



APPENDIX 6-5

**BIODIVERSITY MANAGEMENT
ENHANCEMENT PLAN (BMEP)**

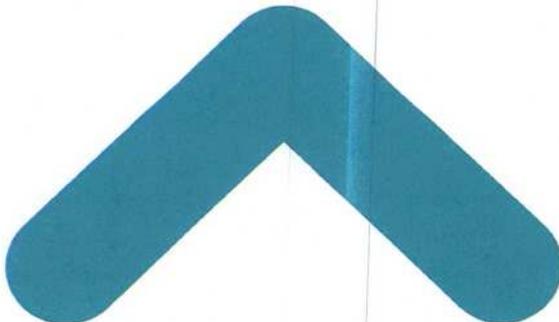
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Biodiversity Management and Enhancement Plan

Curraglass Wind Farm, Co.
Cork



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1. INTRODUCTION

1.1 Background

This Biodiversity Management and Enhancement Plan (BMEP) has been prepared by MKO in support of the Environmental Impact Assessment Report (EIAR) produced to accompany a planning application for the Proposed Development.

This BMEP has been prepared to outline the proposed biodiversity enhancement measures associated with the Proposed Development. This BMEP also outlines how the Proposed Development has been designed to offset any loss of habitat or loss of faunal supporting habitat.

1.2 Objectives of the BMEP

The objectives of this BMEP are as follows:

- To provide biodiversity enhancement within the Site, by managing areas specifically for Kerry slug, heath habitats and woodland.
- To provide additional foraging areas and nesting opportunities for pollinator species, nesting birds, small mammals etc.
- To provide a management and monitoring plan to ensure the success of the proposed measures.
- To offset the minor losses of ecological important habitats required for the construction of the Proposed Development by creating new peatland habitat in place of forestry and planting new linear riparian woodland, ensuring an overall net gain of important habitats.

Full details on the current ecological baseline of the Site are provided in Section 6.5 of Chapter 6 (Biodiversity) of the EIAR.

1.3 Statement of Authority

This report has been prepared by Pádraig Desmond and reviewed by Corey Cannon.

Pádraig is a Project Ecologist with MKO with five years post graduate ecological experience, four years of which have been in ecological consultancy. Pádraig holds a BSc (Hons) in Ecology and Environmental Biology from University College Cork. Pádraig took up his position with MKO in December 2021, prior to which he worked as a Junior Ecologist with Envirico. Through these consultancy roles Pádraig has gained excellent experience in producing ecological reports such as Natura Impact Statements, Ecological Impact Assessments, Biodiversity chapters, Invasive Species Management Plans, and Constraints Reports for a wide range of projects including small private developments to housing developments and renewable energy projects such as solar and wind farms. Prior to the above roles, Pádraig worked as a field ecologist for the Department of Conservation in New Zealand, where he developed a strong field-based skill set. Pádraig's key strengths and areas of expertise are in terrestrial ecology, including vegetation surveys, habitat identification, invasive species surveys, mammal surveys, Appropriate Assessment and Ecological Impact Assessment. Pádraig is also skilled in GIS.

Corey is Project Director (Ecology) with MKO. She is a Chartered Ecologist (CEcol) and full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) with over 12 years' professional experience. Corey holds a BSc in Zoology from Queen Mary University of London and an MSc in Biodiversity Survey from the University of Sussex. Prior to taking up her position with MKO in October 2023, Corey worked as a Principal Ecologist with Jacobs (Dublin office) for over 8 years and held previous posts with LUC and The Ecology Consultancy in London. Corey has strong generalist

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ecology field skills in terrestrial and riparian environments (with a particular interest in botany and bat ecology) and through her experience can demonstrate undertaking a range of ecological surveys including habitat, invasive and protected species survey, delivering initial site appraisals and identification of ecological constraints. Key areas of expertise include Ecological Impact Assessments (EcIA), Preliminary Ecological Appraisals (PEAs) and Appropriate Assessment (AA). She has undertaken ecological assessments and surveys on a variety of project types (e.g. road and rail schemes, waste, water and housing) involving survey, mitigation and enhancement. Within MKO Corey is responsible for overall management of the general ecology team alongside Sarah Mullen, providing technical input on all ecological aspects of our projects from inception through to planning. Outside of her professional role Corey is involved with voluntary initiatives. She helped reform the Dublin Bat Group in 2018. She is also a committee member to CIEEM's Ireland Members Network.

