Probability	Likely	
	Duration	Medium-term	
Bog woodland with elements of Oak-Ash-Hazel woodland (WN7/WN2)	***Quality of Effects***	Positive	This habitat mosaic is likely to occur on dry glacial mounds where majority of the peat has been removed and woodland with Mixed broadleaved/conifer woodland (WN2) characteristics is likely to develop during the Operational Phase. The habitat type will be transitional. This is considered a **likely significant positive effect**, over the medium-term, as the extent and condition of these habitats are expected to improve within the Likely Future Receiving Environment during the Operational Phase.
	Significance	Significant	
	Extent and Context	Significant increase in the extent of this habitat type	
	Probability	Likely	
	Duration	Medium-term	
	Quality of Effects	Negative	

KER	Descriptor	Effect	Trends
Bog woodland, heathland, and/or degraded raised bog communities (WN7/WS1/PB1/HH1/HH3/PF2/GS3)	***Significance***	Significant	This habitat mosaic represents areas of deeper residual peat that is deemed somewhat wetter or with the potential to re-wet. Here a mosaic of more acidic bog vegetation types is likely to develop during the Operational Phase, including *Sphagnum*-rich embryonic Raised bog (PB1) vegetation. The habitat mosaic will be similar to mature cutover bog (PB4) found around the margins of protected raised bog sites. The mosaic will include both wet and dry components including Scrub (WS1) and Bog woodland (WN7) and Heather-dominated vegetation (Dry siliceous heath HH1) where it is drier, and pockets of wet vegetation with Rushes, Purple Moorgrass (*Molinia caerulea*) and *Sphagnum* where it is wetter. The proportion of wet and dry components of this habitat mosaic will be dependent on the topography and on the intensity of the rehabilitation. These habitats will still be rudimentary and transitional during the Operational Phase, and small patches of bare peat may persist as well. More acidic vegetation communities and habitats are slower in general to develop in comparison to vegetation communities and habitats on shallower peat. This is considered a **likely significant positive effect**, over the medium-term, as the extent and condition of these habitats are expected to improve within the Likely Future Receiving Environment during the Operational Phase.
	Extent and Context	Significant increase in the extent of this habitat type	
	Probability	Likely	
	Duration	Medium-term	
Riparian areas (streams or drains with fringing habitats) (FW4)	***Quality of Effects***	Negative	There will likely be no change in the extent of these habitats across the Operational Phase. The condition of these habitats is likely to improve as water quality improves following significant revegetation of the site. This is considered a **likely significant positive effect**, which is permanent, as the extent and condition of these habitats are expected to improve within the Likely Future Receiving Environment during the Operational Phase.
	Significance	Not significant	
	Extent and Context	Significant increase in the extent of this habitat type	
	Probability	Likely	
	Duration	Permanent	
Wetlands mosaic (reedbeds, poor fen & wet Willow-dominated scrub/	***Quality of Effects***	Negative	This habitat category represents areas of shallow cutaway peat found in low-lying areas of topography and basins, likely to develop open water and Reed and large sedge swamp (FS1) during the Operational Phase. The extent of this habitat mosaic will develop on the final hydrological regime and level of pumping permitted during the rehabilitation works. In general, pumping (compared the former peat extraction regime) will be significantly reduced, as pumping is not required to dry out the low-lying peat areas for peat extraction. Some deeper water may develop and persist with the new hydrological regime and aquatic vegetation will also likely develop. Reed and large sedge swamp (FS1)
	Significance	Significant	
	Extent and Context	Significant increase in the extent of this habitat type	
	Probability	Likely	

KER	Descriptor	Effect	Trends
woodland) (FL, FS1, PF2, WN6)	*Duration*	Permanent	will continue to expand significantly in these areas with Scrub (WS1) and Wet willow-alder-ash woodland (WN6) likely to develop in parts, depending on the final hydrological regime. In time, hydrological zonation will develop similar to other BnM cutaways that will reflect the new hydrological regime. This is considered a **likely significant positive effect**, which is permanent, as the extent and condition of these habitats are expected to improve within the Likely Future Receiving Environment during the Operational Phase.

A7.4.2.2 Protected Species

A7.4.2.2.1 Whorl Snail

The Likely Future Receiving Environment associated with the Operational Phase predicts the expansion of wetland habitats across the proposed Wind Farm site, namely:

- Other artificial lakes and ponds (FL8);
- Riparian areas (streams or drains with fringing habitat) (FW4);
- Wetlands & rich fen mosaic (FS1, PF1, PF2, WN6);
- Wetland mosaic (reedbeds, poor fen & wet willow-dominated scrub/ woodland) (FL, FS1, PF2, WN6); and,
- Bog woodland and wetland mosaic (WN7, FL, FS1, PF2, WN6).

As such, it is likely the local populations of Whorl Snail will colonise suitable habitats over time within the Likely Future Receiving Environment, resulting in an overall increase in abundance. Given the expected increase in the extent and condition of suitable habitat for Whorl snail within the Likely Future Receiving Environment during the Operational Phase, the effects on local Whorl Snail population are considered to be a **likely significant positive effect** which is permanent (Table 12).

Table 12: Description of Likely Significant Effects during the Operational Phase on Whorl Snail Species

KER		Descriptor	Effect
Vertigo pygmaea, Vertigo antivertigo, Vertigo substriata	Habitat improvement in condition and increase in extent	***Quality of Effects***	Positive
		Significance	Significant
		Extent and Context	Significant increase in the extent of this habitat type during the Operational Phase
		Probability	Likely
		Duration	Permanent

A7.4.2.2.2 Marsh Fritillary

Habitats with the potential to support local populations of Marsh Fritillary within the Likely Future Receiving Environment during the Operational Phase are limited to mosaics which contain elements of semi-natural grassland (GS) habitats with potential for an abundance of Devil's-bit Scabious, namely:

- Bog woodland (WN7) dominated with pockets of open habitats (PF2, GS, HH1);
- Bog woodland and heathland mosaic (WN7/HH1/HH3/PF2/GS3); and
- Bog woodland, heathland, and/or degraded raised bog communities in mosaic (WN7/WS1/PB1/HH1/HH3/PF2/GS3).

A such, it is likely the local populations of Marsh Fritillary will colonise suitable habitats within the Likely Future Receiving Environment, resulting in an overall increase in the local population overtime. Due to the transitional nature of suitable Marsh Fritillary habitat, the duration of effects is considered to be long-term (lasting fifteen to sixty years) as Bog woodland (WN7) and Wetlands mosaic (FL, FS1, PF2, WN6) are climax ecosystems likely to develop within the Operational Phase.

Given the expected increase in the extent and improvement in the condition of suitable habitat for Marsh Fritillary within the Likely Future Receiving Environment during the Operational Phase, the effects on local Marsh Fritillary populations are considered to be **likely significant positive effects** over the long-term (Table 13).

Table 13: Description of Likely Significant Effects on Marsh Fritillary during the Operational Phase

KER		Descriptor	Effect
Marsh Fritillary	Habitat - improvement in condition and increase in extent	***Quality of Effects***	Positive
		Significance	Significant
		Extent and Context	Significant increase in the extent of this habitat type during the Operational Phase
		Probability	Likely
		Duration	Long-term

A7.4.2.2.3 Badger

The extent of potentially suitable foraging habitats for badger within the Likely Future Receiving Environment during the Operational Phase are largely limited to habitat types which have a grassland component, namely;

- Bog woodland (WN7) dominated - with pockets of open habitats (PF2, GS, HH1);
- Bog woodland and heathland mosaic (WN7/HH1/HH3/PF2/GS3); and,
- Bog woodland, heathland, and/or degraded raised bog communities (WN7/WS1/PB1/HH1/HH3/PF2/GS3).

The extent of woodland within the Likely Future Receiving Environment during the Operational Phase, which may support Badger setts is comprised of:

- Bog woodland (WN7);
- Bog woodland & wetland mosaic (WN7, FL, FS1, PF2, WN6);
- Bog woodland (WN7) dominated - with pockets of open habitats (PF2, GS, HH1);
- Bog woodland and heathland mosaic (WN7/HH1/HH3/PF2/GS3);
- Bog woodland with elements of Oak-Ash-Hazel woodland (WN7/WN2); and,
- Bog woodland, heathland, and/or degraded raised bog communities (WN7/WS1/PB1/HH1/HH3/PF2/GS3).

The natural regeneration and rehabilitation of semi-natural habitats within the Likely Future Receiving Environment during the Operational Phase is expected to benefit local Badger populations. Accordingly, the effect is considered to represent a **likely significant positive effect** over the long term (Table 14).

Table 14: Description of Likely Significant Effects on Badger during the Operational Phase

KER		Descriptor	Effect
Badger	Increase in Potentially Suitable Habitat for Breeding/Resting sites	***Quality of Effects***	Positive
		Significance	Significant
		Extent and Context	Significant increase in the extent of this habitat type during the Operational Phase
		Probability	Likely
		Duration	Permanent
Badger	Increase in Potentially Suitable Habitat for Foraging	***Quality of Effects***	Positive
		Significance	Significant
		Extent and Context	Significant increase in the extent of this habitat type during the Operational Phase
		Probability	Likely
		Duration	Permanent

A7.4.2.2.4 Otter

Otters are generally found along rivers and wetlands, with their holts often located along watercourses. The following habitats within the Likely Future Receiving Environment are likely to encompass foraging and breeding/resting habitat for otter;

- Artificial lakes and ponds (FL8);
- Bog woodland & wetland mosaic (WN7, FL, FS1, PF2, WN6);
- Depositing lowland river (FW2);
- Riparian areas (streams or drains with fringing habitats) (FW4);
- Wetlands & rich fen mosaic (FS1, PF1, PF2, WN6); and
- Wetlands mosaic (reedbeds, poor fen & wet Willow-dominated scrub/ woodland) (FL, FS1, PF2, WN6).

The natural regeneration and rehabilitation of semi-natural habitats within the Likely Future Receiving Environment during the Operational Phase is expected to benefit local Otter populations. Accordingly, it is considered to be a **likely significant positive effect** over the long term.

Table 15: Description of Likely Significant Effects on Otter during the Operational Phase

KER	Descriptor	Effect	
Otter	Increase in Potentially Suitable Habitat for Breeding/Resting sites	***Quality of Effects***	Positive
		Significance	Significant
		Extent and Context	Significant increase in the extent of this habitat type during the Operational Phase
		Probability	Likely
		Duration	Permanent
Otter	Increase in Potentially Suitable Habitat for Foraging	***Quality of Effects***	Positive
		Significance	Significant
		Extent and Context	Significant increase in the extent of this habitat type during the Operational Phase
		Probability	Likely
		Duration	Permanent

A7.4.2.2.5 Bats

Typically, a risk assessment for bat species is based on bat encounters recorded during field surveys as well as the proximity of suitable habitat for bats within 200m of turbine locations. Suitable foraging and commuting habitat for bats within 200m of proposed turbine locations predicts higher risk of collision (Rodrigues *et al.* 2014). Habitats within 200m of turbine locations within the Likely Future Receiving Environment has been assessed to determine the suitability for all bat species.

Under the Likely Future Receiving Environment, all habitat types have been identified as potentially suitable for commuting and foraging bats. A total of 217ha of suitable bat habitat is likely to be located within the 200m radius of all proposed turbine locations during the Operational Phase, comprising of;

- Artificial lakes and ponds (FL8);
- Bog woodland (WN7);
- Bog woodland (WN7) dominated - with pockets of open habitats (PF2, GS, HH1);
- Bog woodland (WN7) with Pine or other conifers (generally Lodgepole);
- Bog woodland & wetland mosaic (WN7, FL, FS1, PF2, WN6);
- Bog woodland with elements of Oak-Ash-Hazel (Birch & Ash) (WN7/WN2);
- Bog woodland, heathland, and/or degraded raised bog communities (WN7/WS1/PB1/HH1/HH3/PF2/GS3);
- Riparian areas (streams or drains with fringing habitats);
- Wetlands & rich fen mosaic (OW, FS1, PF1, PF2, WN6); and
- Wetlands mosaic (reedbeds, poor fen & wet Willow-dominated scrub/woodland) (FL, FS1, PF2, WN6).

The habitat type WN7 Bog woodland (and variants) dominates the 200m radius around each turbine location, with the exception being T18 which is dominated by wetland mosaic (FL, FS1, PF2, WN6). As such, it can be predicted that that Likely Future Receiving Environment represents a scenario where the habitats within 200m of all turbine locations and within the wider Red Line Boundary are favourable for commuting and foraging bat species. As no data on bat activity exists for future seasons, following the precautionary principle all turbines are considered High Risk under the Likely Future Receiving Environment scenario.

In the absence of mitigation, the impact of the proposed development on local bat populations of High-Risk species (Leisler's bat, Common Pipistrelle, Soprano Pipistrelle, Nathusius' Pipistrelle) within the Likely Future Receiving Environment, is considered a **likely significant effect**, which is permanent and negative (Table 13).

For those local populations of bat species which are considered Low Risk of collision with wind turbines (Natterer's bat, Daubenton's bat, Whiskered bat, Brown Long-eared bat) within the Likely Future Receiving Environment, the impact of the proposed development is considered an unlikely significant effect, which is negative and permanent (Table 13).

Table 16: Description of Potential Effects from Operational Phase of the Proposed Wind Farm on Bats

KER	Descriptor	Effect
▪ Leisler's bat ▪ Common Pipistrelle ▪ Soprano Pipistrelle ▪ Nathusius' Pipistrelle	***Quality of Effects***	Negative
	Significance	Significant
	Extent and Context	The collision risk associated with locating proposed turbines within 200m of suitable bat foraging/commuting habitat
	Probability	Likely
	Duration	Permanent
▪ Natterer's bat, ▪ Daubenton's bat, ▪ Whiskered bat, ▪ Brown Long-eared bat	***Quality of Effects***	Negative
	Significance	Significant
	Extent and Context	The collision risk associated with locating proposed turbines within 200m of suitable bat foraging/commuting habitat
	Probability	Unlikely
	Duration	Permanent

A7.4.2.3 Invasive Alien Plant Species

Although the observations during the field study report a low likelihood of Rhododendron spreading in the short-term, considering the 35-year lifespan of the project there is potential for the species to spread within the proposed wind farm site during the Operational Phase. The species typically spreads through seed dispersal by wind, with seeds capable of dispersing up to 1 km downwind (Higgins, 2008). The duration of the effects of the potential spread of Rhododendron can potentially be permanent, if left unmanaged (Table 17).

Table 17: Description of Potential Effects the Spread of Rhododendron during the Operational Phase

KER	Descriptor	Effect
Spread of Rhododendron	***Quality of Effects***	Negative
	Significance	Significant
	Extent and Context	Proposed wind farm site and wider environment
	Probability	Likely
	Duration	Permanent

8°0'0"W

7°54'0"W

53°39'40"N

53°36'30"N

600000

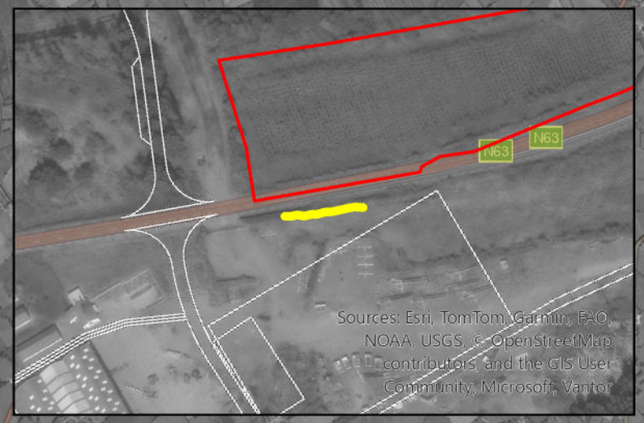
606000

612000

768000

762500

N





Legend

- Proposed wind farm site boundary
- Turbine Layout
- Site Layout

Relevant findings

- Rhododendron

0 1 2
Kilometres

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING\
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE\
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES\
4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chkd.
A	25/09/2026	First issue	K.K	I.H

Client: Bord na Móna

Project: Derryadd Wind Farm

Title: Figure 5: Location of Invasive Species

Scale @ A3:	1:40,000	
Prepared by:	Checked by:	Date:
K.Kale	I.Heanue	September 2026

TOBIN
Tel: +353-(0)1-8030406
Email: info@tobin.ie
www.tobin.ie

TOBIN Consulting Engineers will not be liable for any use of this document for any purpose other than that for which it was originally prepared and provided. Except where specifically and explicitly agreed in writing by TOBIN Consulting Engineers,as copyright holder, no part of this document may be reproduced or transmitted in any form and this document shall not benrelied upon by any third party for any purpose.

Map Ref: 11399-034-SPE-P.APP.BO-TOB-A

Draft: A

A7.4.3 Decommissioning Phase

For the Decommissioning Phase of the proposed Wind Farm site the main action will be the disassembling and transport offsite of the wind turbines, and there are no plans for the construction of new infrastructure, or improvements of existing, during the Decommissioning Phase. As such, the significance of effect of these activities on local biodiversity is likely to be **temporary** and not likely to hold a significance to the local biodiversity higher than **slight**, as no habitat loss or disturbance of breeding/resting sites will take place (Table 18).

