

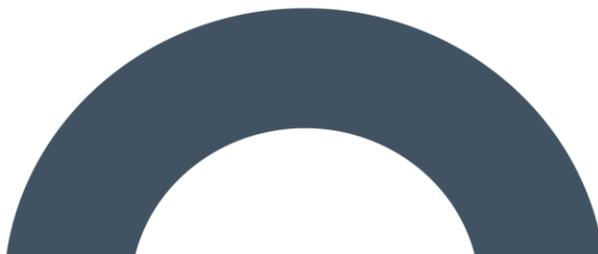


APPENDIX 6-5

**Habitat Management and
Enhancement Plan**

Habitat Management and Enhancement Plan

Proposed Ballivor Wind Farm





DOCUMENT DETAILS

Client: **Bord na Móna**

Project Title: **Proposed Ballivor Wind Farm**

Project Number: **191137**

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1. INTRODUCTION

1.1 Background

This Habitat Management and Enhancement Plan (HMEP) has been prepared in support of the Environmental Impact Assessment Report (EIAR) produced for the proposed Ballivor Wind Farm in counties Meath and Westmeath.

The plan has been prepared as part of the Proposed Development to enhance the ecological condition of peatland habitat within the application site. In addition to peatland enhancement, this plan also includes for planting of native woodland and grassland habitat within the Wind Farm Site.

The footprint of the Proposed Development has been designed to avoid the most sensitive peatland habitats within the Application Site, particularly the larger areas of uncut remnant raised bog. While the vast majority of the turbine infrastructure has been located on degraded cutover bog habitats, approximately 1.03ha of uncut but highly degraded raised bog (PB1) will be lost to facilitate the Proposed Development. This represents approximately 0.3% of the overall area of this habitat within the Proposed Development Site. The small areas of remnant raised bog within the Proposed Development footprint are highly modified and degraded from their natural state, either previously subject to intensive drainage and/or fire damage, or very small and isolated in nature, surrounded by extensive cutover habitat and drainage. These bog remnants do not conform to Annex I 'Active raised bog' (7110) given their highly degraded nature, low *Sphagnum* cover, and absence of the complex hummock and hollow microtopography typical of active raised bog. The 1.03ha of uncut raised bog within the Proposed Development footprint is made up of small marginal sections of the habitat, located within six separate fragments of highly degraded bog. They are in general of a very small size and are drained on all sides, having no potential for re-wetting and restoration.

While no significant effects on the habitat are anticipated due to the loss of 0.3% of the overall habitat within the site, it is proposed to include peatland restoration measures within this plan to compensate for the small areas of degraded raised bog to be lost. The main target of restoration measures will be to maintain water-levels close to the peat surface, and to avoid the creation of large-water bodies.

The Proposed Development will also result in the loss of small areas of birch dominated bog woodland (1ha approx.) at various areas throughout the site to facilitate the proposed infrastructure as well as a small area of hazel, birch and ash dominated oak-ash-hazel woodland (0.28ha approx.) on a mineral island at Carranstown Bog to facilitate a new borrowpit. None of these woodland habitats correspond to any habitat listed on Annex I of the European Habitats Directive. The birch dominated bog woodland within the site is generally dry underfoot with little to no *Sphagnum* cover and does not correspond to the Annex I habitat Bog woodland (91D0) (Cross and Lynn, Results of a monitoring survey of bog woodland 2013).

In addition to the above, in accordance with NatureScot Guidance, a minimum 50m buffer to all habitat features used by bats should be applied to the siting of all wind turbines. Therefore an additional 1.5ha of dry bog woodland are proposed to be felled in order to maintain the recommended buffers.

The area of approximately 2.78ha of woodland represents a small fraction (2.2%) of the overall extent of woodland habitat within the site and the loss of this habitat is not significant at any geographical scale. Furthermore, Draft Cutaway Bog Decommissioning and Rehabilitation Plans have been prepared by Bord na Móna for each of the 5 no. bogs within the Ballivor Bog Group, including those within which the proposed wind farm infrastructure is located i.e. Ballivor Bog, Bracklin Bog, Carranstown Bog and Lisclogher East, to satisfy Condition 10 of its EPA licence P0501-01. The aim of the rehabilitation plans is to stabilise and rehabilitate the peatland habitats within the site and it is proposed that natural recolonisation will form the basis for the environmental stabilisation of these areas. Under this approach,

it is anticipated that considerable areas of the site will re-vegetate with birch-dominated scrub and woodland over time as they have done in the past in areas where peat cutting has ceased for some time.