The baseline ecological surveys including bat habitat assessment and activity surveys were conducted by MKO ecologists; Sara Fissolo (BSc), Stephanie Corkery (BSc, MSc), Pádraig Desmond (BSc), and Molly O' Hare. All surveyors have relevant academic qualifications and are competent in undertaking the habitat and ecological assessments.

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2.

BIODIVERSITY ENHANCEMENT MEASURES

2.1

Overview

A total of five areas within the Site have been selected for biodiversity enhancement measures as part of the Proposed Development and to enhance the Site for species and habitats known to occur within the Site. An overview map of the proposed biodiversity enhancement areas is shown in Figure 2 below.

➤ **Kerry slug enhancement areas**

The necessary bat felling buffers for the Proposed Development, as shown in Figure 2, will be managed to enhance Kerry slug habitat, as this species is known to occur within the Site. Enhancement will include the felling of existing conifer plantations within the 3 no. felling buffers and leaving the stumps in place, as these provide refuge for this species. These areas combined amount to approx. 5.75 ha, accounting for the below overlap with the peatland enhancement area.

➤ **Peatland enhancement/creation**

As shown in Figure 2, an area of forestry within the Proposed Development will be felled and managed into heath habitats. This will be created using peat from the construction of the Proposed Development and spread in the felled area to create heath habitat. The creation of this heath habitat will have an added benefit of creating more suitable habitat for Kerry slug. This enhancement area amounts to approx. 2 ha.

➤ **Riparian woodland planting and linear connectivity**

It is proposed to plant a strip of riparian woodland either side of a mapped watercourse, as shown in Figure 2. This section of the watercourse is approx. 350m long. Planting will occur 10m either side of the watercourse, in an area of wet grassland and gorse scrub. This measure will create a linear feature for commuting and foraging fauna, including bats, badger and other protected fauna, within the Site. Total length of this proposed linear feature is approx. 700m or 0.7 ha in area.

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Map Legend

- EIAR Site Boundary
- Riparian Woodland Planting
- Peatland Enhancement
- Kerry slug enhancement areas

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Drawing Title	Biodiversity enhancement Curraglass		
Project Title	Curraglass WF		
Drawn by	PD	Checked by	CC
Project No.	240614	Drawing No.	Figure 1
Scale	1:21,500	Date	2025-08-15

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2.2

Kerry Slug Habitat Enhancement

A derogation licence application has been requested from the Department of Housing, Local Government, and Heritage for the disturbance of Kerry slug, which are known to occur within the Site. This licence (DER-KERRY SLUG-2025-06) was issued on the 29/10/2025 and is included in **Appendix 6-7** of the EIAR. In support of this application, a derogation licence report was prepared, which provides methodologies for translocation of specimens from the working area into adjacent suitable habitats. This report also puts forward habitat enhancement and monitoring measures for this species, which will be implemented as part of the Proposed Development. This report is included as **Appendix 6-6** of the EIAR.

The proposed Kerry slug enhancement measures, as indicated in Figure 1, are detailed in the accompanying derogation licence application report in **Appendix 6-6**. The measures include the following:

- Tree stumps resulting from the felling of forestry will be left in situ to decay to provide suitable habitat for Kerry slug.
- Rock outcrops, boulders and stonewalls will be retained where possible or, if removal can't be avoided, they will be replaced to enhance the value of the habitat surrounding the windfarm infrastructure.
- Monitoring programme

These measures are proposed within the bat felling buffers around the proposed turbines. Within these buffers, a total of 5.75 ha of conifer plantation will be felled and managed as per above. In addition, the proposed peatland enhancement areas, as discussed below in Section 2.3 and indicated in Figure 1, will further result in higher quality habitat for Kerry slug, amounting to approx. 2 ha. Note, whilst there is overlap between these enhancement areas, the areas provided above have considered this and are double counted.

Considering both the felling of forestry for bat buffers and the establishment of Peatland, a total of 5.75 ha of the Site will be enhanced for Kerry slug.

2.3

Peatland Habitat Enhancement

As part of this BMEP, it is proposed to establish 2 ha of peat habitat to ensure that the development results in a net gain of peat habitat. The location of the proposed Peatland enhancement area is shown in Figure 1. The selected area for enhancement does not have significant slope and has been confirmed as a viable area for such enhancement. A cross section of Peatland enhancement is shown in Figure 2 of this appendix.