Table 18: Description of Potential Effects from Decommissioning Phase of the Proposed Wind Farm on Biodiversity

KER	Descriptor	Effect
All KERs	***Quality of Effects***	Negative
	Significance	Slight
	Extent and Context	Throughout the proposed Wind Farm site
	Probability	Likely
	Duration	Temporary

A7.4.4 Summary of Assessment of Likely Significant Effects

A comprehensive assessment of the proposed development has identified in the absence of mitigation there is potential for several **likely significant negative effects** on KERS within the Likely Future Receiving Environment namely on Whorl Snail, Marsh Fritillary, Otter and Badger during the Construction Phase and Bats during the Operational Phase. Although likely significant effects on habitats were identified during the Construction Phase, the natural regeneration and rehabilitation within the Likely Future Receiving Environment during the Operational Phase will offset any negative effects and result in overall **likely significant positive effects**. During the Decommissioning Phase, all effects are considered **not significant**.

A7.4.5 Mitigation Measures

The mitigation measures detailed in EIAR Chapter 7 – Biodiversity, Section 7.12 are designed to reduce the likelihood of effects on KERs of the existing baseline to unlikely, and/or reduce the significance of effects to below the significance threshold, during the Construction and Operational Phase.

Five KERs were identified as having likely significant effects in the Likely Future Receiving Environment as a result of the Construction and Operational Phase of the proposed Wind Farm. These comprise Whorl snail, Marsh Fritillary, Badger, Otter, and Bats. The implementation of the previously proposed mitigation measures for badger is expected to reduce the potential for likely significant effects to below the significance threshold (Chapter 7 – Biodiversity Section 7.2.1). Additional mitigation measures have been proposed for Otter as there is potential newly established holts and breed/resting areas will occur within the footprint of the development within the Likely Future Receiving Environment prior to the Construction Phase (Section A7.4.5.1.1).

A7.4.5.1.1 Mitigation for Whorl Snail and Marsh Fritillary

Pre-construction confirmatory surveys will be undertaken in the months immediately prior to the Construction Phase to confirm the presence and distribution of Whorl Snail and Marsh Fritillary within the Likely Future Receiving Environment and to identify any areas supporting these species within the footprint of the proposed development. The surveys will be undertaken at an appropriate time of year and under the supervision of the Ecological Clerk of Works (ECoW).

Following pre-construction confirmatory surveys, exclusion zones will be established around identified populations within the development footprint and will be temporarily fenced and clearly marked to prevent inadvertent disturbance prior to translocation. The exact delineation of the habitat exclusion zones will be decided with guidance from the ECoW, allowing for the maximum extent of suitable habitat to be retained. The extent of bounds for the exclusion zones shall be clearly demarcated with post-and-wire fencing, as well as appropriate. Light weight mechanical machinery, such as an All-Terrain Vehicle (quad bike) will be used as necessary to erect the post and wire fencing.

During the Construction Phase, access to the exclusion zones will be prohibited for vehicles and contractors. There will be no materials, equipment, or side-casting of material within the exclusion zones. The exclusion zone will remain in place until the Construction Phase is complete. This approach will limit any unnecessary disturbance and confine habitat loss to the extent essential for delivering the proposed development.

Where avoidance of suitable habitat supporting Whorl Snail or Marsh Fritillary is not possible, individuals and, where appropriate, occupied habitat will be translocated from areas within the footprint of proposed infrastructure to suitable receiving habitat outside the development footprint but within the Likely Future Receiving Environment. The receiving areas will be identified and agreed in advance of the works and will be selected to ensure that suitable habitat conditions are maintained.

All translocation works will be undertaken under the direct supervision of the ECoW. Prior to commencement, the ECoW and contractor will agree the access and working routes through areas of suitable habitat and identify and map the locations where occupied turves will be deposited. The shortest practicable route between the source and receiving locations will be used to minimise disturbance and the duration of transportation.

Where occupied habitat is required to be moved, a suitably skilled contractor will use appropriate machinery to carefully remove turves to a depth sufficient to retain the vegetation and associated substrate supporting the species. Every effort will be made to maintain the structural integrity of turves during removal, transportation and deposition. Turves will be transported directly to the pre-agreed receiving locations and deposited vegetation-side up, with the receiving locations selected to provide suitable conditions for the continued survival of the species.

The ECoW will oversee all translocation activities and will maintain records of the source and receiving locations, including mapped locations and details of the habitat translocated. Following completion of the translocation works, the receiving areas will be inspected to confirm that the translocated turves have been successfully established and that the habitat remains suitable for the relevant species.

Monitoring and reporting will be undertaken under the supervision of the ECoW to confirm the implementation and effectiveness of the mitigation measures for Whorl Snail and Marsh Fritillary. Records will be maintained of pre-construction survey results, exclusion zones, translocation activities and receiving locations. Post-translocation monitoring will be undertaken to assess the condition and establishment of translocated habitat and the continued suitability of receiving areas. The findings will be documented and reported in accordance with the requirements of the CEMP and relevant ecological monitoring procedures and made available to the Competent Authority.

A7.4.5.1.2 Mitigation Measures for Otter

A pre-construction confirmatory European otter survey will be undertaken no more than 10—12 months in advance of the construction works, following best practice guidelines as listed in *Guidelines for the Treatment of European otters prior to the Construction of National Roads Schemes* (NRA, 2008b). Surveys will be carried out during the winter months when vegetation is less dense making identification of European otter holts and couches easier (NRA, 2008b). Surveys will take place in suitable habitat along the riverbanks, streams, drainage ditches and wetland mosaic habitats within 150m of proposed development infrastructure. In the event that a holt is identified during pre-construction confirmatory surveys within 150m of the works corridor, mitigation measures for European otter will be carried out as outlined below.

During pre-construction confirmatory surveys, where a holt or couch is identified, best practice guidance will be followed and is summarised hereunder (NRA, 2008b). There will be a temporary stop works within 150m of the identified holt, as instructed by the ECoW. Following inspection of the resting place by an ECoW, an exclusion zone will be erected. Trail cameras will be deployed for a minimum period of 5 days, to establish activity.

If the identified holt is an active breeding holt, consultation with NPWS will be sought, and no construction works will take place within 150m. If the identified holt is active but confirmed as

a non-breeding holt, then no tracked vehicles of any kind will be allowed within 20m of the site. Light clearing of vegetation will not take place within 15m of the holt (NRA 2008b).

In the event that disturbance or destruction to a previously unidentified holt becomes necessary, an 'Application for Regulation 54 Derogations for Annex IV species' derogation license will be obtained prior to any interference with the holt (NPWS, 2025b). To minimise the impact of the derogation, when a holt appears to be inactive, then the entrance will be lightly blocked with vegetation and a light application of soil. When after 5 days the hold remains undisturbed, then it will be destroyed immediately using a mechanical digger. This will be carried out under supervision of the holder of the derogation license. For active holts, European otters will be evacuated from the holts prior to any closures. European otters with cubs however will not be evacuated until the European otters have vacated the holt themselves naturally. In the case of non-breeding active holts, general disturbance (e.g. vegetation clearance) and chemical deterrents will be used first to encourage the European otters to vacate the holts. Once the European otters have left the holt, the entrance will then be soft blocked.

In some cases, the installation of one-way gates on the entrances to the holt may be required and a monitoring period of 21 days will be carried out to ensure the European otters have left the holt prior to removal. For active non-breeding holts, general disturbance measures, such as vegetation clearance, will likely suffice in evacuating European otters from non-breeding holts. Following deployment of trail camera for five days to confirm abandonment of the holt, entrances will then be lightly blocked and destroyed, following the same approach as for inactive holts.

All European otter surveys and interventions will be carried out by the ECoW and suitably qualified ecologists A report detailing the methods, actions, and relevant issues will be submitted to NPWS to fulfil the derogation license obligations. The survey works and any mitigation required will be implemented prior to starting site clearance and any construction works.

A7.4.5.1.3 Bat buffers

Buffer zones will be established around all wind turbines to reduce collision risk for bat species, in accordance with NatureScot (2021) guidance. This will require the removal of trees and shrubs within a radius of 92.76 m of each wind turbine. While the effects of this habitat loss for bat buffers have been considered during the EIAR Chapter 7 – Biodiversity Section 7.13.1, it is considered likely that there will be an increase in the cover of Scrub (WS1) and Wet willow-alder-ash woodland (WN6) within these bat buffer areas prior to the Construction Phase. As these, bat buffer areas will be maintained as open habitats during the Operational Phase of the proposed Wind Farm site, there will be no further habitat loss within these areas. The significant expansion of woodland habitat throughout the proposed Wind Farm site during the Operational Phase will offset any negative effects associated with implementing the bat buffers. The associated effects are considered **likely slight negative effects** on habitats over the long-term (fifteen to sixty years) to account for the Operational Phase of the proposed Wind Farm site. In addition, the implementation of the bat buffer will mitigate the collision risk associated with wind turbines, protecting the local bat populations from significant negative effects.

Table 19: Likely Significant Effects due to Bat Mitigation Measures

KER	Descriptor	Effect
Bog woodland (WN7) Immature woodland (WS2) Scrub (WS1) Oak-ash-hazel woodland (WN2) Wet willow-alder-ash woodland (WN6)	***Quality of Effects***	Negative
	Significance	Slight
	Extent and Context	A radius of 92.76 m of each wind turbine
	Probability	Likely
	Duration	Long-term
Bats (high risk species)	***Quality of Effects***	Neutral
	Significance	Not significant
	Extent and Context	Local populations of bat species with high collision risk: Leisler's bat, Common Pipistrelle, Soprano Pipistrelle, Nathusius' Pipistrelle
	Probability	Likely
	Duration	Long-term

A7.4.5.1.4 Mitigation Measures for the Spear of Invasive Alien Plant Species

Mitigation measures for the spread of Rhododendron are presented in full in EIAR Chapter 7 – Biodiversity, Section 7.12, Table 7.56. The same suite of mitigation measures applies.

A7.4.6 Conclusions of the Residual Effect Assessment

These assessment of residual effects is summarised in Table 20, with relevant mitigation and compensation measures listed as appropriate.

A7.4.6.1 Habitats

The loss of 210ha of habitats to accommodate the infrastructure of the proposed Wind Farm site within the Likely Future Receiving Environment during the Construction Phase is offset by the natural regeneration and rehabilitation of habitats during the Operational Phase. No significant effects are considered likely during the Decommissioning Phase. As such, the overall residual effects on habitats associated with the proposed development is a **likely significant positive effect at a local geographic scale**.

A7.4.6.2 Protected Species

A7.4.6.2.1 Whorl snail and Marsh Fritillary

The direct loss and indirect degradation of potentially suitable habitat for Whorl snail and Marsh Fritillary within the Likely Future Receiving Environment during the Construction Phase constitutes potential for moderate (not significant) effects at a local geographic scale. Furthermore, the natural regeneration and rehabilitation of potential suitable habitats during the Operational Phase is considered to result in an overall residual effect that is a **likely significant positive effect at a local geographic scale** on local populations Whorl snail and Marsh Fritillary.

In the absence of mitigation, the direct mortality of Whorl snail and Marsh Fritillary within the Likely Future Receiving Environment during the Construction Phase is considered to have potential for likely significant negative effects on local populations. However, following the implementation of specific and targeted mitigation measures under the supervision of an ECoW, the overall residual effects are **not significant at any geographic scale**.

A7.4.6.2.2 Badger and Otter

The loss of potentially suitable foraging habitat for Badger and Otter during the Construction Phase is considered not significant at a local geographic scale. However, potential disturbance or destruction of breeding and resting places represents a potential significant negative and permanent effect in the absence of mitigation. The implementation of appropriate mitigation measures will avoid or minimise these effects, reducing the residual effects on Badger and Otter to **not significant at any geographic scale**. During the Operational Phase, the natural regeneration and rehabilitation of habitats within the Likely Future Receiving Environment are expected to improve habitat availability and condition, resulting in a **likely significant positive effect at a local geographic scale**.

A7.4.6.2.3 Bats

The loss of suitable foraging and commuting habitat for bats during the Construction Phase constitutes potential for likely significant negative effects on local bat populations. However, the anticipated natural regeneration and expansion of suitable habitats elsewhere within the Likely Future Receiving Environment during the Operational Phase will improve habitat

availability within proposed Wind Farm site. As such, the effects are anticipated to be a **likely significant positive effect at a local geographic scale**.

The implementation of bat buffer zones will subsequently reduce collision risk during the Operational Phase, particularly for high-risk species including Leisler's Bat, Common Pipistrelle, Soprano Pipistrelle and Nathusius' Pipistrelle, resulting in an overall residual effect which is **not significant at any geographic scale**. on local bat populations.

Table 20:Summary of Residual Effects from the Proposed Wind Farm

Ecological Feature	Potential Likely Significant Effects	Proposed Mitigation Measures	Post-Mitigation Significance of Effects	Proposed Compensation Measures	Overall Significant Residual Effects Post-Enhancement Measures
Habitats					
All habitats	During the Construction Phase habitat loss is considered a potential likely significant effect which is negative and reversible within the Likely Future Receiving Environment. However, these negative effects will be offset by the natural regeneration and rehabilitation of habitats within the Likely Future Receiving Environment during the Operational Phase.	No mitigation proposed.	N/A	No compensation proposed	**Likely significant positive residual effects at a local geographic scale** as a result of natural regeneration and rehabilitation measures within the Likely Future Receiving Environment during the Operational Phase.
Invertebrates & Molluscs					
Marsh fritillary	Risk of mortality during the Construction Phase is considered a potential **permanent, negative, likely significant effect** on the conservation status of the local population at a local geographical scale.	Pre-construction confirmatory surveys Exclusion zones; Translocation of individuals within the development footprint; Post-translocation monitoring and reporting.	Overall residual effects are not significant at any geographic scale	No compensation proposed	**Likely significant positive effects at a local geographic scale** as a result of natural regeneration and rehabilitation measures within the Likely Future Receiving Environment during the Operational Phase.
Whorl snail (all species)	Risk of mortality during the Construction Phase is considered a potential **permanent, negative, likely significant effect** on the conservation status of the local population at a local geographical scale.	Pre-construction confirmatory surveys Exclusion zones; Translocation of individuals within the development footprint; Post-translocation monitoring and reporting.	Overall residual effects are not significant at any geographic scale	No compensation proposed	**Likely significant positive effects at a local geographic scale** as a result of natural regeneration and rehabilitation measures within the Likely Future Receiving Environment during the Operational Phase.
Mammals					
Badger	Risk of disturbance/ destruction. of breeding/resting places during the Construction Phase is considered a potential **permanent, negative, likely significant effect** on the conservation	As per EIAR Chapter 7 – Biodiversity, namely; • Pre-construction confirmatory surveys; • Evacuation of active setts ahead of closure with monitoring;	Overall residual effects are not significant at any geographic scale.	N/A	**Likely significant positive effects at a local geographic scale** as a result of natural regeneration and rehabilitation measures

Ecological Feature	Potential Likely Significant Effects	Proposed Mitigation Measures	Post-Mitigation Significance of Effects	Proposed Compensation Measures	Overall Significant Residual Effects Post-Enhancement Measures
	status of the local population at a local geographical scale.	• All monitoring, exclusion and/or evacuation actions will be undertaken by the ECoW, who will report any actions and findings to the contractor, and file them in the form of a report.			within the Likely Future Receiving Environment during the Operational Phase.
Otter	Risk of disturbance/ destruction. of breeding/resting places during the Construction Phase is considered a potential **permanent, negative, likely significant effect** on the conservation status of the local population at a local geographical scale.	As per Section A7.6.1.1.1, namely; • Pre-construction confirmatory surveys within 150m of proposed infrastructure; • Exclusion zones; • Avoidance of breeding holts;,and • Application for Derogation License if necessary.	Overall residual effects are not significant at any geographic scale.	N/A	**Likely significant positive effects at a local geographic scale** as a result of natural regeneration and rehabilitation measures within the Likely Future Receiving Environment during the Operational Phase.
Bat species					
High risk bat species: Leisler's bat Common Pipistrelle Soprano Pipistrelle Nathusius' Pipistrelle	Risk of collision during the Operational Phase is considered a potential **permanent, negative, likely significant effect** on the conservation status of the local population at a local geographical scale.	As per EIAR Chapter 7 – Biodiversity, namely; • Implement 92.76m bat buffers 6 months prior to installation of wind turbines; • Operate turbine cut-in speeds 5.5m/s 30mins dusk/dawn (Apr-Oct); • Undertake carcass search within buffer zone in year 1, 3, 5, 10, 15, 20 post operation; • Carcass searches will include georeferencing for identified carcass locations; • ECoW will undertake bat roost surveys of any trees proposed to be felled.	Overall residual effects are not significant at any geographic scale	N/A	**No likely significant residual effect** at any geographic scales.
Low risk bat species: Natterer's bat, Daubenton's bat, Whiskered bat, Brown Long-eared bat	During the Construction Phase loss of commuting/foraging habitat is considered a potential **likely significant effect** which is negative and reversible within the Likely Future Receiving Environment. However, these negative effects will be offset by the natural regeneration and rehabilitation of habitats within the Likely Future Receiving Environment during the Operational Phase.	No mitigation proposed.	Overall residual effects are not significant at any geographic scale.	No compensation proposed.	**Likely significant positive effects at a local geographic scale** as a result of natural regeneration and rehabilitation measures within the Likely Future Receiving Environment during the Operational Phase.