The tree felling activities required as part of the Proposed Development will be the subject of a Felling Licence application to the Forest Service, under Section 17 of the Forestry Act 2017 and as per the Forest Service's policy on felling licenses. The policy requires that the area to be felled is identified, as well as proposing replanting areas and identifying the proposed new land-use of the site. In line with the Forest Service's published policy on granting felling licences, areas cleared of forestry will have to be replaced by replanting an area of equivalent size at an alternative site.

In order to meet the replanting requirements of the felling licence an area of predominantly bare peat (approximately 6.5ha in size) at the western extent of Carranstown Bog, to the south of the proposed Wind Farm substation infrastructure has been identified for planting with native birch and willow woodland in order to compensate for the loss of bog woodland. In addition, it is proposed to plant an area of native woodland (approx. 1.5ha) on a small gravel mound at Bracklin Bog in order to compensate for the loss of the small area (0.28ha) of oak-ash-hazel woodland located on a mineral island in Carranstown Bog. With time, the proposed planting will result in an overall increase of oak-ash-hazel woodland on the site.

The areas identified for peatland enhancement and management and woodland planting are shown in Figure 1.1a and 1.1b. The proposed enhancement measures are described below.

Following the implementation of the measures outlined in this report, it is anticipated that there will be an improvement in the quality of an area (approximately 12ha in size) of restored peatland habitat on the northern boundary of Bracklin Bog. This Biodiversity Management and Enhancement Plan describes the measures that will be employed to improve the ecological condition of the peatland habitats that are located outside the construction footprint of the Proposed Development but within the Wind Farm Site boundary.

The bog enhancement programme described in this report will be implemented in accordance with the published guidelines and best practice including Scottish Natural Heritage (SNH)'s guidance note Planning for development: What to consider and include in Habitat Management Plans (Version 2, 2016) and the National Parks and Wildlife Service's (NPWS) publication 'Best practice in raised bog restoration in Ireland' (2017, Irish Wildlife Manuals No. 99).

1.1.1 Statement of Authority

This report has been prepared by Sarah Mullen (B.Sc., M.Sc. PhD. ACIEEM) and reviewed by Pat Roberts (B.Sc. (Env.)).

Sarah is a Project Ecologist with MKO with over 6 years of experience in ecological consultancy. Sarah holds a B.Sc. (Hons) in Botany, an M.Sc. in Biodiversity and Conservation and a Ph.D. in Botany, in which she investigated the role of biodiversity in the functioning of plant-pollinator interactions in semi-natural grassland habitats. Sarah has experience in multidisciplinary ecological surveys, ecological impact assessment and appropriate assessment. Sarah has been responsible for the management and undertaking of flora, fauna and habitat surveys for a range of projects including energy infrastructure and public and private residential developments and for the preparation of Ecological Impact Assessments, Stage 1 and Stage 2 Appropriate Assessment reports and Biodiversity/Habitat Management Plans. Sarah's key strengths and areas of expertise are in terrestrial flora and fauna ecology, including vegetation surveys, habitat mapping, invasive species surveys, mammal surveys, Appropriate Assessment and Ecological Impact Assessment. She holds membership with the Chartered Institute of Ecology and Environmental Management.

Pat Roberts is a Senior Ecologist and director of the Ecology team with McCarthy O'Sullivan Ltd. with over 16 years post graduate experience of providing ecological services in relation to a wide range of developments at the planning, construction and monitoring stages. Pat holds B.Sc.(Hons) in

industrial and civil engineering projects. He is highly experienced in the completion of ecological baseline surveys and impact assessment at the planning stage. He has worked closely with construction personnel at the set-up stage of numerous construction sites to implement and monitor any prescribed best practice measures. He has designed numerous Environmental Operating Plans and prepared many environmental method statements in close conjunction with project teams and contractors. He has worked extensively on the identification, control and management of invasive species on numerous construction sites. Prior to taking up his position with MKO in June 2005, Pat worked in Ireland, USA and UK as a Tree Surgeon and as a nature conservation warden with the National Trust (UK) and the US National Park Service. Pats key strengths include his depth of knowledge and experience of a wide range of ecological and biodiversity topics and also in his ability to understand the requirements of the client in a wide range of situations. He currently manages the ecological team within MKO and ensures that the outputs from that team are of a very high standard and meet the requirements of the clients and relevant legislation and guidelines. He is a full member of the Chartered Institute of Ecologists and Environmental Managers (CIEEM).