To facilitate the Proposed Development, there will be a requirement to remove approx. 0.9 ha of wet heath habitat. This habitat is highly degraded due to existing drainage and grazing pressures within the Site. The measures below, while providing a net gain of heath habitat within the Site, will also offset the above loss associated with the Proposed Development.

The following steps will be undertaken, under the supervision of an ecological clerk of works, to establish this habitat:

- **Step 1.** Conifer trees within the area proposed for peatland enhancement, as per Figure 1, will be felled, cutting the stumps as low as possible. Any existing forestry drains within this area will be blocked using excavated peat sods and/or the felled trees.
- **Step 2.** Where excavations are required outside of existing heath habitat, the top 50 cm of peat will be used to cover the stumps within the enhancement area. This will ensure a seed bank of local provenance will be used in the enhancement area. Peat probes of the enhancement area have confirmed sufficient peat depth for heath habitats to establish.

- **Step 3.** Where existing heath habitat is proposed to be lost within the Site, the vegetation layer along with the top c.50 cm of peat will be removed and kept intact. This will then be placed vegetation layer up, where possible, within the peat enhancement area, covering the tree stumps. Translocation to the enhancement areas will be done so as soon as is feasible, to ensure the turves do not dry out.
- **Step 4.** This area will then be fenced off to reduce grazing pressure from deer which are known to be present in the area.

In addition to the above, this area will be managed for invasives species, particularly Rhododendron and self-seeding conifer trees, for the operational life of the Proposed Development. There will also be some level of grazing management required, to ensure *Juncus* species and purple moor grass do not become dominant. Grazing should be low intensity and undertaken once a year in summer using light stock such as sheep to prevent peat erosion. As sheep will graze early purple moor grass growth only, and not the d mature tussocks, grazing should be undertaken in early summer to manage the growth of this species within the target area.

Note: There is overlap between proposed Kerry slug enhancement and Peatland restoration areas. As Peatland will also provide enhanced supporting habitat for Kerry slug, Peatland enhancement will take precedence of the measures detailed in Section 2.2.

2.4 Riparian Planting and Linear Connectivity

The Site is dominated by conifer forestry, which in due course, will be felled for lumber. Forestry edges currently provide linear foraging and commuting corridors for protected species such as bats. Whilst areas of this forestry are delineated by a narrow treeline of alder, once the forestry is felled (outside of this planning application), there will be a significant reduction in foraging/commuting corridors.

In an effort to create a permanent corridor from the Site to the wider environment, it is proposed to plant approx. 350m of riparian woodland either side of a section of the Lackavane river in the southwestern corner of the Site, as shown in Figure 1. This will amount to approx. 0.7 ha in area, with a total of approx. 700m of linear habitat. This area has been selected as, once established, it will create a permanent corridor for protected fauna from the Site to lands to the west and south. It will also connect into the existing semi-mature alder treelines, currently delineating existing forestry within the Site. A cross section of Riparian planting is shown in Figure 3 of this Appendix.

The existing habitats along this section of the watercourse are *Juncus* dominated wet grasslands, dense bracken and gorse scrub.

Tree Planting

Given the upland and exposed nature of the Site, it is important to select the correct trees for this enhancement measure. Native trees to the Irish upland landscape and typical of riparian woodland will be used to create this riparian woodland.

Table 2-1 provides a list of the trees to be planted, with the planting size and percentage of planting mix.

Table 2-1 Schedule of trees to be planted.

Species	Size	% of plants in mix
Pedunculate Oak (<i>Quercus robur</i>)	Bare root (2-3ft)	10%
Rowan (<i>Corylus avellana</i>)	Bare root (2-3ft)	10%
Hawthorn (<i>Crataegus monogyna</i>)	Bare root (2-3ft)	10%