Ecological Feature	Potential Likely Significant Effects	Proposed Mitigation Measures	Post-Mitigation Significance of Effects	Proposed Compensation Measures	Overall Significant Residual Effects Post-Enhancement Measures
Invasive Plant Species					
Rhododendron ponticum	During the Construction and Operational the spread of invasive species is considered a potential **likely significant effect** which is permanent within the Likely Future Receiving Environment.	As per EIAR Chapter 7 – Biodiversity, namely; • A strict biosecurity demarcation area will be installed by the ECoW within 10 m of the Rhododendron. • Only works outside the biosecurity area will be allowed to proceed • If any of the proposed works will be required to break the biosecurity area mentioned above, a specific and detailed Invasive Species Management Plan (ISMP) will be developed by the contractor; • The ISMP will detail a strategy of uprooting the Rhododendron plants, currently present at the proposed wind farm site for the control of this species.	Overall residual effects are not significant at any geographic scale	N/A	**No likely significant residual effect** at any geographic scales.

A7.5 Conclusion

This Addendum presents an evaluation of the likely significant effects of the proposed development on the Likely Future Receiving Environment throughout the Construction, Operational and Decommissioning Phases. Furthermore, the Addendum details appropriate mitigation measures to reduce the significance of effects.

The residual effects assessment, following implementation of the proposed mitigation measures, concludes that the proposed development will result in **likely significant positive effects** on Habitats, Whorl Snail, Marsh Fritillary, Otter and Badger at a local geographic scale within the Likely Future Receiving Environment. For Bats, the residual effects assessment concludes that the proposed development will result in **no significant effects** on high-risk species and **likely significant positive effects** on low-risk species.

The Applicant therefore considers that the assessment presented in the EIAR Chapter 7 Biodiversity, which concludes that **the proposed development will not result in significant adverse effects on biodiversity at any geographic scale**, remains a robust and representative assessment of the likely significant effects for the 10-year period for which the planning permission, if granted, would remain valid.

A7.6 REFERENCES

Byrne, A., Moorkens, E.A., Anderson, R., Killeen, I.J. and Regan, E.C. (2009) *Ireland Red list No. 2: Non-marine Molluscs*. National Parks and Wildlife Service.

Higgins, G.T. (2008) *Rhododendron ponticum: A guide to management on nature conservation sites*. Irish Wildlife Manuals, No. 33. National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Dublin, Ireland.

Lavery, T.A. (1993) *A Review of the Distribution, Ecology and Status of the Marsh Fritillary Euphydryas aurinia Rottemburg, 1775 (Lepidoptera: Nymphalidae) in Ireland*, *The Irish Naturalists' Journal*, 24(5), pp. 192–199. Available at: http://www.jstor.org/stable/25539796.

Lundy, M.G., Montgomery, I.W., Roche, N. & Aughney, T. (2011). *Landscape Conservation for Irish Bats & Species Specific Roosting Characteristics* (Unpublished). Bat Conservation Ireland, Cavan, Ireland.

NatureScot (2021) *Bats and onshore wind turbines-survey, assessment and mitigation*. NatureScot (Scottish Natural Heritage), Natural England, Natural Resources Wales, RenewableUK, Scottish Power Renewables, Ecotricity Ltd, the University of Exeter, Bat Conservation Trust.

NRA (2009) *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*. National Roads Authority.

Roche, N., Aughney, T., Marnell, F. & Lundy, M. (2014). *Irish Bats in the 21st Century.* Bat Conservation Ireland, Cavan, Ireland.

Rodrigues, L., Bach, L., Dubourg-Savage, M.-J., Karapandža, B., Kovač, D., Kervyn, T., Dekker, J., Kepel, A., Bach, P., Collins, J., Harbusch, C., Park, K., Micevski, B., & Minderman, J. (2014). *Guidelines for consideration of bats in Wind Farm projects: Revision 2014* (EUROBATS Publication Series No. 6). UNEP/EUROBATS Secretariat. https://www.eurobats.org/sites/default/files/documents/publications/publication_series/pubseries_no6_english.pdf

A8 ADDENDUM TO CHAPTER 8 ORNITHOLOGY

A8.1 INTRODUCTION

An Environmental Impact Assessment Report (EIAR) was prepared by TOBIN on behalf of Bord na Móna Powergen Limited in support of the planning application for the proposed Derryadd Wind Farm and associated supporting infrastructure (the "proposed development"). EIAR Chapter 8 (Ornithology) describes the existing baseline within the proposed wind farm site and assesses the likely significant effects of the proposed development on biodiversity with particular regard to identified Key Avian Receptors (KARs).

This document constitutes an Addendum Chapter to Chapter 8 – Ornithology and has been prepared in response to a request from An Coimisiún Pleanála (see Appendix A1.1) to assess the likely significant effects of the proposed development having regard to the "*Likely Future Receiving Environment following further bogland rehabilitation and completion of decommissioning on site*". It is important to note that no targeted peatland rehabilitation measures have been implemented within the proposed Wind Farm site to date, inclusive of drain blocking and re-wetting. Furthermore, the ongoing pumping regime and maintenance of some active drainage channels have continued across the site, although the extent of drainage maintenance has reduced substantially since peat extraction activities ceased. As such, the peatland habitats within the proposed Wind Farm site are not likely to have undergone significant natural regeneration during the intervening period since baseline surveys were conducted and construction to start. The survey findings presented in EIAR Chapter 8 – Ornithology, Section 8.8 are considered to remain broadly representative of the current ecological condition of the proposed Wind Farm site, as the habitats surveyed likely remain in degraded condition because the rehabilitation measures listed in the Draft Cutaway Bog Decommissioning and Rehabilitation Plans have not been implemented to date (EIAR Chapter 7 – Biodiversity, Appendices 7.2a, 7.2b and 7.2c). Therefore, it is considered likely that the current extent and condition of the habitats have not changed materially during the period since baseline surveys were conducted and that the impact assessment in the EIAR Chapter 8 – Ornithology remains valid.

This Addendum should be read in conjunction with EIAR Chapter 8 – Ornithology which, provides a comprehensive overview of the proposed development, including the baseline environment, impact assessment, mitigation measures, residual effects, enhancement measures, and conclusions, based on the existing baseline data. This Addendum presents only those KARs for which conditions within the Likely Future Receiving Environment are predicted to differ from the existing baseline, as described in EIAR Chapter 8 – Ornithology, Section 8.8. Accordingly, the impact assessment presented in this Addendum addresses only the likely significant effects on KARs within the Likely Future Receiving Environment that differ from the existing baseline assessment as presented in EIAR Chapter 8 – Ornithology, Section 8.9.

The impact assessment on the Likely Future Receiving Environment included in this Addendum is limited to the proposed infrastructure within the Wind Farm site, as defined by the red line boundary (Figure 1), and does not extend to the Turbine Delivery Route (TDR). This is because the TDR lies outside the proposed development area assessed in this Addendum and, unlike the transitional peatland conditions within the proposed wind farm site, is generally static in nature,

with no anticipated changes to baseline environmental conditions that would materially alter the conclusions of previous assessments.





Legend

- Proposed wind farm site
- Site Layout
- Turbine Layout

0 1 2
Kilometers

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

Rev	Date	Description	By	Chkd
A	10/07/2026	First issue	K.K	I.H

Client: Bord na Móna

Project: Derryadd Wind Farm

Title: Figure 1: Proposed Wind Farm Site Layout: Infrastructure

Scale @ A3: 1:34,000

Prepared by:	Checked by:	Date:
K.Kale	I.Heanue	July 2026

TOBIN
Tel: +353-(0)1-8030406
Email: info@tobin.ie
www.tobin.ie

TOBIN Consulting Engineers will not be liable for any use of this document for any purpose other than that for which it was originally prepared and provided. Except where specifically and explicitly agreed in writing by TOBIN Consulting Engineers as copyright holder, no part of this document may be reproduced or transmitted in any form and this document shall not be relied upon by any third party for any purpose.

Map Ref: 11399-0129-INFRA-S.BO-TOB-A

Draft: A

A8.2 Statement of Authority

This Addendum Chapter was authored by Senior Ecologist /Ornithologist John Sherry (B.Sc. (Hons)) and senior reviewed by Dr James Forde (B.Sc. (Hons), M.Sc., Ph.D., MCIEEM).

John Sherry is a Senior Ecologist/ Ornithologist within the Environment & Planning (E&P) division of TOBIN. John has over 8 years' experience in environmental consulting, primarily engaged in the preparation of impact assessments for the renewable energy sector. He has extensive experience preparing ecological impact assessments including Screening for Appropriate Assessment (AA), Natura Impact Statements (NIS), Ecological Impact Assessment (EcIA), Environmental Impact Assessment Reports EIAR and Ecological Management Plans. His expertise is primarily in ornithology, with significant experience undertaking and reporting on breeding and wintering bird surveys. He also has experience in habitat, non-volant mammal and bat surveys. John has provided technical ecological input for a wide range of renewable energy and infrastructure projects, supporting ecological constraints assessments, impact assessments and planning applications.

Dr James Forde is a Senior Ecologist and Technical Director of the TOBIN E&P division. James holds a B.Sc. (hons) and M.Sc. degrees in marine ecology, and a Ph.D. in ecology. James is also a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). James has almost 20 years' academic and environmental consultancy experience. He has an extensive understanding of ecology and appreciation of the objectives and mechanisms of national and international environmental legislation and policy. He has significant experience in preparing and reviewing ecological reports including Screenings for AA, NIS, EcIA reporting, and EIAR. James has provided strategic technical and environmental advice for developments across a wide range of sectors, including onshore and offshore renewables, telecommunications, flood relief schemes, port and harbour developments, energy generation and transmission.

A8.3 Methodology for Assessment

This section outlines the approach adopted to establish the LFRE and to assess the potential ornithological effects of the proposed development having regard to that future baseline.

The ornithological assessment presented in Chapter 8 – Ornithology was based on comprehensive field surveys undertaken between April 2021 and September 2024, comprising four breeding seasons (April to September) and three winter seasons (October to March), which characterised the existing receiving environment. These surveys provide the most robust representation of bird usage of the site and therefore remain the primary basis of the updated ornithological impact assessment.

The original assessment identified the following KARs on the basis of their conservation status, sensitivity to the proposed development and/or their use of the proposed development site. These KARs form the basis of the assessment presented within this Addendum and are as follows:

- Black-headed Gull
- Common Buzzard
- Common Gull
- Common Kestrel

- Common Ringed Plover
- Common Snipe
- Eurasian Curlew
- Eurasian Sparrowhawk
- Eurasian Teal
- Eurasian Woodcock
- European Golden Plover
- Great Cormorant
- Lesser Black-backed Gull
- Little Egret
- Little Grebe
- Mallard
- Meadow Pipit
- Mute Swan
- Northern Lapwing
- Northern Shoveler
- Peregrine Falcon
- Whooper Swan

As outlined above, targeted rehabilitation of the former cutaway bogs has not yet commenced. However, rehabilitation of the site is required irrespective of whether the proposed development proceeds. Consequently, in the absence of the proposed development, the receiving environment is expected to evolve over time through ongoing natural regeneration, following the trajectory outlined in the LFRE established in the EIAR Chapter 7 Addendum, as outlined above.

Given the evolving nature of the receiving environment, a qualitative, trend-based approach has been considered the most appropriate method of assessing potential changes to KARs and the LFRE. The assessment uses professional judgement, informed by the predicted habitat trajectory, the known ecological requirements of the KARs, relevant published literature, such as Alsila *et al.* (2021), Guilfoyle *et al.* (2025), Crowley *et al.* (2021), Copland *et al.* (2008) and available evidence from peatland rehabilitation, where applicable. This information is used to identify the likely direction of change in habitat suitability and potential site use for each KAR.

The potential effects of the proposed development are then considered against these predicted changes. For each impact pathway, consideration is given to how changes in habitat suitability and potential site use by each KAR may affect the impact previously assessed. This is then used to determine whether the significance of the effect would change under the LFRE and whether any of the conclusions of the original EIAR require amendment.

The assessment does not attempt to predict future bird abundance, distribution or flight activity under the LFRE. These will depend on how habitats develop following rehabilitation, including hydrological response, vegetation establishment and natural ecological succession. As such, the LFRE does not provide a basis for reliably quantifying future bird abundance, distribution, flight activity or collision risk.

A8.3.1 Establishing the Likely Future Receiving Environment

The LFRE at the proposed wind farm site has been informed by the phase specific trend based approach established in the EIAR Chapter 7 Addendum, which accounts for the existing baseline conditions, the ongoing natural regeneration, and the potential for implementation of future bog rehabilitation measures These processes will influence the extent and quality of habitats across the site and, in turn, their suitability for the identified KARs.

As bogland rehabilitation and completion of decommissioning has not yet taken place within the proposed wind farm site, the LFRE considered within this addendum refers to the anticipated receiving environment during the specific phases of the proposed development, as follows:

- An intervening period between the submission of the planning application through to the granting of planning permission, if granted, currently anticipated to be approximately 2026–2030. During this period there would be no effects associated with the proposed development, as no sources for impacts will be present. Natural regeneration of the site would continue, influencing the receiving environment present at the commencement of construction.
- Construction phase is taken to commence approximately 5 years into the future, in. 2031, and continue for 2 years until 2033. During this period, the receiving environment would reflect the natural regeneration that has occurred during the intervening period.
- Operational phase is anticipated to commence in 2033 and continue for the 30-year operational lifespan of the proposed development, until approximately 2063. During this period, habitats would continue to develop following the implementation of targeted rehabilitation and natural succession, with the greatest changes in the LFRE expected during this phase.
- Decommissioning phase is anticipated to commence following the Operational Phase and continue for an undefined period of time. The receiving environment would reflect the longer term development of habitats following on-going rehabilitation and natural succession.

The accompanying Chapter 7 – Biodiversity Addendum, submitted as part of the RFI response, provides greater detail on how the receiving environment is expected to change as part of the LFRE. The LFRE established in that assessment forms the basis for the consideration of potential changes in habitat suitability and bird use presented in this Addendum.

A8.3.2 Assessment of Ornithological Effects

The predicted habitat mosaics as outlined in Chapter 7 – Biodiversity Addendum, represent the anticipated habitat trajectory under the LFRE and the implantation of rehabilitation measures. As mentioned above, given the evolving nature of these habitats, a qualitative, trend based approach is considered appropriate for assessing the potential response of KARs. The assessment therefore considers how the predicted changes in habitat availability and suitability may influence the potential use of the site by the KARs identified in the original assessment. The potential effects of the proposed development are then considered against these changes to determine whether the significance of the effects previously assessed would change under the LFRE. The findings are subsequently compared with the original EIAR to identify whether any of the original assessment conclusions require amendment. For each impact pathway, consideration has been given to:

- The predicted changes in habitat availability within the LFRE;
- The likely implications of these habitat changes for the habitat and potential site use of each KAR identified in the EIAR and as part of the addendum;
- Whether these changes would reasonably be expected to alter the magnitude or significance of the effects identified in the original assessment; and
- Whether the conclusions of the original assessment remain valid.

A8.4 Review of the Impact Assessment and the Likely Future Receiving Environment

A8.4.1 Construction Phase

A8.4.1.1 Habitat Loss

The original EIAR identified habitat loss as a likely significant effect for the following KARs: Eurasian Teal, European Golden Plover, Little Grebe, Mallard, Northern Lapwing, Northern Shoveler and Whooper Swan due to the permanent loss of habitats utilised during the baseline surveys.

Having regard to the Phase-specific, trend-based LFRE established in the EIAR Chapter 7 Addendum, the extent and condition of habitats across the proposed wind farm site are expected to change over time. These changes may alter the availability and suitability of foraging, breeding and wintering habitats for a number of the KAR species mentioned in section A8.2. Table 8A-1 examines the expected habitat change as a result of the LFRE and how this may affect the original habitat loss impact assessment.

The predicted LFRE habitat changes trends are as outlined in Table 1 of Chapter 7 – Biodiversity addendum, in summary they are:

- No material increase in bog woodland (WN7)
- Moderate increase in scrub (WS1)
- Moderate increase in wet willow-alder-ash woodland (WN6)
- Moderate increase in grassland habitats (GS2, GS3, GS4).
- No material increase in wetlands (FL8, FS1, PF2, FW4)
- No material increase or decrease in raised bog habitat (PB1)
- No increase or decrease of hedgerows or treelines (WL1, WL2)
- Moderate decrease in open area cutover bog/bare peat and/or exposed gravel or till areas (PB4, ED1) due to scrub and grassland establishment

Open cutover bog and exposed gravel/till areas are not specifically addressed in the Chapter 7 Biodiversity LFRE assessment but are considered here where relevant to ornithological habitat use. For the purposes of this assessment, open cutover bog refers to areas of cutaway bog that remain largely open and sparsely vegetated, including areas of bare peat, exposed substrate and early successional vegetation. The predicted decrease reflects the expected establishment and expansion of scrub and pioneer grassland across these more open areas, which may reduce their

suitability for species associated with open habitats. Some areas of exposed peat, gravel or underlying substrate are expected to remain where vegetation establishment is constrained by local conditions.

Table 8A-1: Review of Key Avian Receptors in relation to the Likely Future Receiving Environment and the original habitat loss assessment.