- ### Map Legend
- Wind Farm Site Boundary
 - Proposed Peatland Enhancement Area
 - Proposed Oak-ash-hazel planting
 - Proposed Internal Roads
 - Proposed Turbine locations
 - Proposed Turbine Hardstands
 - Proposed Construction Compound



Drawing Title

Proposed Habitat Enhancement Areas

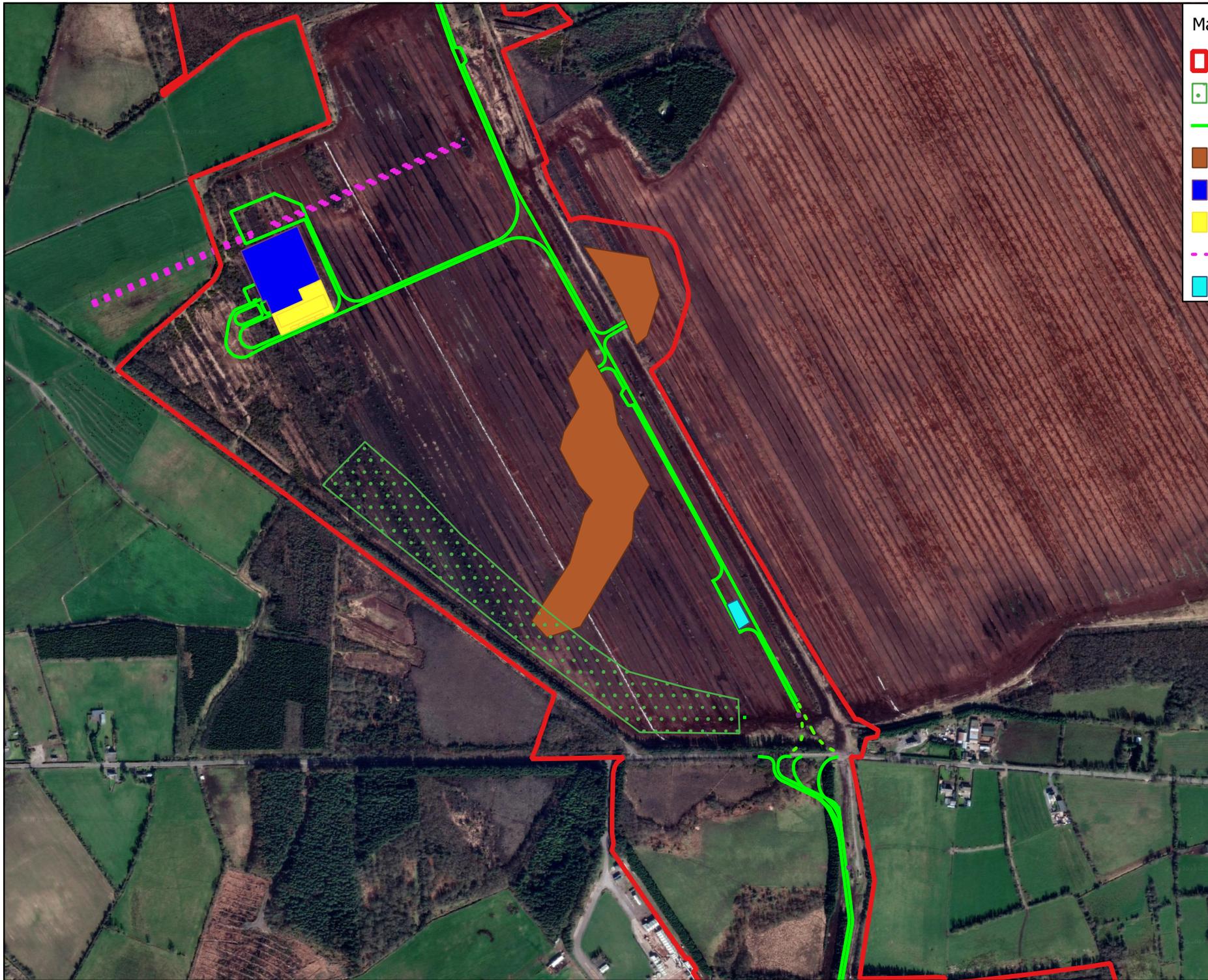
Project Title

Proposed Ballivor Wind Farm

Drawn By SM	Checked By PR
Project No. 191137	Drawing No. Figure 1-1a
Scale 1:12801	Date 22.03.2023