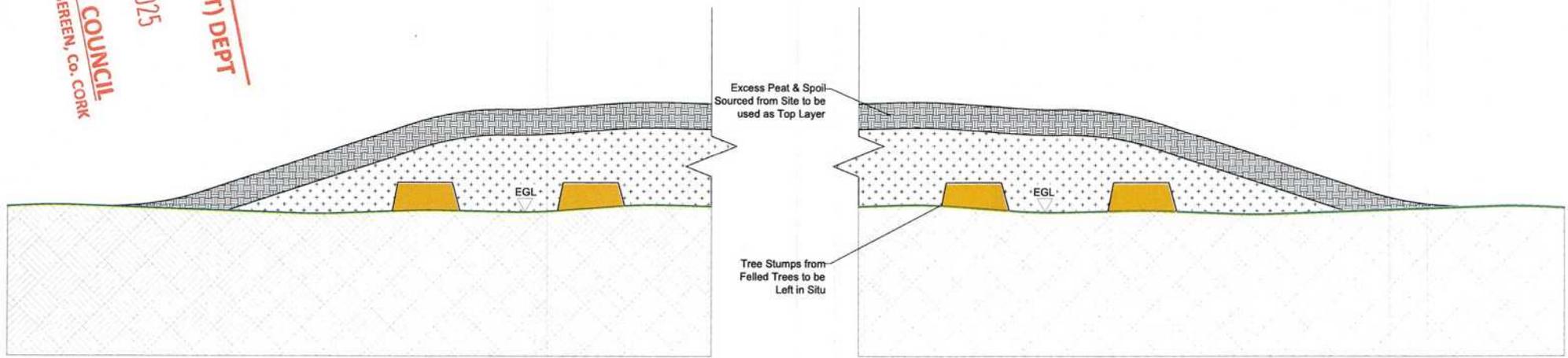
Holly (<i>Ilex aquifolium</i>),	Bare root (2-3ft)	20%
willows (<i>Salix spp.</i>)	Bare root (2-3ft)	25%
Alder (<i>Alnus glutinosa</i>)	Bare root (2-3ft)	20%
Scots Pine (<i>Pinus sylvestris</i>)	Bare root (2-3ft)	5%

The following measures will be followed when planting trees and have been informed by ACRES (2024) guidance:

- > All planting will be done by hand and will be undertaken by a suitably qualified arborist.
- > Planting will be undertaken in the dormant season, between November and March.
- > When planting trees, tree planting density should be kept sufficiently low to allow establishment of ground story vegetation. Planting small groups of 10 trees with 2.5m spacing between the trees, and 10m spacing between the groups, is recommended.
- > Trees will be pit planted, in areas of clear vegetation. This involves using a spade to dig a hole with trees roots placed in the centre. Soil is then placed around the tree and firmed in, ensuring the tree is upright.
- > It is recommended that there are 2.5m spacings between trees. Shelterbelt planting may be applied by planting up to two lines of trees as a staggered row.
- > Trees should be planted within a vegetation-free area, at least 1m in diameter.
- > Mark out the area for planting so it is clear exactly where planting will be established.
- > Use thin stakes or sticks to mark the rows or areas of trees to be planted.
- > Rabbit, hare, and deer proof tree guards will be placed around each new tree.

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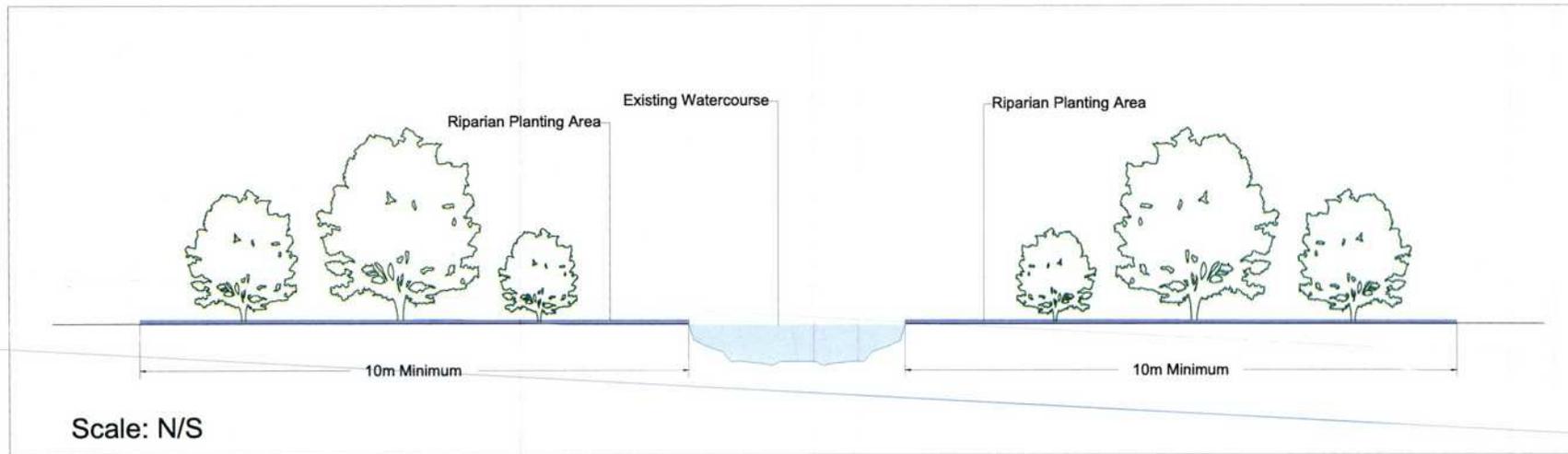
Peatland Enhancement
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Riparian Planting Area