KAR	Baseline Habitat Use	Likely Response to LFRE	Implications for original habitat loss assessment
Black-headed Gull	Open area cutover bog/bare peat and/or exposed gravel or till, pools and other wetlands or commuting over the site.	Little change; species already highly adaptable	No material change. Habitat loss remains of very low significance as outlined in Table 8.19 of Chapter 8 – Ornithology.
Common Buzzard	Open area cutover bog/bare peat and/or exposed gravel or till, agricultural grassland, forestry and bog woodland or commuting over the site.	Minimal increase in habitat suitability.	No material change due to minimal woodland establishment across the wider site. The Significance outlined in Table 8.19 of Chapter 8 – Ornithology, remains the same.
Common Gull	Open area cutover bog/bare peat and/or exposed gravel or till, pools and other wetlands or commuting over the site.	Little change; species already highly adaptable.	No material change. Habitat loss remains of very low significance, as outlined in Table 8.19 of Chapter 8 – Ornithology.
Common Kestrel	Open area cutover bog/bare peat and/or exposed gravel or till, agricultural grassland, forestry and bog woodland or commuting over the site.	Minimal increase in habitat suitability.	No material change due to minimal woodland establishment across the wider site. The Significance outlined in Table 8.19 of Chapter 8 – Ornithology, remains the same.
Common Ringed Plover	Open area cutover bog/bare peat and/or exposed gravel or till, pools and other wetlands.	No material increase in habitat suitability in the form of wetlands, however the succession of open area cutover bog/bare peat and/or exposed gravel or till areas to scrub and grassland will reduce habitat suitability elsewhere.	No material change. Habitat loss remains of very low significance, as outlined in Table 8.19 of Chapter 8 – Ornithology.
Common Snipe	Open area cutover bog/bare peat and/or exposed gravel or till, pools and other wetlands.	No material increase in habitat suitability in the form of wetlands, however the succession of open area cutover bog/bare peat and/or exposed gravel or till areas to scrub and grassland will reduce habitat suitability elsewhere.	No material change. Habitat loss remains of low significance, as outlined in Table 8.19 of Chapter 8 – Ornithology.
Eurasian Curlew	Open area cutover bog/bare peat and/or exposed gravel or till, pools and other wetlands.	No material increase in habitat suitability in the form of wetlands, however the succession of open area cutover bog/bare peat and/or	No material change. Habitat loss remains of low significance, as outlined in

KAR	Baseline Habitat Use	Likely Response to LFRE	Implications for original habitat loss assessment
		exposed gravel or till areas to scrub and grassland will reduce habitat suitability elsewhere.	Table 8.19 of Chapter 8 – Ornithology.
Eurasian Sparrowhawk	Scrub, forestry and bog woodland or commuting over the site.	Slight increase in habitat suitability.	No material change due to limited increase in woodland establishment across the wider site. The Significance outlined in Table 8.19 of Chapter 8 – Ornithology, remains the same.
Eurasian Teal	Seasonally inundated bog, pools and other wetlands.	No material increase in habitat suitability in the form of wetlands, however the loss of open area cutover bog/bare peat and/or exposed gravel or till to scrub and grassland will reduce habitat suitability elsewhere.	Habitat loss may affect higher quality habitat under the LFRE. However, given the limited material change in habitat extent and the availability of extensive retained habitat, the significance of the effect identified in Table 8.19 of Chapter 8 – Ornithology remains unchanged and the mitigation measures proposed within the original EIAR remain appropriate.
Eurasian Woodcock	Scrub and woodland.	Minimal increase in habitat suitability.	No material changes due to minimal woodland establishment across the wider site. The Significance outlined in Table 8.19 of Chapter 8 – Ornithology, remains the same.
European Golden Plover	Seasonally inundated bog and grasslands, pools and other wetlands.	No material increase in habitat suitability in the form of wetlands, however the loss of open area cutover bog/bare peat and/or exposed gravel or till/ seasonally inundated areas to scrub and bog woodland will reduce habitat suitability elsewhere.	Habitat loss may affect higher quality habitat under the LFRE. However, given the limited material change in habitat extent and the availability of extensive retained habitat, the significance of the effect identified in Table 8.19 of Chapter 8 – Ornithology remains unchanged, and the mitigation measures identified in the original EIAR remain appropriate.
Great Cormorant	Seasonally inundated bog, pools and other wetlands, but largely commuting over the site.	No material increase in habitat suitability.	No material change. Habitat loss remains of very low significance as outlined in Table 8.19 of Chapter 8 – Ornithology.
Lesser Black-backed Gull	Seasonally inundated bog, pools and other wetlands, but	No material increase in habitat suitability.	No material change. Habitat loss remains of very low significance as outlined in

KAR	Baseline Habitat Use	Likely Response to LFRE	Implications for original habitat loss assessment
	largely commuting over the site.		Table 8.19 of Chapter 8 – Ornithology.
Little Egret	Seasonally inundated bog, pools and other wetlands, but largely commuting over the site.	No material increase in habitat suitability.	No material change. Habitat loss remains of low significance as outlined in Table 8.19 of Chapter 8 – Ornithology.
Little Grebe	Seasonally inundated bog, pools, drains and other wetlands.	No material increase in habitat suitability in the form of wetlands, however the loss of open area cutover bog/bare peat and/or exposed gravel or till/ seasonally inundated areas to scrub and grassland will reduce habitat suitability elsewhere.	Habitat loss may affect higher quality habitat under the LFRE. However, given the limited material change in habitat extent and the availability of extensive retained habitat, the significance of the effect identified in Table 8.19 of Chapter 8 – Ornithology remains unchanged, and the mitigation measures identified in the original EIAR remain appropriate.
Mallard	Seasonally inundated bog, pools, drains and other wetlands.	No material increase in habitat suitability in the form of wetlands, however the loss of open area cutover bog/bare peat and/or exposed gravel or till/ seasonally inundated areas to scrub and bog woodland will reduce habitat suitability elsewhere.	Habitat loss may affect higher quality habitat under the LFRE. However, given the limited material change in habitat extent and the availability of extensive retained habitat, the significance of the effect identified in Table 8.19 of Chapter 8 – Ornithology remains unchanged and the mitigation measures proposed within the original EIAR remain appropriate.
Meadow Pipit	Open area cutover bog/bare peat and/or exposed gravel or till/vegetated cutover bog.	No increase in habitat suitability in the form of raised bog, however the loss of open cutover bog to grassland will increase habitat suitability elsewhere.	No material change. Habitat loss remains of low significance as outlined in Table 8.19 of Chapter 8 – Ornithology.
Mute Swan	Seasonally inundated bog, pools, drains and other wetlands.	No material increase in habitat suitability in the form of wetlands, however the loss of open area cutover bog/bare peat and/or exposed gravel or till/ seasonally inundated areas to scrub and scrub will reduce habitat suitability elsewhere.	No material change. Habitat loss remains of very low significance as outlined in Table 8.19 of Chapter 8 – Ornithology.
Northern Lapwing	Seasonally inundated bog and grasslands, pools and other wetlands.	No material increase in habitat suitability in the form of wetlands; however, the loss of open area cutover bog/bare peat and/or	Habitat loss may affect higher quality habitat under the LFRE. However, given the limited material change in habitat extent and the

KAR	Baseline Habitat Use	Likely Response to LFRE	Implications for original habitat loss assessment
		exposed gravel or till and increased scrub and grassland around seasonally inundated areas may reduce habitat suitability elsewhere, although minor gains may occur through increased short sward vegetation around wetlands and on higher ground.	availability of extensive retained habitat, the significance of the effect identified in Table 8.19 of Chapter 8 – Ornithology remains unchanged and the mitigation measures proposed within the original EIAR remain appropriate.
Northern Shoveler	Seasonally inundated bog, pools and other wetlands.	No material increase in habitat suitability in the form of wetlands, however the loss of open area cutover bog/bare peat and/or exposed gravel or till to scrub and grassland will reduce habitat suitability elsewhere.	Habitat loss may affect higher quality habitat under the LFRE. However, given the limited material change in habitat extent and the availability of extensive retained habitat, the significance of the effect identified in Table 8.19 of Chapter 8 – Ornithology remains unchanged and the mitigation measures proposed within the original EIAR remain appropriate.
Peregrine Falcon	Hunting over open area cutover bog/bare peat and/or exposed gravel or till and wetlands or commuting over the site.	Slight increase in hunting habitat suitability.	No material change. Habitat loss remains of low significance.
Whooper Swan	Seasonally inundated bog and agricultural grasslands (located outside the proposed project boundary), pools and other wetlands.	No material increase in habitat suitability in the form of wetlands, however the loss of open area cutover bog/bare peat and/or exposed gravel or till/ seasonally inundated areas to scrub and pioneering habitat will reduce habitat suitability elsewhere.	Habitat loss may affect higher quality habitat under the LFRE. However, given the limited material change in habitat extent and the availability of extensive retained habitat, the significance of the effect identified in Table 8.19 of Chapter 8 – Ornithology remains unchanged and the mitigation measures proposed within the original EIAR remain appropriate.

The review indicates that habitat change under the LFRE is likely to alter habitat suitability for a number of KARs, although the direction of change varies between species depending on their ecological requirements. Wetland-associated species generally have the potential to benefit from the minimal increased extent of wetland habitats, whereas species associated with open area cutover bog/bare peat and/or exposed gravel or till may experience a reduction in habitat suitability as vegetation succession progresses. Despite these changes, the permanent habitat loss associated with the proposed development remains localised within the wider rehabilitated

landscape and the significance of the habitat loss effects identified in the original EIAR is not considered to materially change.

A8.4.1.2 Water Quality

The original EIAR identified contamination of surface waters during construction as a potential significant effect in the absence of mitigation. Potential sources included accidental fuel or oil spills, bentonite, concrete washout and sediment laden runoff entering the drainage network. These could adversely affect wetland habitats, reducing habitat quality and food availability for wetland associated birds.

The LFRE during the construction phase (as defined in section 8.3.1) predicts no material change in wetland, poor fen and open water habitats throughout the site (see Chapter 7 – Biodiversity of this addendum for more details). Accordingly, the original assessment has been reviewed to determine whether the predicted habitat changes would alter the significance of this impact pathway.

The potential sources and pathways of contamination, the receiving water environment and the mechanisms by which pollutants could affect bird habitats remain as described in the original Chapter 8 – Ornithology. The mitigation measures to be implemented in the original EIAR, including pollution prevention controls, sediment management and the implementation of best practice construction methods, act to control these sources and pathways and are not dependent on the abundance or distribution of individual KARs. As such, no additional mitigation is considered necessary and the significance of the contamination effects on KARs remains as assessed in table 8.20 of Chapter 8 – Ornithology.

A8.4.1.3 Dust

The original EIAR identified dust generated during construction as a potential indirect impact on bird habitats. In the absence of mitigation, dust deposition could affect vegetation, wetland habitats and water bodies, reducing habitat quality, food availability and nesting opportunities for sensitive bird species.

The LFRE during the Construction Phase, as defined in Section 8.3.1, predicts a no material change in wetland, poor fen and open water habitats throughout the site and limited material change for other habitats such as bog woodland and grassland (see Chapter 7 – Biodiversity of this addendum for more details). Accordingly, the original assessment has been reviewed having regard to the predicted LFRE and whether these changes would alter the potential effects of dust on KARs using these habitats.

Dust generation would remain temporary, localised and restricted to active construction areas. The mechanisms by which dust could affect bird habitats also remain unchanged from those described in the original EIAR.

The mitigation measures proposed, including dust suppression, road management and the implementation of best practice construction techniques, act to control these dust generation sources and pathways and are not dependent on the abundance or distribution of individual KARs. As such, no additional mitigation is considered necessary and the significance of the dust effects on KARs remains as assessed in table 8.21 of Chapter 8 – Ornithology.

A8.4.1.4 Disturbance/Displacement

The original EIAR identified construction disturbance and displacement as a likely significant effect for Northern Lapwing and Little Grebe during the breeding season and for Northern Lapwing, Little Grebe, Eurasian Teal, Eurasian Wigeon and Whooper Swan during the non-breeding season. These effects arose from the temporary disturbance associated with construction activities within habitats utilised by these species during the baseline surveys.

The LFRE during the Construction Phase, (as defined in Section 8.3.1), predicts changes in the extent and condition of some habitats across the site as a result of ongoing natural regeneration during the intervening period. However, no material change in wetland habitats is predicted by the commencement of construction, while a moderate decrease in open cutover bog is predicted as scrub and grassland establish. Changes in habitat structure and availability associated with peatland succession and restoration have been shown to influence bird community composition and habitat use (Alsila *et al.,* 2021; Guilfoyle *et al.,* 2025). These changes may influence habitat suitability and potential site use by some KARs, particularly species associated with more open habitats.

Accordingly, construction disturbance and displacement has been reviewed to determine if the potential for changes in habitat suitability or site use may alter the effects on each KAR. The outcome of this review is presented in Table 8A-2.

Table 8A-2: Review of Key Avian Receptors in relation to the Likely Future Receiving Environment and the original construction disturbance assessment.

KAR	Predicted change in site utilisation under the LFRE	Potential change in exposure to construction disturbance	Review of original assessment
Black-headed Gull	Little change anticipated due to the generalist nature of the species and its use of a range of terrestrial and wetland habitats.	No material change.	No material change in effect significance under the LFRE. The appraisal within table 8.22 of Chapter 8 -Ornithology remains valid.
Common Buzzard	Minimal increase in bog woodland habitat and moderate increases in scrub and wet woodland may marginally improve foraging and roosting opportunities, although the species uses a broad range of habitats.	No material change in exposure is anticipated due to the wide ranging nature of the species and the localised and temporary construction activities.	No material change in effect significance under the LFRE. The appraisal within table 8.22 of Chapter 8 – Ornithology, remains valid.
Common Gull	Little change anticipated due to the range of habitats used by the species and the limited change in suitable habitat predicted during the Construction Phase.	No material change.	No material change in effect significance under the LFRE. The appraisal within table 8.22 of Chapter 8 -Ornithology remains valid.
Common Kestrel	Little change anticipated. Changes in grassland and scrub may alter foraging opportunities locally, although the species uses a broad range of habitats.	No material change due to the wide ranging nature of the species and the localised and temporary construction activities.	No material change in effect significance under the LFRE. The appraisal within table 8.22 of Chapter 8 -Ornithology remains valid.

KAR	Predicted change in site utilisation under the LFRE	Potential change in exposure to construction disturbance	Review of original assessment
Common Ringed Plover	Moderate reduction in open bare peat and exposed areas may reduce breeding site utilisation.	Potential exposure to construction disturbance may decrease.	No increase in effect significance under the LFRE. The appraisal presented in Table 8.22 of Chapter 8 – Ornithology remains valid.
Common Snipe	No material change anticipated given the predicted lack of material change in wetland habitats during the Construction Phase. Local changes in grassland and scrub are not expected to materially alter overall site utilisation.	No material change.	No material change in effect significance under the LFRE. The appraisal within table 8.22 of Chapter 8 -Ornithology remains valid.
Eurasian Curlew	No increase in breeding habitat is anticipated during the Construction Phase. No material increase in wetlands but progressive vegetation succession may reduce usage of open habitats.	No material change.	No material change in effect significance under the LFRE. The appraisal within table 8.22 of Chapter 8 -Ornithology remains valid.
Eurasian Sparrowhawk	Minimal increase in bog woodland habitat and moderate increase in scrub and wet woodland may marginally improve foraging and roosting opportunities, although the species uses a broad range of habitats	No material change in exposure is anticipated due to the wide ranging nature of the species and the localised and temporary construction activities.	No material change in effect significance under the LFRE. The appraisal within table 8.22 of Chapter 8 -Ornithology remains valid.
Eurasian Teal	No material change anticipated given the predicted lack of material change in wetland habitats during the Construction Phase.	No material change.	No increase in effect significance under the LFRE. The appraisal within table 8.22 of Chapter 8 - Ornithology remains valid.
Eurasian Woodcock	Minimal increase in woodland habitat and moderate increase in scrub and wet woodland may marginally improve foraging and breeding opportunities.	Potential increase in utilisation; however, woodland and scrub would remain widespread throughout the proposed development site and construction disturbance remains temporary and localised.	No material change in effect significance under the LFRE. The appraisal presented in Table 8.22 of Chapter 8 – Ornithology remains valid.
European Golden Plover	Moderate reduction in open cutover bog as scrub and grassland establish may reduce the availability of suitable open habitat and potential roosting and foraging utilisation.	Potential exposure to construction disturbance may decrease where use of open cutover areas are reduced.	No increase in effect significance under the LFRE. The appraisal within table 8.22 of Chapter 8 - Ornithology remains valid.
Great Cormorant	Little change anticipated as no material change in open water or wetland habitats is predicted	No material change.	No material change in effect significance under the LFRE. The appraisal within table 8.22 of

KAR	Predicted change in site utilisation under the LFRE	Potential change in exposure to construction disturbance	Review of original assessment
	during the Construction Phase.		Chapter 8 -Ornithology remains valid.
Lesser Black-backed Gull	Little change anticipated due to the generalist nature of the species and its use of a range of habitats for foraging.	No material change.	No material change in effect significance under the LFRE. The appraisal within table 8.22 of Chapter 8 -Ornithology remains valid.
Little Egret	No material change anticipated given the predicted lack of material change in wetland habitats during the Construction Phase	No material change.	No material change in effect significance under the LFRE. The appraisal within table 8.22 of Chapter 8 -Ornithology remains valid.
Little Grebe	No material change anticipated given the predicted lack of material change in wetland habitats during the Construction Phase	No material change.	Original significant effect within table 8.22 of Chapter 8 - Ornithology remains appropriate.
Mallard	No material change anticipated given the predicted lack of material change in wetland habitats during the Construction Phase	No material change.	No material change in effect significance under the LFRE. The appraisal within table 8.22 of Chapter 8 -Ornithology remains valid.
Meadow Pipit	Neutral response as moderate increases in grassland may provide additional suitable foraging and breeding habitat, while increasing scrub may reduce suitability locally.	No material change anticipated, as any increase or decrease in utilisation is likely to vary spatially across the site.	No material change in effect significance under the LFRE. The appraisal within table 8.22 of Chapter 8 -Ornithology remains valid.
Mute Swan	No material change anticipated given the predicted lack of material change in wetland habitats during the Construction Phase	No material change.	No material change in effect significance under the LFRE. The appraisal within table 8.22 of Chapter 8 -Ornithology remains valid.
Northern Lapwing	Moderate reduction in open cutover bog as scrub and grassland establish may reduce the availability of suitable open habitat and potential roosting and foraging utilisation.	Potential exposure to construction disturbance may decrease where use of open cutover areas is reduced.	No increase in effect significance under the LFRE. The appraisal within table 8.22 of Chapter 8 - Ornithology remains valid.
Northern Shoveler	No material change anticipated given the predicted lack of material change in wetland habitats during the Construction Phase	No material change.	No material change from table 8.22 of Chapter 8 - Ornithology.
Peregrine Falcon	Little change anticipated as the predicted habitat changes are not expected to materially alter foraging opportunities for	No material change.	No material change from table 8.22 of Chapter 8 - Ornithology.