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Map Legend

- Wind Farm Site Boundary
- Proposed Native Woodland Planting
- Proposed Internal Roads
- Proposed Borrow Pits
- Proposed Substation
- Proposed Compounds
- Proposed Grid Connection
- Proposed Amenity Carpark

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Drawing Title
Proposed Habitat Enhancement Areas

Project Title
Proposed Ballivor Wind Farm

Drawn By SM	Checked By PR
Project No. 191137	Drawing No. Figure 1-1b
Scale 1:8534	Date 22.03.2023

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2. BIODIVERSITY MEASURES

2.1 Peatland Habitat Enhancement

A Draft Cutaway Bog Decommissioning and Rehabilitation Plan has been prepared for each of the 5 no. bogs within the Ballivor Bog Group, including those within which the proposed wind farm infrastructure is located i.e. Ballivor Bog, Bracklin Bog, Carranstown Bog and Lisclogher East, to satisfy Condition 10 of its EPA licence P0501-01. The aim of the rehabilitation plans is to stabilise and rehabilitate the peatland habitats within the site and it is proposed that natural recolonisation will form the basis for the environmental stabilisation of these areas. This Habitat Management and Enhancement Plan includes for additional peatland enhancement measures to those included within the Rehabilitation Plans, including re-wetting through drain blocking, to aid in the restoration/enhancement of peatland habitat within the site.

The area identified for peatland enhancement is located at the northern extent of Bracklin Bog (Figure 1-1a), close to the site boundary and is approximately 12ha in size. It is an area of uncut but drained bog. It has a relatively even topography and is dominated by ling heather (*Calluna vulgaris*) with numerous parallel drainage ditches running along its length (Plate 2-1). Scattered pine is also present throughout. It is bordered to the north by an area of remnant, undrained bog and to the south by cutover bog habitats. While it is not anticipated that this area will be restored to Annex I Active Raised Bog within the near future, the aim is to improve the overall condition of the area of remnant raised bog through re-wetting measures and raising of the water table. The re-wetting measures will also serve to benefit the area of uncut, undrained remnant raised bog to the north.

2.1.1 Drain Blocking

The main objective of drain-blocking and re-wetting will be to re-establish water levels at the bog surface, where possible, and to increase the extent of favourable conditions for the establishment of raised bog vegetation.

Some hydrological management to manage water levels will be required as deeper water conditions are not favourable for establishment of vegetation on bare peat. This hydrological management will take the form of pipes positioned to allow overflow of water at suitable levels and allow excess water to flow away.

The site-specific drainage that is proposed for the wind farm infrastructure is entirely separate from the drain blocking and rewetting that is proposed as part of this habitat enhancement plan and the two systems work independently of each other. Drains will be blocked using a number of methods depending on the size and type of drain. Methods will include:

- › Peat dams within the smaller drainage channels

These methods are fully described in the Irish Wildlife Manual '*Best Practice in raised bog restoration in Ireland*' (Mackin *et al*, 2017).

- › Prior to drain blocking works taking place, the proposed enhancement area will be surveyed by a suitably qualified ecologist and hydrologist to identify drains to be blocked.
- › Drain blocking will be undertaken on a local scale, within the proposed enhancement area. This will be achieved by installing peat dams within the existing ditches. This will maintain, enhance and restore the favourable baseline hydrological and ecological conditions within each of the restoration locations. This measure is effective in raising water levels in the peat and encouraging peat-forming habitats on cutover bog (Mackin *et al*, 2017) An example of peat dams proposed is shown in Plate 2-2. The methodology for peat dam construction, as per (Mackin *et al*, 2017) is provided in Plates 2-3 and 2-4.
- › No additional drainage will be installed in proximity to these habitat areas during the lifetime of the development.