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2.5

Invasive species

Two species listed under the First Schedule of the European Union (Invasive Alien Species) Regulations 2024 (S.I. 374 of 2024) and the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) were recorded during the surveys undertaken.

Three small stands of Rhododendron (*Rhododendron ponticum*) were recorded within the construction footprint within the Site, while several stands of Japanese knotweed (*Reynoutria japonica*) were recorded along the proposed Turbine Delivery Route (TDR), where accommodation works are required.

Full details of these findings are provided the Invasive Species Management Plan (ISMP) in **Appendix 6-3** of the EIAR, as well as the proposed management measures to be implemented as part of the development. The implementation of the proposed ISMP will remove the threats posed on native habitats within the Site, as a result of the impacts on invasive species. While this is included as a separate Appendix, this is also considered a biodiversity enhancement.

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3. MONITORING

A site-specific monitoring and evaluation programme is necessary to ensure that the success of the proposed measures remains long-term. It will also assist in situations where the habitat establishment may not have been successful by providing evidence of shortcomings, allowing a revised management plan to be formulated.

Monitoring results will be reported by the Project Ecologist within an Annual Environmental Report. Reports detailing the monitoring works carried out, the results obtained and a review of their success, along with any suggestions for amendments to the plan will be prepared. The BMEP will be updated and amended where required to improve the efficacy of the enhancement measures.

Table 4-1 Monitoring

Feature	Frequency	Measure
Kerry slug enhancement	Annually, 3 years post year 1 construction	<ul style="list-style-type: none"> Surveys will be carried in the enhancement areas by suitably qualified professionals, under licence. They will follow Mc Donnell & Gormally (2011) and involve both hand searching and metric refuge trapping and will be carried out in the same locations and roughly around the same time every year to allow a comparison between years. If monitoring demonstrates that the enhancement measures are unsuccessful, the measures will be reviewed, and additional methods will be explored.
Peatland enhancement	<p>To confirm that the proposed habitat creation and enhancement has been successful, these habitats will be monitored by a qualified ecologist at the following intervals:</p> <ul style="list-style-type: none"> 6 Months, 1 Year, 2 Years, 3 Years, 4 Years, 5 Years. 	<ul style="list-style-type: none"> Three 4x4m monitoring plots will be established within the enhancement target area post construction. Each year detailed botanical assessments (relevés) will be undertaken in these plots to assess the enhancement success. Recommendations for ongoing or remedial management required will be specified within the annual Environmental and Ecological Report.
Riparian planting and linear connectivity	<p>At the end of the 5-year monitoring plan as outlined above, the Project Ecologist will assess the need for and frequency of further monitoring of the target habitats in agreement with the wind farm operator.</p>	<ul style="list-style-type: none"> The entire enhancement area will be walked/surveyed to ensure all planted trees are healthy. Should dead/dying trees be identified, additional planting will be required to fill any gaps.

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4. **CONCLUSION**

This BMEP sets out the measures to be implemented to ensure that the Proposed Development will result in a net gain in biodiversity. Specifically, proposed peatland restoration will result in a net gain of wet heath habitat, while also offsetting the minor losses of degraded wet heath to facilitate the Proposed Development. The provision of a riparian buffer in this BMEP will ensure that there will be a net gain in both linear foraging habitat and woodland within the Site. Finally, establishment of both wet heath and woodland within the Site, along with enhancement measures within the proposed bat felling buffers, will result in habitats of higher suitability for Kerry slug within the Site.

This Plan has set out measures to be implemented during establishment and management phases to ensure that the targets of this plan are successful. It also provides for monitoring of the target habitats by an ecologist to ensure the success of the measures outlined in the BMEP.

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