KAR	Predicted change in site utilisation under the LFRE	Potential change in exposure to construction disturbance	Review of original assessment
	this wide-ranging species during the Construction Phase.		
Whooper Swan	No material change anticipated given the predicted lack of material change in wetland habitats during the Construction Phase. Existing suitable feeding and resting habitats are therefore expected to remain broadly comparable to the current baseline.	No material change.	No increase in effect significance under the LFRE. The appraisal within table 8.22 of Chapter 8 - Ornithology remains valid.

The LFRE during the Construction Phase predicts no material increase to the extent of wetland habitats across the site, while moderate increases in scrub, wet woodland and grassland habitats are anticipated as a result of ongoing natural regeneration. These changes may influence habitat suitability for some KARs. The increase in scrub and wet woodland habitats may benefit woodland species such as Eurasian Woodcock and Eurasian Sparrowhawk, while in contrast, the corresponding reduction in more open cutaway bog may reduce habitat suitability for species associated with open peatland habitats or mosaics of same, including European Golden Plover, Northern Lapwing and Common Ringed Plover.

Although these habitat changes may influence future patterns of site use by some KARs, the assessment presented in Table 8A-2 does not identify any resulting increase in exposure that would materially alter the effects of construction disturbance and displacement. The sources of construction disturbance and their spatial and temporal characteristics remain as assessed in the original EIAR, while the changes in habitat availability resulting from ongoing natural regeneration prior to construction are not predicted to materially increase the exposure to construction disturbance and displacement of the identified KARs.

Overall, the LFRE is not considered to alter the significance of construction disturbance and displacement, and the appraisals of the original EIAR remain valid. The appraisals presented in Table 8.22 of Chapter 8 Ornithology therefore remain valid.

A8.4.2 Operation Phase

A8.4.2.1 Operational Disturbance

The original EIAR identified operational disturbance and displacement to have likely significant effects for Northern Lapwing and Little Grebe during the breeding season and for Northern Lapwing, Little Grebe, Eurasian Teal, Eurasian Wigeon and Whooper Swan during the non-breeding season.

The original assessment concluded that, although the sources of operational disturbance differ from those during construction, applying the construction disturbance assessment to the operational phase represented a precautionary approach. This recognised that construction

activities are temporary and inherently more disruptive than the routine operation and maintenance of a wind farm.

As outlined in the Chapter 7 – Biodiversity Addendum, greater habitat change is anticipated during the operational phase than during the period preceding and encompassing construction, reflecting the longer period available for natural regeneration and the implementation of rehabilitation measures. In particular, woodland, wetland, heathland and other vegetated habitat mosaics are expected to become more established across the site over the lifetime of the proposed development. For the purposes of the ornithological assessment, the principal habitat changes relevant to potential future site utilisation by KARs include:

- Significant increases in bog woodland and other woodland dominated habitat mosaics;
- Significant increases in wetland mosaics, including open water, reedbeds, poor fen and wet willow dominated scrub and woodland;
- Significant increases in heathland, grassland and other vegetated habitats occurring as components of the developing habitat mosaics;
- No material change in the extent of riparian habitats and drainage channels, although their condition is expected to improve; and
- An overall reduction in extensive open and sparsely vegetated cutover habitats as vegetation establishes, although areas of bare peat and other open habitats are expected to persist locally within the developing habitat mosaics.

Accordingly, all KARs identified in the original EIAR have been reviewed separately against the operational-phase LFRE. The assessment considers the predicted change in site utilisation for each KAR, whether this could increase or decrease its exposure to operational disturbance and displacement, and the resulting significance of the effect under the LFRE. The assessment is as presented in Table 8A-3.

Table 8A-3: Review of Key Avian Receptors in relation to the Likely Future Receiving Environment and the original operational disturbance assessment.

KAR	Predicted change in site utilisation under the LFRE	Potential change in exposure to operational disturbance	Review of original assessment
Black-headed Gull	Little change anticipated due to the generalist nature of the species and its use of a wide range of habitats.	No material change.	No material change in effect significance under the LFRE. The appraisal within table 8.26 of Chapter 8 -Ornithology remains valid.
Common Buzzard	Increase in woodland, scrub and grassland habitat may improve foraging or roosting suitability.	Increased site utilisation may result in greater exposure to the operational wind farm, although the species is wide ranging and suitable habitat will occur extensively across the site.	No material change in effect significance under the LFRE. The appraisal within table 8.26 of Chapter 8 -Ornithology remains valid.
Common Gull	Little change anticipated due to the generalist nature of the species and	No material change.	No material change in effect significance under the LFRE. The appraisal

KAR	Predicted change in site utilisation under the LFRE	Potential change in exposure to operational disturbance	Review of original assessment
	its use of a wide range of habitats.		within table 8.26 of Chapter 8 -Ornithology remains valid.
Common Kestrel	Increase in grassland, scrub and other open vegetation within the developing habitat mosaics may improve foraging opportunities.	Some increase in site utilisation and exposure may occur locally, although the species is wide ranging and suitable habitat will occur extensively across the site.	No material change in effect significance under the LFRE. The appraisal within table 8.26 of Chapter 8 -Ornithology remains valid.
Common Ringed Plover	Progressive vegetation establishment and the reduction in bare peat or gravel areas on cutover bog habitat may reduce habitat suitability, although some areas of bare peat are expected to occur locally.	Potential exposure to operational disturbance may decrease.	No increase in effect significance under the LFRE. The appraisal within table 8.26 of Chapter 8 -Ornithology remains valid.
Common Snipe	Significant increase in wetland mosaics, including fen, reedbed and wet grassland may increase habitat suitability and site utilisation.	Increased site utilisation may result in greater exposure to operational disturbance and displacement within suitable areas, although suitable habitat will occur extensively across the site.	No material change in effect significance under the LFRE. The appraisal within table 8.26 of Chapter 8 -Ornithology remains valid.
Eurasian Curlew	Neutral response due to significant increase in wetland mosaics, while progressive vegetation succession and woodland may reduce usage elsewhere. Suitable curlew breeding habitat, which comprises of open habitats high water table and heterogeneous vegetation which can be found in semi-improved and unimproved rough grassland, lowland wet grasslands, moorland, heath and bog (O'Donoghue et al., 2019), is not expected to change substantially, as breeding potential is primarily associated with intact raised bog and there are no records of breeding on recolonising cutaway bog.	No material change, particularly given the limited suitability of the developing habitats for breeding Curlew.	No material change in effect significance under the LFRE. The appraisal within table 8.26 of Chapter 8 -Ornithology remains valid.
Eurasian Sparrowhawk	Increase in woodland, scrub and grassland habitat may improve foraging or roosting suitability.	Increased site utilisation may result in greater exposure to the operational wind farm, although the species is	No material change in effect significance under the LFRE. The appraisal within table 8.26 of

KAR	Predicted change in site utilisation under the LFRE	Potential change in exposure to operational disturbance	Review of original assessment
		wide ranging and suitable habitat will occur extensively across the site.	Chapter 8 -Ornithology remains valid.
Eurasian Teal	Significant increase in wetland mosaics, including fen, reedbed and wet grassland may increase habitat suitability and site utilisation.	Increased site utilisation may result in greater exposure to operational disturbance and displacement within suitable areas, although disturbance remains temporary and localised and wetlands will be widespread throughout the rehabilitated landscape.	Significant effect remains under the LFRE. Potential increased site utilisation is accommodated within the precautionary significance assigned in Table 8.26.
Eurasian Woodcock	Increase in woodland and scrub habitat are likely to improve, breeding, foraging or roosting suitability.	Increased site utilisation may result in greater exposure to operational disturbance and displacement within wooded areas, although disturbance remains temporary and localised and suitable habitat will be widespread throughout the rehabilitated landscape.	No material change in effect significance under the LFRE. The appraisal within table 8.26 of Chapter 8 -Ornithology remains valid.
European Golden Plover	Progressive habitat succession may reduce open area cutover bog/bare peat and/or exposed gravel or till and site utilisation, although some open habitats are expected to persist within the developing mosaics.	Potential exposure may decrease as the extent of suitable open habitat reduces.	No increase in effect significance under the LFRE. The appraisal within table 8.26 of Chapter 8 -Ornithology remains valid.
Great Cormorant	Development of open water within wetland mosaics may provide some additional suitable habitat, although a substantial change in overall site utilisation is not anticipated.	Some local increase in exposure may occur, but no material overall change is anticipated.	No material change in effect significance under the LFRE. The appraisal within table 8.26 of Chapter 8 -Ornithology remains valid.
Lesser Black-backed Gull	Little change anticipated due to the generalist nature of the species and its use of a wide range of habitats.	No material change.	No material change in effect significance under the LFRE. The appraisal within table 8.26 of Chapter 8 -Ornithology remains valid.
Little Egret	Development of open water within wetland mosaics may provide some additional suitable habitat, although a substantial change in overall site utilisation is not anticipated.	Some local increase in exposure may occur, but no material overall change is anticipated.	No material change in effect significance under the LFRE. The appraisal within table 8.26 of Chapter 8 -Ornithology remains valid.

KAR	Predicted change in site utilisation under the LFRE	Potential change in exposure to operational disturbance	Review of original assessment
Little Grebe	Significant increase in wetland mosaics, including fen, reedbed and wet grassland may increase habitat suitability and site utilisation.	Increased site utilisation may result in greater exposure to operational disturbance and displacement within suitable areas, although disturbance remains temporary and localised and wetlands will be widespread throughout the rehabilitated landscape.	Significant effect remains under the LFRE. Potential increased site utilisation is accommodated within the precautionary significance assigned in Table 8.26 of Chapter 8 - Ornithology.
Mallard	Development of open water within wetland mosaics may provide some additional suitable habitat, although a substantial change in overall site utilisation is not anticipated.	Some local increase in exposure may occur, but no material overall change is anticipated.	No material change in effect significance under the LFRE. The appraisal within table 8.26 of Chapter 8 -Ornithology remains valid.
Meadow Pipit	Neutral response as peatland/grassland increases may provide suitable habitat, while increasing woodland and scrub may reduce suitability elsewhere.	Changes in exposure are likely to vary spatially, with no material overall increase anticipated.	No material change in effect significance under the LFRE. The appraisal within table 8.26 of Chapter 8 -Ornithology remains valid.
Mute Swan	Development of open water within wetland mosaics may provide some additional suitable habitat, although a substantial change in overall site utilisation is not anticipated.	Some local increase in exposure may occur, but no material overall change is anticipated.	No material change in effect significance under the LFRE. The appraisal within table 8.26 of Chapter 8 -Ornithology remains valid.
Northern Lapwing	A Neutral but generally negative response is anticipated. Development of wet grassland and other open wet habitats may provide some suitable habitat, while progressive woodland, scrub and vegetation establishment is likely to reduce the extent of open habitat elsewhere.	Exposure may vary spatially but could decrease overall where open habitat becomes less suitable.	Significant effect remains under the LFRE on a precautionary basis. This appraisal is retained notwithstanding the potential reduction in site utilisation and exposure in some areas. The appraisal within table 8.26 of Chapter 8 - Ornithology remains valid.
Northern Shoveler	Development of open water within wetland mosaics may provide some additional suitable habitat, although a substantial change in overall site utilisation is not anticipated.	Some local increase in exposure may occur, but no material overall change is anticipated.	No material change in effect significance under the LFRE. The appraisal within table 8.26 of Chapter 8 -Ornithology remains valid.
Peregrine Falcon	Little change anticipated. Changes in habitat mosaics may alter prey availability locally, although no substantial	No material change.	No material change in effect significance under the LFRE. The appraisal within table 8.26 of

KAR	Predicted change in site utilisation under the LFRE	Potential change in exposure to operational disturbance	Review of original assessment
	change in overall site utilisation is anticipated given the wide ranging nature of the species.		Chapter 8 -Ornithology remains valid.
Whooper Swan	Development of open water within wetland mosaics may provide some additional suitable habitat, although a substantial change in overall site utilisation is not anticipated.	Some local increase in exposure may occur, but no material overall change is anticipated.	Significant effect remains under the LFRE. Potential increased site utilisation is accommodated within the precautionary significance assigned in Table 8.26 of Chapter 8 - Ornithology.

The review presented in Table 8A-3 indicates that the LFRE has the potential to alter habitat suitability and future patterns of site use for several KARs. In general, wetland and woodland associated species may benefit from the increased availability of suitable habitats, while species associated with open peatland habitats may exhibit a mixed response as vegetation succession progresses.

Although these changes may influence future patterns of site use, they do not alter the mechanisms by which operational disturbance and displacement may occur. The proposed wind farm layout, turbine locations and operational characteristics remain unchanged from those assessed in the original EIAR. Consequently, the spatial extent of the operational disturbance footprint, together with the potential for barrier effects, also remains unchanged.

The original EIAR concluded that applying the construction disturbance assessment to the operational phase represented a precautionary approach to operational disturbance and displacement. Having regard to the predicted habitat changes under the operational phase LFRE, including the potential for increased site utilisation and exposure for some KARs, the assessment presented in Table 8A-3 does not identify any new or increased significant effects. The significant effects identified in the original EIAR therefore remain appropriate under the LFRE.

Accordingly, the appraisals of the original operational disturbance and displacement assessment remain valid.

A8.4.2.2 Collision Risk

The original EIAR assessed collision risk for relevant KARs using Collision Risk Modelling (CRM) based on flight activity recorded during seven seasons of vantage point surveys between the Breeding Season 2021 and Breeding Season 2024. The CRM considered observed flight activity, flight height and duration, together with species-specific avoidance rates and the dimensions and operational characteristics of the proposed turbines. The original assessment concluded that the potential collision risk would result in no significant effects.

The LFRE during the operational phase is expected to result in changes to habitat suitability and potentially site utilisation by some of the KARs assessed for collision risk. Increased wetland habitat may improve habitat suitability for waterbirds including Eurasian Teal, Mallard, Little Egret and Whooper Swan, while increased scrub and woodland may benefit species such as

Eurasian Sparrowhawk. Conversely, progressive vegetation succession and the reduction in open cutover habitats may reduce habitat suitability for European Golden Plover and Northern Lapwing. These changes have therefore been considered in terms of their potential to increase or decrease collision exposure under the LFRE.

For European Golden Plover and Northern Lapwing, which were among the species with higher predicted collision mortality in the original CRM, the reduction in suitable open habitat under the LFRE is not expected to increase site utilisation and may result in reduced collision exposure. For wetland and woodland associated KARs, improved habitat suitability may result in greater site utilisation and the potential for increased collision exposure has therefore been considered.

The significance of any potential increase in collision exposure also needs to be considered in the context of the original CRM results as outlined in Chapter 8 section 8.9.3.2 of the original EIAR and the accompanying CRM report in Appendix 8.5. The original collision risk assessment incorporated precautionary assumptions and treated a predicted increase in population mortality of 1% or greater as potentially significant and requiring further assessment. As discussed in Appendix 8.4, the 1% threshold is itself precautionary and, for Whooper Swan, Cormorant, Lesser Black backed Gull and Sparrowhawk, where predicted mortality only just exceeded this threshold, concluded that significant population effects were unlikely having regard to the precautionary nature of the threshold and assumptions used in calculating the predicted increases in mortality. The original assessment also identified factors which indicated that predicted increases in mortality for European Golden Plover and Northern Lapwing may have been overestimated (see table 8.28 of Chapter 8 -Ornithology and section 5.2 and 5.4 of the accompanying CRM report in Appendix 8.5).

Overall, the LFRE may result in increased site utilisation by some KARs and reduced utilisation by others. However, having regard to the predicted habitat changes, the species specific CRM results, the uncertainty assessed within the modelling and the precautionary assumptions applied in interpreting potential population effects, no increase in the significance of collision effects is identified under the LFRE. Collision risk therefore remains unchanged, and the appraisals of the original assessment remain valid.

A8.5 Overall Conclusions

This Addendum has considered the potential implications of the LFRE, as defined by the EIAR Chapter 7 Addendum, on the ornithological assessment presented in the original EIAR.

The review acknowledges that rehabilitation is expected to alter the composition and distribution of habitats across the site, with an overall increase in wetland, fen, heathland and bog woodland habitats. These changes have the potential to influence the suitability of habitats for a number of KAR and may result in changes to future patterns of site use.