- › Access to the site will be via the proposed new access track to Turbine 15 (Figure 1-1). The use of off-road vehicles on the site will be restricted to the proposed new development site access track unless where specifically required to access the areas to be restored.
- › These works will also be preceded by a toolbox talk to the restoration team by a qualified ecologist to ensure all measures are implemented in full.
- › No application of chemical and organic fertilisers or will be undertaken within the peat enhancement area.
- › Peat extraction within the proposed peatland reinstatement area will not be permitted.
- › Burning and dumping will not be permitted.
- › The rehabilitation area will be monitored (as described below) to assess the success of the rehabilitation plan.

2.1.1.1 Vegetation Monitoring

Prior to the commencement of drain blocking works, permanent vegetation monitoring plots will be established along transects within the areas to be rewetted. The monitoring plot locations will be selected using stratified random sampling. This will allow the monitoring plots to be representative of microtopography and vegetation cover, sampling areas from the wettest, intermediate and driest parts of the site. Monitoring plots will be surveyed and classified using 4m x 4m relevés as is best practice for raised bog habitats (Fernandez et al. 2012). Biotic and abiotic parameters that form baseline indicators of ecological and hydrological condition of the bog will be recorded. Monitoring plots will be marked out permanently using fencing posts and their location recorded using GIS. The number of monitoring plots will be determined by the level of plant community heterogeneity identified during the baseline survey. However, it is envisaged that a minimum of ten 4m x 4m monitoring plots will be established in the enhanced area. Monitoring plots will be surveyed once annually during the first five years of the wind farm and at 5 year intervals for the lifespan of the wind farm (30 years). Results will be analysed by Bord na Móna and a report of the findings will be produced. The enhancement plan will be regularly updated and amended where necessary to improve the efficacy of the enhancement work. The number of monitoring plots may change depending on the results of the initial surveys.



Plate 2-1. Example of proposed area for forestry felling with typical peatland vegetation remaining beneath the conifers. Such low-quality forestry offers high potential for restoration to peatland.



Plate 2-2. Example of peat dams to be used for on-site drain blocking. This will re-establish and maintain a hydrological regime for the required peatland rehabilitation.