The assessment indicates that the LFRE may alter the distribution and level of site use by individual KARs. However, these changes are not considered sufficient to result in any new significant effects or an increase in the significance of effects identified in the original EIAR. Where increased habitat suitability and site utilisation are predicted, the potential for increased exposure has been considered within the relevant impact assessment. Similarly, where habitat suitability is expected to decrease, the potential for reduced site utilisation and exposure has been recognised. The significance of effects associated with habitat loss, construction and

operational disturbance and displacement, water quality, dust, direct mortality and collision risk therefore remains consistent with the original EIAR.

Overall, having regard to the LFRE, the conclusions of the original EIAR remain valid, and no changes to the significance of the identified ornithological effects are required

A8.6 REFERENCES

Alsila, T., Elo, M., Hakkari, T. and Kotiaho, J.S. (2021), Effects of habitat restoration on peatland bird communities. Restor Ecol, 29: e13304.

Guilfoyle, C., Lusby, J., de Eyto, E., Lally, H.T. & Graham, C.T. (2025). Avian communities show distinct responses to forest-to-bog restoration. Journal of Environmental Management, 373, 123763

Crowley, W., Smith, G.F., Mackin, F., Regan, S., Fernandez Valverde, F. and Eakin, M. 2021 Recovery of the vegetation of a cutover raised bog in Ireland following rewetting measures. Biology and Environment: Proceedings of the Royal Irish Academy

Copland, A.S., Bayliss, J., Power, E. and Finney, K., 2008. Breeding waders on cutaway peatlands in County Offaly. In: Proceedings of the 13th International Peat Congress: Peat in the New Century

O'Donoghue, B. G., Donaghy, A. and Kelly, S.B.A. (2019). National survey of breeding Eurasian Curlew Numenius arquata in the Republic of Ireland, 2015–2017. Wader Study 126: 43-48.

A9. LANDS SOILS AND GEOLOGY

A9.1 INTRODUCTION

Chapter 9 - Lands, Soils and Geology of the EIAR described the existing baseline within the study area and assessed the likely significant effects of the proposed development on the Land, Soils and Geological environment.

This document constitutes an Addendum Chapter to Chapter 9 -Land, Soils and Geology and has been prepared in response to a request from An Coimisiún Pleanála (ACP) to assess the likely significant effects of the proposed development having regard to the "*Likely Future Receiving Environment following further bogland rehabilitation and completion of decommissioning on site*" (An Coimisiún Pleanála, 2026). This Addendum Chapter should be read in conjunction with Chapter 9 of the EIAR, and specifically Section 9.3 (Environmental Baseline) which describes the existing baseline environment and Section 9.4 (Potential Effects) which assesses the likely significant effects of the proposed development on Land, Soils and Geology.

This Addendum Chapter presents only those land, soils and geology receptors for which conditions within the Likely Future Receiving Environment are predicted to differ from the existing baseline, as described in EIAR Chapter 9, Section 9.3. Accordingly, the impact assessment presented in this Addendum Chapter addresses only the likely significant effects on those land, soils and geology receptors within the Likely Future Receiving Environment that differ from the existing baseline assessment as presented in EIAR Chapter 9, Section 9.4.

The impact assessment on the Likely Future Receiving Environment is limited to the proposed infrastructure within the wind farm site, as defined by the proposed wind farm site boundary, and does not extend to the Turbine Delivery Route (TDR). This is because the TDR lies outside the proposed development area assessed in this Addendum and, unlike the transitional peatland conditions within the proposed wind farm site, is generally static in nature, with no anticipated changes to baseline environmental conditions that would materially alter the conclusions of previous assessments.

The remainder of this Addendum Chapter is structured as follows:

- **Section A9.3 Methodology for Assessment of Impacts and Effects -** outlines the approach to establish the Likely Future Receiving Environment, and to assess the potential impacts of the proposed development;
- **Section A9.4 Assessment of Land, Soils and Geology effects** presents an assessment of likely significant effects during the Construction, Operation and Decommissioning Phases of the proposed development;
- **Section A9.5 Mitigation Measures** - lists mitigation measures to reduce the magnitude of significant effects;
- **Section A9.6 Residual Effects** – presents an assessment of likely significant effects on Lands, Soils and Geology during the Construction, Operation and Decommissioning Phases of the proposed development with the proposed mitigation measures considered; and,
- **Section A9.7 Conclusion** - summarises the main findings of the assessment.

A9.2 Statement of Authority

TOBIN are intimately familiar with the proposed development characteristics for the Derryadd Wind Farm, having worked on other wind farms including Ballyfasy and Lissinagroagh, set in various ground conditions and water environments. John Dillon of TOBIN completed this addendum.

John Dillon (BSc., MSc., DIC, MCIWM, PGeo) is a hydrogeologist with 18 years' geological/hydrogeological experience in groundwater development, windfarm and major infrastructure developments. John has authored numerous Land, Soils and Geology chapters for EIARs for a range of projects.

A9.3 Methodology for Assessment of Effects

This section provides an overview to the approach taken to establish the Likely Future Receiving Environment and assess the likely significant effects of the proposed development on the Likely Future Receiving Environment.

A9.3.1 Establishing the Likely Future Receiving Environment

The following provides an overview of the Likely Future Receiving Environment that may be affected by the proposed development. This section also provides a brief description, outlining any likely significant effects due to the proposed development activities.

As rehabilitation and completion of decommissioning has not yet taken place within the proposed wind farm site, the Likely Future Receiving Environment considered within this addendum refers to the anticipated receiving environment during the different phases of the proposed development The following specific phases of the proposed development are presented in this Addendum Chapter as follows:

- The current intervening period between the submission of the planning application through to the granting of planning permission, if granted, currently anticipated to be approximately 2026–2030.
- Construction phase is taken to commence approximately 5 years into the future, in 2031, and continue for 2 years until 2033.
- Operational phase is anticipated to commence in 2033 and continue for the 30-year operational lifespan of the proposed project, until approximately 2063. Rehabilitation measures will be carried out immediately after the completion of the Construction Phase i.e. during the Operational Phase of the proposed development.
- Decommissioning phase is anticipated to commence following the Operational Phase and continue for an undefined period of time.

The existing environment presented as the baseline in the EIAR is a degraded peatland undergoing natural revegetation. The proposed wind farm site currently operates in compliance with its IPC licence requirements (ref. no P0504-01). This involves the continuation of ongoing decommissioning activities associated with the removal of rail infrastructure, structures and materials from the proposed wind farm site. Following the successful decommissioning of the site it is intended that the proposed wind farm site would be rehabilitated in line with condition

10 of the IPC licence, as illustrated in the draft Cutaway Bog Decommissioning and Rehabilitation Plans (EIAR Appendices 7-2a, 7-2b and 7-2c).

The primary objectives of the draft rehabilitation plans are to stabilise the hydrological function of the bogs, support the natural recolonisation of native peatland vegetation, and improve biodiversity at the bogs. The plans also address the need to remove, repurpose, or manage any residual infrastructure in a manner that complements the overall rehabilitation goals. It is important to note that no targeted peatland rehabilitation measures have been implemented within the proposed wind farm site to date, inclusive of drain blocking and re-wetting. Furthermore, the ongoing pumping regime and maintenance of some active drainage channels has continued across the site, although the extent of drainage maintenance has reduced substantially since peat extraction activities ceased. As such, the habitats within the proposed wind farm site are not likely to have undergone significant natural revegetation during the current intervening period since the application was submitted .

Land cover mapping by Corine (EIAR Figure 9-5) indicates that almost the entirety of the proposed wind farm site is covered by peat bog, with small patches of transitional woodland-scrub mapped directly to the east and south of the proposed location of Turbine 8, and to the west and southwest of the proposed location of Turbine 17. Much of the land directly adjacent to the proposed wind farm boundary is recorded as pastureland, with small patches of coniferous and broad-leaved forest mapped close to the southern boundary. Overall, the proposed wind farm site varies greatly ranging from areas that have been re-vegetating rapidly since the ceasing of industrial peat production to bare peat areas that were still in peat production until 2019. The majority of the proposed wind farm site is now developing pioneer cutaway habitats. The drier sections of the proposed wind farm site have developed areas of Birch dominated scrub (Refer to Chapter 7 (Biodiversity) for more detail). The existing environment, within the current intervening period, of the proposed wind farm site is c.80% vegetated, predominantly scrub and wetland mosaics.

Construction Phase

The duration of the Construction Phase presented in this Addendum Chapter is 2 years, as presented and assessed in the EIAR. The assessment of the Likely Future Receiving Environment will reflect the continuation of natural regeneration processes observed during baseline surveys presented in the EIAR and the current intervening period.

Operational Phase

The assessment of the Operational Phase presented in this Addendum Chapter takes account of the potential changes to the Likely Future Receiving Environment arising from the commencement of bogland rehabilitation measures during the Operational Phase of the proposed development, as (detailed in the Introduction Section of this Addendum) and illustrated in the draft Cutaway Bog Decommissioning and Rehabilitation Plans (EIAR Appendices 7-2a, 7-2b and 7-2c). It is expected that the Likely Future Receiving Environment will continue to transition and evolve as natural regeneration processes progress and targeted rehabilitation measures are implemented. During the Operational Phase, the assessment takes account of the implementation of the targeted rehabilitation measures. These measures are expected to support the restoration and enhancement of peatland habitats over time.

Decommissioning Phase

The Decommissioning Phase is considered from the point at which the Operational Phase ends, with the assessment recognising that the duration of decommissioning activities cannot be definitively established at this stage. All rehabilitation measures will have been implemented during the Operational Phase of the proposed development. The Likely Future Receiving Environment of the proposed wind farm site will depend on the evolution of the habitats through natural regeneration and rehabilitation processes, as described in Section A7.3.3 of this Addendum (Biodiversity).

A9.4 Assessment of Land, Soils and Geology Effects

The assessment below is confined to those aspects of Chapter 9 – Land, Soils and Geology that require amendment or supplementary assessment having regard to the Likely Future Receiving Environment. Where no amendment to the original EIAR assessment or conclusions is required, the relevant section headings and associated text have been omitted from this document.

A9.4.1 Construction Phase

An assessment of the likely significant effects on the Likely Future Receiving Environment during construction would not be materially different than the assessment presented in Section 9.4.2 of the EIAR. The most significant change to the land, soils and geological environment occurred when peat extraction activities ceased at the site. Natural regeneration continues at the site however given the timelines during this current intervening period any change would not be significant.

A9.4.1.1 Land Use

The extent and type of the land use will not have significantly changed from the findings of the baseline surveys conducted as part of the EIAR during this current intervening period up to the start of construction. There is no significant change to the impact assessment having regard to the Likely Future Receiving Environment.

A9.4.1.2 Carbon Loss

Carbon loss was assessed in the original application. As outlined in Section 9.4.2.3 of the EIAR, excavation of peat across the site is anticipated. The excavation of in-situ peat will lead to carbon release, and to the loss of potential carbon storage, due to depletion of the peat bog carbon sink. There is no material difference to the assessment presented in the EIAR Section 9.4.2.2 on the baseline environment as to the likely effect on the Likely Future Receiving Environment. This has been further assessed in the Climate Addendum A18.

A9.4.2 Operational Phase

For the Operational Phase of the proposed development, maintenance of the wind farm and associated infrastructure is required. There are no plans for the construction of new infrastructure during the Operational Phase.

During the Operational Phase, the natural regeneration of the site will continue with targeted rehabilitation of parts of the site commencing in line with the draft Cutaway Bog Decommissioning and Rehabilitation Plans (EIAR Appendices 7-2a, 7-2b and 7-2c). These draft plans will be agreed with the Environment Protection Agency as part of the IPC licence requirements to be reviewed and agreed every 2 years. Throughout the Operational Phase, the rehabilitation measures will be reviewed and adapted as necessary in response to the evolving conditions and dynamic nature of the site.

There will be no evident change to the land, soils and geological environment as a result of the commencement of the rehabilitation works given the length of time it will take for such measures to be realised. There is no material change to the assessment presented in Section 9.4.3 of the EIAR.

A9.4.3 Decommissioning Phase

During the Decommissioning Phase the natural regeneration of the site will continue with the rehabilitation of parts of the site continuing in line with the agreed Cutaway Bog Decommissioning and Rehabilitation Plans under the IPC licence. Given the timelines associated with the rehabilitation, there will be no significant changes to the Likely Future Receiving Environment realised from site rehabilitation during this phase . Therefore, there is no material change to the assessment presented in Section 9.4.4 of the EIAR.

A9.5 Mitigation Measures

The mitigation measures detailed in EIAR Chapter 9 – Land Soils and Geology are designed to reduce the severity and likelihood of significant effects of the existing baseline to unlikely, and/or reduce the significance of effects to below the significance threshold, during the Construction, Operational and Decommissioning Phase. No additional mitigation measures are required over and above those listed in the EIAR Chapter 9, Section 9.5.

A9.6 Residual Effects

This information presented in this Addendum Chapter does not significantly alter the conclusions of the residual effects assessment in the EIAR, Section 9.6.

A9.7 Conclusion

This Addendum presents an evaluation of the likely significant effects of the proposed development on the Likely Future Receiving Environment at the likely time of construction, in addition to the Operational and Decommissioning Phases. The Addendum puts forward any change from the assessment of likely significant effects presented in the EIAR Chapter 9.

The residual effects assessment concludes there is no material change to the assessment of likely significant effects in the EIAR.

A9.8 REFERENCES

Bord na Móna. *Cutaway Bog Decommissioning and Rehabilitation Plans* (referenced in EIAR Chapter 7 – Biodiversity, Appendices 7-2a, 7-2b, and 7-2c).

Environmental Protection Agency (EPA). IPC Licence (ref. no P0504-01), specifically Condition 10.

Renou-Wilson, F., et al. (2018). Study on carbon emissions from blanket and cutover raised bogs in Ireland (referenced in relation to carbon loss timelines and emission factors).

A10. HYDROLOGY AND HYDROGEOLOGY

A10.1 INTRODUCTION

Chapter 10 - Hydrology and Hydrogeology of the EIAR described the existing baseline within the study area and assessed the likely significant effects of the proposed development on the water environment.

This document constitutes an Addendum to Chapter 10 – Hydrology and Hydrogeology of the EIAR and has been prepared in response to a request from An Coimisiún Pleanála (ACP) to assess the likely significant effects of the proposed development having regard to the "*Likely Future Receiving Environment following further bogland rehabilitation and completion of decommissioning on site*" (An Coimisiún Pleanála, 2026). This Addendum Chapter should be read in conjunction with Chapter 10 of the EIAR, and specifically Section 10.3 (Environmental Baseline) which describe the existing baseline environment and Section 10.4 (Potential Effects), which assesses the likely significant effects of the proposed development on Hydrology and Hydrogeology.

This Addendum Chapter presents only those hydrological and hydrogeological receptors for which conditions within the Likely Future Receiving Environment are predicted to differ from the baseline environment, as described in EIAR Chapter 10, Section 10.3. Accordingly, the impact assessment presented in this Addendum Chapter addresses only the likely significant effects on those hydrological and hydrogeological receptors within the Likely Future Receiving Environment that differ from the existing baseline assessment as presented in EIAR Chapter 10, Section 10.4.

The impact assessment on Likely Future Receiving Environment is limited to the proposed infrastructure within the wind farm site, as defined by the wind farm site boundary, and does not extend to the Turbine Delivery Route (TDR). This is because the TDR lies outside the proposed development area assessed in this Addendum and, unlike the transitional peatland conditions within the proposed wind farm site, is generally static in nature, with no anticipated changes to baseline environmental conditions that would materially alter the conclusions of previous assessments.

As is stated in the draft Cutaway Bog Decommissioning and Rehabilitation Plans (EIAR Appendices 7-2a, 7-2b and 7-2c), '*these rehabilitation measures will be planned by a team consisting of expert ecologists, hydrologists and engineers. It is a guiding principle of Bord na Móna rehabilitation planning that no actions or activities will be undertaken that would negatively impact on adjacent land. No boundary drains will be blocked. Water will still leave the bog via the existing outlets.*' In accordance with the existing Integrated Pollution Control licence, all drainage water from boglands in the licensed area is discharged via an appropriately designed silt pond treatment arrangement as required in Condition 6.6. of the licence.

The remainder of this Addendum Chapter is structured as follows:

- **Section A10.3 Methodology for Assessment of Impacts and Effects -** outlines the approach and establishes the Likely Future Receiving Environment;
- **Section A10.4 Assessment of Effects** - presents an assessment of likely significant effects on Hydrology and Hydrogeology during the Construction, Operation and Decommissioning Phases of the proposed development;

- **Section A10.5 Mitigation Measures** - lists mitigation measures to reduce the magnitude of significant effects;
- **Section A10.6 Residual Effects -** presents an assessment of likely significant effects on Hydrology and Hydrogeology during the Construction, Operation and Decommissioning Phases of the proposed development with the proposed mitigation measures considered; and
- **Section A10.7 Conclusion** – summarises the main findings of the assessment.

A10.2 STATEMENT OF AUTHORITY

TOBIN are intimately familiar with the proposed development characteristics for the Derryadd Wind Farm, having worked on other wind farms including Ballyfasy and Lissinagroagh Wind Farms, set in various ground conditions and water environments. John Dillon of TOBIN completed this addendum.

John Dillon (BSc., MSc., DIC, MCIWM, PGeo) is a hydrogeologist with 18 years' geological/hydrogeological experience in groundwater development, windfarm and major infrastructure developments. John has authored numerous Hydrology, Hydrogeology and Water Quality chapters for EIARs for a range of projects.

A10.3 METHODOLOGY FOR ASSESSMENT OF EFFECTS

This section provides an overview to the approach taken to establish the Likely Future Receiving Environment and assess the likely effects of the proposed development on such.

The assessment in this Addendum Chapter is the same as the EIAR; based on the source-pathway-receptor (SPR) model, which is the recognised framework for environmental impact assessment. A potential effect can only materialise if there is a viable hydrological or hydrogeological pathway connecting it to a sensitive receptor (e.g., a waterbody, wetland, or groundwater-dependent terrestrial ecosystem).

A10.3.1 Establishing the Likely Future Receiving Environment

The following provides an overview of the Likely Future Receiving Environment that may be affected by the proposed development, at the time of construction, during operation and decommissioning. This section also provides a brief description, outlining any likely significant effects due to the proposed development activities.

As rehabilitation and completion of decommissioning has not yet taken place within the proposed wind farm site, the Likely Future Receiving Environment considered within this addendum refers to the anticipated receiving environment during the different phases of the proposed development. The following specific phases of the proposed development are presented in this Addendum Chapter, as follows:

- The current intervening period between the submission of the planning application through to the granting of planning permission, if granted, currently anticipated to be approximately 2026–2030.

- The Construction Phase is assumed to commence approximately five years in the future, in 2031, and continue for 2 years until 2033.
- Operational phase is anticipated to commence in 2033 and continue for the 30-year operational lifespan of the proposed project, until approximately 2063. During this phase targeted rehabilitation will have commenced.
- Decommissioning phase is anticipated to commence following the Operational Phase and continue for an undefined period of time.

The existing environment, presented as the baseline in the EIAR, is c.80% vegetated, predominantly scrub and wetland mosaics. It is important to note that no targeted peatland rehabilitation measures have been implemented within the proposed wind farm site to date, inclusive of drain blocking and re-wetting. Furthermore, the ongoing pumping regime and maintenance of active drainage channels has continued across the site in compliance with the IPC licence (ref. no P0504-01). The habitats within the proposed wind farm site are not likely to have undergone significant natural recolonisation during this current intervening period since the application was submitted.

During this current intervening period before the Construction Phase begins, the Likely Future Receiving Environment is expected to reflect the continuation of natural revegetation processes observed during baseline surveys. The assessment, presented in this Addendum Chapter, therefore considers the direction and nature of likely hydrology and hydrogeology change that may occur within the proposed wind farm site in the period between the existing baseline as presented in EIAR Chapter 10 and the anticipated commencement of construction, as well as during the Operational and Decommissioning Phases of the proposed development.

Construction Phase

The duration of the Construction Phase presented in this Addendum Chapter is 2 years, as presented and assessed in the EIAR. The assessment of the Likely Future Receiving Environment will reflect the continuation of natural regeneration processes observed during baseline surveys presented in the EIAR and the current intervening period.

Operational Phase

The assessment of the Operational Phase presented in this Addendum Chapter takes account of the potential changes to the Likely Future Receiving Environment arising from the commencement of bogland rehabilitation measures during the Operational Phase and over the 30-year operational lifespan of the proposed development, as (detailed in the Introduction Section of this addendum) and illustrated in the draft Cutaway Bog Decommissioning and Rehabilitation Plans (EIAR Appendices 7-2a, 7-2b and 7-2c). It is expected that the Likely Future Receiving Environment will continue to transition and evolve as natural regeneration processes progress and targeted rehabilitation measures are implemented. During the Operational Phase, the assessment takes account of the implementation of the targeted rehabilitation measures. These measures are expected to support the restoration and enhancement of peatland habitats over time.

Decommissioning Phase

The Decommissioning Phase is considered from the point at which the Operational Phase ends, with the assessment recognising that the duration of decommissioning activities cannot be

definitively established at this stage. All rehabilitation measures will have been implemented during the Operational Phase of the proposed development. The Likely Future Receiving Environment of the proposed wind farm site will depend on the evolution of the habitats through natural regeneration and rehabilitation processes, as described in Section A7.3.3 of this Addendum (Biodiversity).

A10.4 HYDROLOGY AND HYDROGEOLOGY ASSESSMENT

The assessment below is confined to those aspects of Chapter 10 – Hydrology and Hydrogeology that require amendment or supplementary assessment having regard to the Likely Future Receiving Environment. Where no amendment to the original EIAR assessment or conclusions is required, the relevant section headings and associated text have been omitted from this document. The timelines for the Likely Future Receiving Environment are outlined in section A10.3 above.

A10.4.1 Construction Phase

As stated in EIAR Section 10.4.5.2 '*Pump capacities at existing pumping stations, which certain pumps will be upgraded and others decommissioned as part of the proposed development, refer to Table 3-6 in Chapter 3 for details, are designed based on a runoff rate of 1.7 l/s/Ha. As runoff rates will not increase, the pre-mitigation effects on surface water flows are not significant, negative, long term.*' In a Likely Future Receiving Environment during the Construction Phase, there would be no alteration of the pumping regime as described in the EIAR.

Derryaroge, Derryadd and Lough Bannow Bogs are occupied by wetland habitats (e.g. remnant raised bog, lakes and ponds, wetland mosaics), and other mostly dry habitats (e.g. agriculture, bog woodland, dry heathland, conifer plantation), as depicted in Section 7.11, Chapter 7 (Biodiversity). The drier areas will be dominated by grassland and ruderal species but are likely to develop into coarser habitats dominated by scrub and/or woodland habitats. The establishment of wetland vegetation and drier vegetated areas within the proposed wind farm site also plays a role in filtering nutrients.

A10.4.1.1 Surface Water Quality & Flow

The construction of the wind farm will result in potential effects during the Construction Phase, as detailed in Section 10.4 of the EIAR. Pump capacities would not be altered in a Likely Future Receiving Environment. The proposed sustainable drainage system to be implemented during the Construction Phase would still fulfil its objective to reduce the quantity of discharge from wind farms to pre-development flows and to improve the quality of run-off from proposed developments.

An assessment of the likely significant effects on the Likely Future Receiving Environment during construction would not be materially different than the assessment presented in Section 10.4.2 of the EIAR.

A10.4.1.2 Groundwater Quality and Flow

Temporary pumping of groundwater will be required to facilitate excavations required as part of the Construction Phase. Dewatering will be required intermittently during the 2-year

construction period. Groundwater inflows to excavations will need to be pumped out, resulting in short term localised drawdown of the water table and potential discharges to the surface water.

There is no change to the assessment and the outcomes presented in the EIAR for the Likely Future Receiving Environment scenario.

A10.4.2 Operational Phase

For the Operational Phase of the proposed development, maintenance of the wind farm and associated infrastructure is required. There are no plans for the construction of new infrastructure during the Operational Phase.

During the Operational Phase, the natural regeneration of the site will continue with targeted rehabilitation of parts of the site commencing in line with the draft Cutaway Bog Decommissioning and Rehabilitation Plans (EIAR Appendices 7-2a, 7-2b and 7-2c). These draft plans will be agreed with the Environment Protection Agency as part of the IPC licence requirements to be reviewed and agreed every 2 years. Throughout the Operational Phase, the rehabilitation measures will be reviewed and adapted as necessary in response to the evolving conditions and dynamic nature of the site.

The drainage regime will be maintained as per the IPC licence as part of the maintenance works at the proposed wind farm site. The proposed wind farm site and the surrounding peatlands within the IPC licence will continue to be managed in accordance with Condition 10 of the IPC Licence (P0504-01). The draft Cutaway Bog Decommissioning and Rehabilitation Plans will adapt to site conditions including the drainage and surface water management, with a review and update of the plans occurring every 2 years.

The predicted hydrological trajectory of the proposed wind farm site under the draft rehabilitation plans is for gradually reduced water level fluctuations, and increased surface water retention. These changes are expected to result in improved water quality through enhanced attenuation of suspended solids and nutrients and reduced peak flow rates due to increased surface roughness and storage capacity (Holden et al., 2004; Evans et al., 2021).

There is no material change to the assessment of the proposed development during the Operational Phase, as presented in Section 10.4.3 of the EIAR.

A10.4.3 Decommissioning Phase

During the Decommissioning Phase, the natural regeneration of the site will continue along with the evolution of parts of the site in line with the agreed Cutaway Bog Decommissioning and Rehabilitation Plans under the IPC licence. Given the timelines associated with the rehabilitation, there will be no significant changes to the Likely Future Receiving Environment realised from site rehabilitation during this phase. As a result, there is no material change to the assessment presented in Section 10.4.4 of the EIAR.

A10.5 Mitigation Measures

The mitigation measures detailed in EIAR Chapter 10 – Hydrology and Hydrogeology are designed to reduce the likelihood of effects of the existing baseline to unlikely, and/or reduce the significance of effects to below the significance threshold, during the Construction, Operation and Decommissioning Phases. No additional mitigation measures, outside of what was detailed in the original EIAR chapter, have been proposed.

A10.6 Residual Effects

This information presented in this Addendum Chapter does not significantly alter the conclusions of the residual effects assessment in the EIAR, Section 10.6.

A10.7 Conclusion

This Addendum presents an evaluation of the likely significant effects of the proposed development on the Likely Future Receiving Environment at the likely time of construction, in addition to the Operational and Decommissioning Phases. The Addendum puts forward any change from the assessment of likely significant effects presented in the EIAR Chapter 10.

The residual effects assessment concludes there is no material change to the assessment of likely significant effects in the EIAR.

A10.8 REFERENCES

Evans, C.D., et al. (2021) "Rewetting of drained peatlands: A review of the hydrological and water quality benefits." Science of The Total Environment, 782, 146849.

Holden, J., et al. (2004) "Hydrological controls on the transport of dissolved organic carbon in blanket peat catchments." Journal of Hydrology, 295(1-4), 1-15.

A18. CLIMATE

A18.1 INTRODUCTION

An Environmental Impact Assessment Report (EIAR) was prepared by AWN Consulting on behalf of Bord na Móna Powergen Limited in support of the planning application for the proposed Derryadd Wind Farm and associated supporting infrastructure (the "proposed development"). EIAR Chapter - 18 Climate describes the existing national baseline and assesses the likely significant effects of the proposed development on climate and the resilience of the proposed development to future climate hazards posed by climate change.

This document constitutes an Addendum Chapter to Chapter 18 - Climate and has been prepared in response to a request from ACP (see Appendix A) to assess the likely significant effects of the proposed development, having regard to the "*Likely Future Receiving Environment"* (An Coimisiún Pleanála, 2026).

The Likely Future Receiving Environment for the Construction Phase reflects a scenario prior to wind farm construction where no targeted rehabilitation measures have commenced at the site. The Likely Future Receiving Environment during the Operational Phase, assumes rehabilitation actions have been commissioned and long-term peatland rehabilitation measures including widespread drain blocking, modifying outfalls, and reducing pumping as appropriate have significantly improved the condition of the site and its capacity as a carbon store. Renou-Wilson et al. (2018) found re-wetted peatlands had the capacity to reduce CO_2 emissions by 50% even in the absence of vegetation. It was found a rewetted site acted as a net annual CO_2 sink even though CH_4 emissions increased under a re-wetting scenario. For the purpose of this addendum, the Likely Future Receiving Environment prior to construction is therefore considered a carbon source, whereas during operation, when rehabilitation measures have been commissioned, the peat bog will become a carbon sink.

The impact assessment presented within EIAR Chapter 18 – Climate is considered valid for the 10-year period for which planning permission, if granted, will remain in force.

This Addendum should be read in conjunction with EIAR Chapter 18 – Climate, specifically Section 18.3 (Existing Environment) which describes the existing baseline environment in a national and international context and Section 18.4 (Potential Effects) which assess the likely significant effects of the proposed development on climate.

ACP have also requested clarification around the inclusion of GHG emissions associated with loss of bog area due to the proposed development under operational GHG emissions (Table 18.3, Chapter 18- Climate). This will also be addressed within this addendum.

A18.2 STATEMENT OF AUTHORITY

This Addendum Chapter was prepared by Sarah Berry. Sarah Berry is a Principal Climate Consultant in the Air Quality and Climate section of AWN Consulting, a Trinity Consultants Company. She holds a BSc in Physical Geography from the University of Leeds. She has 9 years' experience in climate change and sustainability, with expertise in greenhouse gas permitting, accounting and verification. Her experience includes conducting strategic sector-specific GHG audits across a range of industries (data centres, industrial facilities, hospitals, manufacturing,

power stations and airports). She has prepared climate chapters for EIARs for proposed developments across Ireland including large residential developments, windfarms, industrial developments and wastewater treatment works. She has also worked on a number of substitute consent applications for historic peat excavation and associated activities on behalf of Bord na Móna.

This addendum was reviewed by Ciara Nolan (Principal Air Quality Consultant) holds a BSc (Eng) in Energy Systems Engineering from University College Dublin and has also completed an MSc in Applied Environmental Science at UCD. She is a Member of the Institute of Air Quality Management (MIAQM) and the Institution of Environmental Sciences (MIEnvSc). Ciara has over 9 years of experience in the field of air quality consultancy. She has prepared the air quality and climate EIAR chapters for a range of developments including wind energy, industrial, pharmaceutical, data centre, residential and commercial.

A18.3 Methodology for Assessment of Impacts and Effects

This section provides an overview to the approach taken to establish the likely significant effects of the proposed development on the Existing Environment and Likely Future Receiving Environment.

A18.3.1 Existing Environment

The current status of the Existing Receiving Environment is peatland in a degraded condition. The area is under IPC Licence Ref. 0504-01 for the rehabilitation of the land, however, no targeted rehabilitation measures (such as drain blocking and re-wetting) listed in the Draft Cutaway Bog Decommissioning and Rehabilitation Plans (EIAR Chapter 7 – Biodiversity, Appendix 7-2a, 7-2b, 7-2c) have been implemented to date. Furthermore, the ongoing pumping regime and maintenance of active drainage channels has continued across the site and as such, the site is not currently in a state of 'rehabilitation'.

Further, the site is not in a state of peatland 'regeneration' as suggested by ACP (see Appendix A). Although some natural revegetation may have occurred, this is different to peat regeneration, which requires the re-establishment of peat forming processes, typically through the restoration of hydrological conditions. Peatland is unable to regenerate from degraded peatland in the absence of rehabilitation measures and return to its status as a carbon sink. Renou- Wilson et al. (2018) found areas of degraded bogs, such as this, will continue to act as sources of Greenhouse Gas (herein referred to as GHG) emissions until they are either rewetted, the peat is removed, or all the remaining peat has oxidised. Therefore, consideration must be given to the dewatered peat being a source of CO_2e (carbon dioxide equivalent). ACP request for an assessment of "*the carbon emissions benefits of allowing for the site to naturally regenerate as a biodiversity rich carbon sink in the absence of wind farm development*" (see Appendix A) is therefore deemed inaccurate. For the purpose of this addendum, the Existing Receiving Environment is therefore considered a carbon source. This scenario is also the Likely Future Receiving Environment prior to construction works given that no targeted rehabilitation works are due to commence at the site until the construction works have been complete.

The Existing Receiving Environment is degraded peatland. Renou-Wilson et al. (2018) studied a range of blanket and cutover raised bogs in Ireland in their assessment. Site-specific rates for CO_2 and CH_4 emissions were calculated based on studies at 4 no. Irish bogs. The study, over five

years, found that the drained bare peat sites were a net annual CO_2 source and resulted in an average emission factor of 1.2 t CO_2-C ha^{-1} yr^{-1}. In terms of CH_4 and N_2O, the net ecosystem exchange (NEE) (net CO_2 flux between land-atmosphere) was approximately neutral.

This emission factor will be used to calculate the total annual GHG emissions from the drained, degraded bog which is currently in situ at the proposed development.

A18.3.2 Establishing the Likely Future Receiving Environment

As bogland rehabilitation and completion of decommissioning has not yet taken place within the proposed Wind Farm site, the Likely Future Receiving Environment considered within this addendum refers to the anticipated receiving environment during the specific phases of the proposed development, as follows:

- The current intervening period between the submission of the planning application through to the granting of planning permission, if granted, currently anticipated to be approximately 2026–2030.
- Construction Phase is taken to commence approximately 5 years into the future, in. 2031, and continue for 2 years until 2033.
- Operational Phase is anticipated to commence in 2033 and continue for the 30-year operational lifespan of the proposed development, until approximately 2063. Targeted rehabilitation measures will be carried out immediately after the completion of the Construction Phase i.e. during the Operational Phase of the proposed development.
- Decommissioning Phase is anticipated to commence following the Operational Phase and continue for an undefined period of time.

The dates presented above are preliminary and illustrative only and are contingent upon planning permission being granted and the subsequent commencement of the proposed development. They do not represent fixed dates for the commencement or completion of any project phase. However, for the purposes of this assessment, it is assumed that targeted rehabilitation measures will commence following completion of construction activities within relevant areas of the site and will continue throughout the Operational Phase. Accordingly, the receiving environment is expected to evolve progressively over time, with carbon sink development occurring in tandem with the implementation of targeted rehabilitation measures.

A18.3.3 Construction Phase

The Likely Future Receiving Environment prior to construction reflects a scenario whereby no targeted rehabilitation has taken place, and therefore the site is still considered a carbon source. Additionally, no windfarm has been constructed i.e. it mirrors the Existing Environment Scenario set out in Section A18.3.1.

A18.3.4 Operational Phase

As set out in Section A18.1, the Likely Future Receiving Environment during the Operational Phase assumes rehabilitation actions concurrent with IPC Licence Ref. 0504-01 have been implemented. To calculate GHG emission reductions from this scenario, the International Union

for Conservation of Nature (IUCN) UK National Committee UK Peatland Programme 'Peatland Code Version 2.1' (2025) has been used.