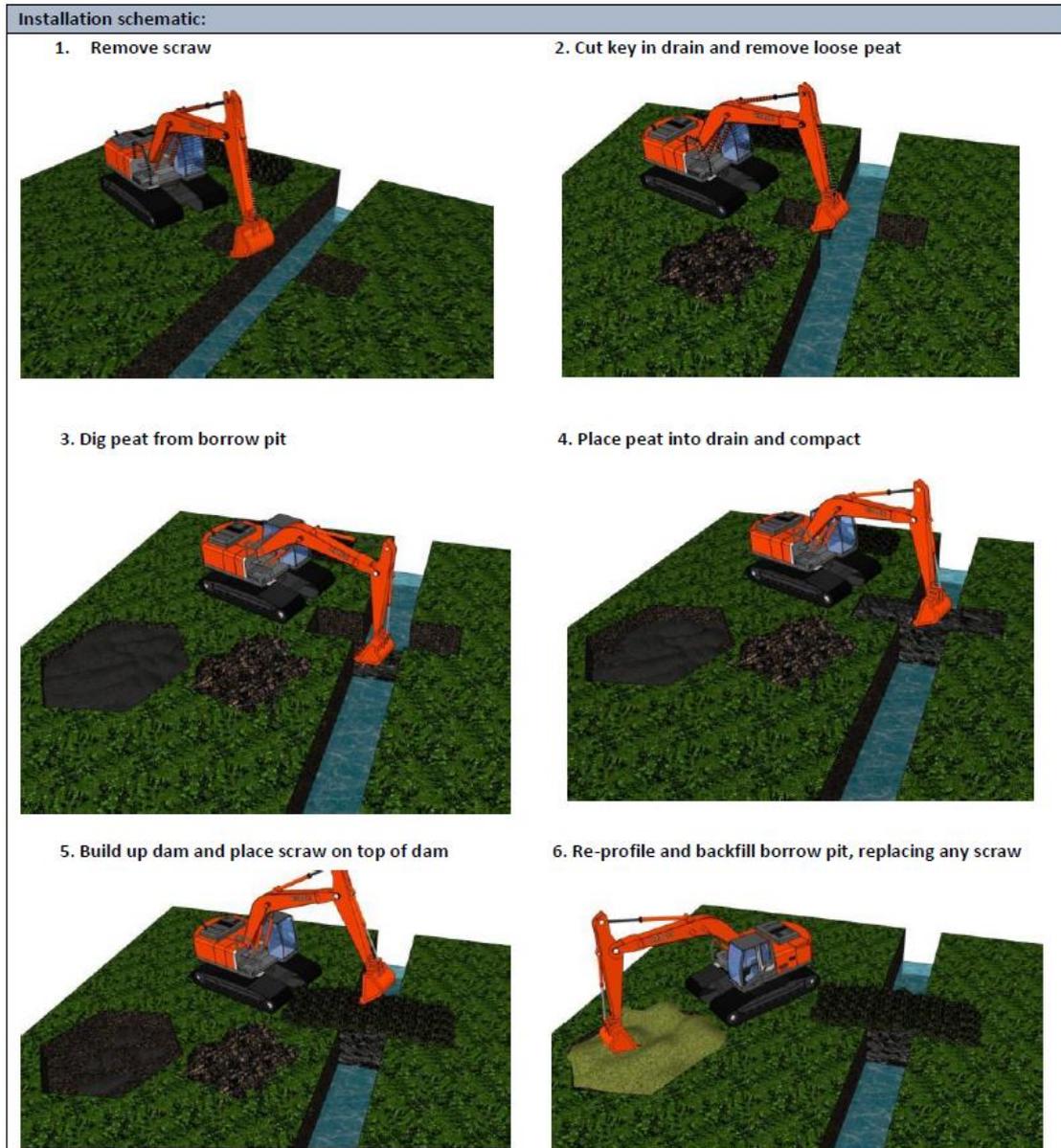


Plate 2-3. Methodology for peat dam construction (Source: Mackin et al, (2017))

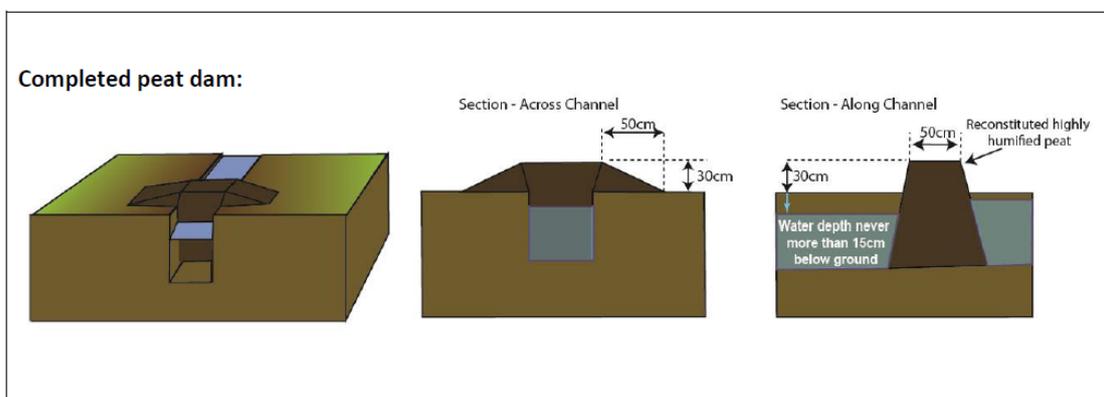


Plate 2-4. Drain Blocking by machine (McDonagh, 1996)

2.2

Planting of native woodland

The area identified for replanting of oak-ash-hazel woodland is located in an area dominated by a glacial mound at the southern end of Bracklin Bog (Figure 1-1a). The area is approximately 1.5ha in size and separated into two areas by an existing railway track, with a larger pocket to the north and a smaller area to the south of the track. The area currently comprises an area of dry grassland with encroachment of bramble scrub (Plate 2-5). Planting of native woodland (oak, ash, hazel) in the raised gravel mound will follow the recommendations and specifications of the Native Woodland Scheme, which recommends the species composition for various different woodland types.



Plate 2-5 Area proposed for planting of Oak-ash-hazel woodland

For the establishment of oak-ash-hazel woodland, the Native Woodland Scheme recommends planting

- › pedunculate oak (50%), with downy birch (20%), hazel (20%) and hawthorn (5%) scattered throughout.
- › Wild cherry (5%) planted in groups of 5-10 trees
- › Minor species (10%) to comprise at least three of the following positioned alongside planned woodland edges and glades: holly, spindle, rowan, crap apple and on wetter areas alder.