The emissions figures used within the IUCN UK National Committee Emissions Calculator v2.1 calculation spreadsheet are based on *Aligning the Peatland Code with the UK peatland inventory* (Evans et. al, 2022 and 2023 update). As part of these calculations, the methodology applies a 5% reduction to the gross emissions reduction to ensure the model is conservative in its predictions and as an acknowledgement of any emissions that would arise as a result of restoration activities.

The calculator aligns with the IPCC Fifth Assessment Report (AR5) to determine the cumulative emissions reductions over a long-term period (30 years for the purpose of this assessment, in line with the anticipated lifespan of wind farm). The calculator requires the total area to be restored, the Pre-Rehabilitation condition which has been stated as "Drained: Artificial" and the Post- Rehabilitation Condition, which has been described as "Rewetted modified bog". In this instance 1,900 ha of peatbog sits within the red line boundary of the proposed development to be restored, however, 78 ha of the site will be disturbed during construction of the windfarm. This is made up from 38 ha which will be replanted during the Operational Phase, leaving 40 ha permanently disturbed. As the 78 ha is calculated as part of construction GHG emissions within the EIAR chapter, it is omitted from the calculations within the Peatland Code Calculator, to avoid double counting.

A18.4 GREENHOUSE GAS ASSESSMENT

A18.4.1 Existing Environment (Likely Future Receiving Environment prior to construction)

As set out in Table A18-1 below, 2,185 tCO_2e will be emitted annually by the 1,900 ha of degraded peatland which is currently in situ at the location of the proposed development using the GHG emissions factor calculated by Renou-Wilson et al. (2018).

Table A18-1 Annual GHG emissions released from area within red line boundary of the proposed development, under existing conditions

Existing Environment – Degraded Peatland		
Area drained bog	1,900	ha
CO_2 EF	1.2	t CO2/ha/yr
CO_2e from drained bog	**2,185**	**t CO2e/yr**

When contextualised against Ireland's existing 2025 baseline (55,163,780 tCO_2e) and 2026-2030 carbon budget (200 $MtCO_2e$), the negative impact of this carbon source is minor (0.004% and 0.001% respectively).

A18.4.2 Construction emissions

The methodology set out in EIAR Chapter 18- Climate for the calculation of GHG emissions arising from construction (including land use change and vegetation loss), turbine manufacture and traffic, using the Transport Infrastructure Ireland Online Tool (2026) remains unchanged

for the purpose of this addendum. Land use change and vegetation loss emissions are from the loss of carbon sequestration potential via the removal of peat across the 78 ha of peatland which will be disturbed during construction of the proposed development. It then accounts for the restoration/replanting of 38 ha of peatland, resulting in a net loss of 40 ha. The assessment does not consider the state of the 78 ha and assumes it to be natural, undisturbed peatland. This assumption may lead to a slight overestimation of GHG emissions however based on the minor contribution to the total GHG emissions of the proposed development, this methodology is considered appropriate.

Table 18.6 in EIAR Chapter 18- Climate indicates that the key sources of GHG emissions associated with the Construction Phase are from the loss of carbon sequestration area via Land Use Change and Vegetation Loss and from the excavation activities themselves, accounting for 63% and 20% of Construction Phase emissions, respectively. A total of 49,830 tCO_2e are associated with the Construction Phase of the proposed development.

A18.4.3 Operational emissions

The calculation of GHG reductions from displacing fossil fuel power generation with renewable wind power generation remains unchanged from EIAR Chapter 18- Climate. As set out in Section 18.4.2.2 of the EIAR, the proposed development will displace the energy generation of 132 MW fossil fuelled power station, with zero rated renewable electricity. This equates to a saving of 95,812 tCO_2e annually and 2,874,360 tCO_2e across the 30-year lifespan of the proposed development.

Annual GHG emission reductions from the rehabilitated peat bog (1822 ha) and the areas of disturbed (40 ha) and reinstated peat (38 ha), which are set out in the original EIAR (Land Use and Vegetation Loss, Table 18.6) result in carbon sequestration potential of 4,127 tCO_2e. This sequestration potential is in contrast to the emitting potential of the Existing Environment scenario set out in Section A18.4.1.

Once considered alongside GHG emissions from Construction, Operational and Decommissioning Phases, total annual GHG sequestration associated with the proposed development equates to 97,160 tCO_2e annually as demonstrated in Table A18-2 (carbon sequestration values are denoted as negative figures).

Table A18-2: Proposed development GHG emissions

Category	GHG Emissions-annualised (tonnes CO_2e)
Equivalent GHG Emissions /Annum from Power Plant Producing 132 GWh	(-95,812)
Total Energy Consumed During Disposal of Wind Turbines	2,167
Construction Phase GHG Emissions annualised over 30 years (excluding peat loss, see lines below)	612
Peatbog rehabilitated under IPC License (1900 ha)	(-4,154)
Peatbog re-instated following construction of proposed development (38 ha)	(-511)
Permanent area disturbed by proposed development (40ha)	538

Category	GHG Emissions-annualised (tonnes CO_2e)
Total / Annum (tonnes CO_2 Equivalent) Savings due to proposed development	**(-97,160)**

In Table A18-3, GHG emission reductions have been compared against the 2026-2030 carbon budget for Ireland, the sectoral budget for electricity and against Ireland's total GHG emissions in 2025. The estimated total GHG emission reductions annualised over the 30-year proposed development lifespan result in a positive contribution to Ireland's budgets and targets.

Table A18-3: Estimated GHG emissions relative to sectoral budgets and GHG baseline

Target/Sectoral Budget (tCO_2e)		Annualised Development GHG Emissions (tCO_2e)		% of Relevant Target/Budget
Ireland's 2025 Total GHG Emissions (existing baseline)	55,163,780	-97,160	Total GHG Emissions	-0.18%
2026-2030 carbon budget (200 $MtCO_2e$)	200,000,000			-0.05%
2030 Sectoral Budget (Electricity Sector)	3,000,000	-97,160	Total Electricity Emissions	-3.24%

A18.4.4 Do-Nothing Scenario

The do-nothing Scenario set out within the EIAR chapter remains unchanged as the rehabilitation of Derryadd, Derryaroge and Lough Bannow bogs will be implemented as part of the rehabilitation plans produced to address the requirements of Condition 10.2 of IPC License Ref. P0504-01. In this instance, the peatbog will become a carbon sink as set out in Section A18.4.3, however as set out in Section A18.5 below, the emission reductions from the sink are minimal compared to those created by renewable power generation from a wind farm in a scenario whereby the proposed development is commissioned.

Under the do-nothing scenario no construction works associated with the proposed development will take place and the identified climate impacts as a result of construction works will not occur. Emission savings from the Operational Phase of the proposed development will also not occur.

With respect to climate, the do-nothing scenario will not assist the CAP 2025 goal of delivering up to 80% of the national grid electricity by renewable sources by 2030. Producing up to 80% renewables for the grid will reduce emissions from electricity and will also allow electrification of other sectors such as transport and heat and reduce emissions in these sectors too.

A18.5 GHG Significance of Effects

A comprehensive assessment of the proposed development, including the likely significant effects on the Likely Future Receiving Environment for both the Construction and Operational Phases has re-confirmed that the proposed development would have a beneficial effect on climate. As set out in Section 18.4.2.3 of the EIAR Chapter 18- Climate, as well as reducing

annual GHG emissions, as the project is a windfarm development it directly aligns with Ireland's net zero trajectory by 2050 and the CAP25 goal of producing 80% renewable electricity.

In accordance with the EPA guidelines (EPA, 2022), the above significance during the Construction, Operational and Decommissioning Phases is **direct**, **long-term, positive** and **moderate**, which is overall **significant**.

A18.6 MITIGATION

All mitigation strategies outlined in Section 18.5 of the EIAR Chapter 18- Climate remain unchanged.

A18.7 RESIDUAL EFFECTS

As set out in Section 18.6 of the EIAR Chapter 18- Climate, the proposed development will result in the release of GHG emissions during the Construction Phase. However, the mitigation measures listed in Section 18.5 of the EIAR Chapter 18- Climate will reduce the impact. Further, the production of renewable electricity will offset the GHG emissions produced during the construction of the project within the first year of its operation. The proposed development will constitute up to 0.4 GWh annually of the CAP25 goal of producing up to 80% renewables for the grid and 9 GW of onshore wind capacity and will abate Ireland's greenhouse gas emissions by approximately 0.1 Mt CO_2e for every year of operation.

The residual effect of GHG emissions of the proposed development is therefore ***direct, long-term, positive*** and ***moderate***, which is overall ***significant***.

A18.8 CONCLUSION

This Addendum presents an evaluation of the likely significant effects of the proposed development on the Likely Future Receiving Environment pre-construction, during the Operational Phase and following completion of the Decommissioning Phase and implementation of the rehabilitation measures, as put forward in the the draft Cutaway Bog Decommissioning and Rehabilitation Plans (EIAR Chapter 7 – Biodiversity, Appendix 7-2a, 7-2b, 7-2c). The results show that 99% of the carbon reductions are attributed to renewable power generation and not the sequestration potential of the peat bog when acting as a carbon sink.

The residual effects assessment results in an overall beneficial residual effect on climate.

A18.9 REFERENCES

Environmental Protection Agency (EPA) (2022). Guidelines on the Information to be Contained in Environmental Impact Assessment Reports.

Evans, C., Artz, R., Moxley, J., Smyth, M-A., Taylor, E., Archer, N., Burden, A., Williamson, J., Donnelly, D., Thomson, A., Buys, G., Malcolm, H., Wilson, D. and Renou-Wilson, F. (2022). Aligning the Peatland Code with the UK peatland inventory.

Evans, C. et al. (2023). Aligning the Peatland Code with the UK peatland inventory: 2023 update.

Government of Ireland (2024). Climate Action Plan 2024.

Government of Ireland (2025). Climate Action Plan 2025.

International Union for Conservation of Nature (IUCN) UK National Committee UK Peatland Programme (2025). Peatland Carbon Calculator Version 2.1.

Renou-Wilson, F. Wilson, D., Rigney, C., Byrne, K., Farrell, C. and Muller, C. (2018). Network Monitoring Rewetted and Restored Peatlands/ Organic Soils for Climate and Biodiversity Benefits (NEROS).

A21. SCHEDULE OF MITIGATION MEASURES

A21.1 INTRODUCTION

Chapter 21 of the EIAR provides a summary of the findings of this EIAR, based on the design and mitigation measures identified within the technical assessments of the EIAR. This document constitutes and Addendum to chapter 21 (mitigation Measures). The schedule below details the additional measures upon which the findings of this Addendum EIAR have been based and are an integral part of the proposed development. The Addendum chapter should be read in conjunction with the original EIAR submitted.

During the Construction, Operational and Decommissioning Phases of the proposed development, all personnel working on the proposed development will be required to be responsible for the environmental control of their own work and to perform their duties in accordance with the requirements and procedures of the CEMP (See Appendix 3-2). The CEMP has been amended to include the additional mitigation as presented in this Addendum EIAR.

All works associated with the construction of the proposed development will be undertaken with due regard to the guidance contained within CIRIA Document C741 'Environmental Good Practice on Site' (CIRIA, 2015).

A21.2 SCHEDULE OF EIAR MITIGATION MEASURES

The following table provides a summary of the mitigation measures proposed within this Addendum EIAR, in addition to the mitigation measures already set out in the Chapter 21 of the Original EIAR.

Table A21-1 Table of Mitigation Measures

Ref No.	Related to	Location	Mitigation Measure
			Biodiversity
MM74	Pre-construction habitat and biodiversity verification survey	Revised NIS	• A suitably qualified ecologist shall undertake a pre-construction ecological survey of the proposed wind farm site and associated construction areas no more than 12 months prior to commencement of construction. • The survey shall verify the extent, distribution and condition of habitats present and identify any material changes relative to the baseline surveys used to inform the NIS. • Particular regard shall be had to habitats and ecological features relevant to European sites, protected species, invasive species and Key Avian Receptors. • The findings shall be used to update and refine the Construction Environmental Management Plan (CEMP), including the location of exclusion zones, sensitive habitat buffers, biosecurity measures, pollution prevention measures and ecological monitoring requirements. Should any material ecological changes be identified, the appointed ECoW shall review the proposed mitigation measures and recommend any additional measures necessary to ensure the conclusions of the NIS remain valid.
MM75	Pre-construction European Otter surveys	Addendum EIAR Chapter 7 - Biodiversity	A pre-construction confirmatory European otter survey will be undertaken no more than 10—12 months in advance of the construction works, following best practice guidelines as listed in *Guidelines for the Treatment of European otters prior to the Construction of National Roads Schemes* (NRA, 2008b). Surveys will be carried out during the winter months when vegetation is less dense making identification of European otter holts and couches easier (NRA, 2008b). Surveys will take place in suitable habitat along the riverbanks, streams, drainage ditches and wetland mosaic habitats within 150m of proposed development infrastructure. In the event that a holt is identified during pre-construction confirmatory surveys within 150m of the works corridor, mitigation measures for European otter will be carried out as outlined in Addendum Chapter 7 Biodiversity.
MM76	Pre-construction Whorl Snail and Marsh Fritillary surveys	Addendum EIAR Chapter 7 - Biodiversity	Pre-construction confirmatory surveys will be undertaken in the months immediately prior to the Construction Phase to confirm the presence and distribution of Whorl Snail and Marsh Fritillary within the Likely Future Receiving Environment and to identify any areas supporting these species within the footprint of the proposed development. The surveys will be undertaken at an appropriate time of year and under the supervision of the Ecological Clerk of Works (ECoW).

TOBIN

Addendum to Construction Environmental Management Plan (CEMP)

Derryadd Wind Farm Application

BnM

BUILT ON KNOWLEDGE

Table of Contents

1. Introduction 2

1.1 Mitigation Proposals 2

1. INTRODUCTION

This Addendum to the Construction Environmental Management Plan (CEMP) has been prepared to present the proposed management and administration of site activities for the Construction Phase of the proposed development, to ensure that all construction activities are undertaken in an environmentally responsible manner. This Addendum to the CEMP summarises the environmental commitments related to the construction of the proposed development, and the measures to ensure compliance with legislation and the requirements of statutory bodies, all as detailed in the Addendum EIAR and Revised AASR - NIS.

This CEMP will be a live document and will be reviewed and updated, as necessary. Upon appointment, the main Contractor for construction of the proposed development will update this document to produce an updated version of the CEMP (i.e., the appointed main Contractor's CEMP) which will account for any additional requirements set out in Planning Conditions.

This Addendum to the CEMP (Appendix 3-2 of the EIAR) is intended to be read in conjunction with the original CEMP.

1.1 MITIGATION PROPOSALS

All mitigation measures relating to the pre-construction and construction phases of the proposed development were set out in the various sections of the EIAR, and NIS prepared as part of the planning application.

This section of the Addendum CEMP groups together all of the mitigation measures presented in the Addendum EIAR and Updated AASR - NIS respectively. The Mitigation Measures are outlined in the table 5.1 of the CEMP and additional measures are items in Table A5.1 in the following pages.

By presenting the mitigation proposals in this format, it is intended to provide a review list that can be easily checked and reported on during the future phases of the proposed development. The use of a table to present the information be further expanded upon over the course of the proposed development to provide a template for use during site compliance audit.

Table A5-1 Table of Mitigation Measures

Ref No.	Related to	Location	Mitigation Measure
			Biodiversity
MM74	Pre-construction habitat and biodiversity verification survey	Revised NIS	• A suitably qualified ecologist shall undertake a pre-construction ecological survey of the proposed wind farm site and associated construction areas no more than 12 months prior to commencement of construction. • The survey shall verify the extent, distribution and condition of habitats present and identify any material changes relative to the baseline surveys used to inform the NIS. • Particular regard shall be had to habitats and ecological features relevant to European sites, protected species, invasive species and Key Avian Receptors. • The findings shall be used to update and refine the Construction Environmental Management Plan (CEMP), including the location of exclusion zones, sensitive habitat buffers, biosecurity measures, pollution prevention measures and ecological monitoring requirements. Should any material ecological changes be identified, the appointed ECoW shall review the proposed mitigation measures and recommend any additional measures necessary to ensure the conclusions of the NIS remain valid.
MM75	Pre-construction European Otter surveys	Addendum EIAR Chapter 7 - Biodiversity	A pre-construction confirmatory European otter survey will be undertaken no more than 10—12 months in advance of the construction works, following best practice guidelines as listed in *Guidelines for the Treatment of European otters prior to the Construction of National Roads Schemes* (NRA, 2008b). Surveys will be carried out during the winter months when vegetation is less dense making identification of European otter holts and couches easier (NRA, 2008b). Surveys will take place in suitable habitat along the riverbanks, streams, drainage ditches and wetland mosaic habitats within 150m of proposed development infrastructure. In the event that a holt is identified during pre-construction confirmatory surveys within 150m of the works corridor, mitigation measures for European otter will be carried out as outlined in Addendum Chapter 7 Biodiversity.
MM76	Pre-construction Whorl Snail and Marsh Fritillary surveys	Addendum EIAR Chapter 7 - Biodiversity	Pre-construction confirmatory surveys will be undertaken in the months immediately prior to the Construction Phase to confirm the presence and distribution of Whorl Snail and Marsh Fritillary within the Likely Future Receiving Environment and to identify any areas supporting these species within the footprint of the proposed development. The surveys will be undertaken at an appropriate time of year and under the supervision of the Ecological Clerk of Works (ECoW).



www.tobin.ie