The area proposed for replanting at the western extent of Carranstown Bog is dominated by cutover bare peat, with some recolonising vegetation including cottongrass. For the establishment of woodland on highly modified peat and peaty podzols, the Native Woodland Scheme recommends the establishment of pioneer birch woodland (Scenario 5, highly modified peats and peaty podzols) (Cross, J.R. & Collins, K.D. 2017). Scenario 5 stipulates planting Downy birch (45%) and rowan (10%) in pure groups. Scots pine (20%) and pedunculate oak (15%) also in pure groups, on free-draining areas. Minor species (10%) to comprise at least two of the following, positioned between the above groups and at edges: holly, hawthorn and hazel. Where wetter conditions occur within the replanting areas, these should be planted with: Downy birch (50%) and grey willow (30%), planted in pure groups. Minor species (20%) to comprise of at least two of the following, positioned between the above groups and at edges: rowan, hazel and alder, and pedunculate oak.



Plate 2-6 Area proposed for native birch and willow planting

Areas of woodland will be planted in pockets and will incorporate unplanted rides which will provide habitat for invertebrate pollinator species.

The planting regime should:

- › Ensure that all material used (seeds, plants, cuttings) originates from suitable sources within Ireland, and is compliant with the Forest Reproductive Material Directive regarding traceability from seed collection through to the planting site. This is critical in the native woodland context, where the source of the material used is a key consideration.
- › Retain semi-natural features and habitats such as hedgerows, small wetlands and rocky outcrops. Incorporate these in a way that allows their continued existence as discrete habitats in the future woodland. For example, use appropriate unplanted setbacks, in terms of both width and orientation to sunlight.
- › Incorporate open spaces into the afforestation design, focusing on water setbacks, existing habitats and management features (e.g. ridelines for future access tracks and sight lines for future deer control).
- › Any planned tracks and ridelines should be wide enough to remain open as adjacent trees increase in height. Also consider the orientation of these features, as this will influence sunlight and micro-climatic factors, and subsequent habitat development.
- › Retained habitats and other open spaces will provide habitat structure and diversity within the future woodland, which will enhance its biodiversity value significantly
- › If needed, ensure that site cultivation, vegetation management and fertiliser application are tailored to site conditions, to maximise establishment success while minimising disturbance and inputs. On particularly sensitive sites or parts of sites (e.g. near sensitive watercourses), consider possible alternatives such as the use of planting augers, mulch mats and vermicompost
- › Higher planting densities will promote better establishment and will encourage the more rapid development of native woodland canopy on the site.
- › Non-plastic tree guards should be used to avoid any losses of trees to grazing

It is not proposed to undertake any drainage to facilitate the planting of the woodlands in this area, with the species chosen tailored to the prevailing conditions at that location. However, there may be some requirement for localised application of fertiliser to aid establishment where necessary and following the Management Guidelines for Ireland's Native Woodlands (Cross, J.R. & Collins, K.D. 2017).

The woodland planting will be surveyed on an annual basis for the first five years following establishment and any areas where trees have failed or where specific management is required, will be identified and reported upon to Bord na Móna. Any actions resulting from the woodland monitoring will be addressed.

2.2.1.1 Vegetation Monitoring

Prior to the planting of woodland species, permanent vegetation monitoring plots will be established within the areas to be replanted. The monitoring plots will be surveyed and classified using a 20m x 20m relevé or 10m x 10m should size not permit and information will be collected on woodland structure and species composition. The monitoring plot will be marked out permanently using a fencing post and the location recorded using GIS. Given the size of the area to be planted, a single monitoring plot will be established for each replanting area. The plots will be surveyed once annually during the first five years of the wind farm and at 5 year intervals for the lifespan of the wind farm (30 years). Results will be analysed by Bord na Móna and a report of the findings will be produced. The enhancement plan will be regularly updated and amended where necessary to improve the efficacy of the enhancement work. The number of monitoring plots may change depending on the results of the initial surveys.

2.3 Pollinator Habitat Creation and Management

The Proposed Development has been designed to avoid areas of suitable marsh fritillary habitat within the Wind Farm Site and the proposed infrastructure does not overlap with any identified suitable habitat for this species.

The following pollinator-friendly measures will be undertaken along the route of the proposed infrastructure corridor to provide and enhance areas of suitable pollinator foraging habitat within the Wind Farm Site.

- › Re-vegetation along the construction corridor will be a wildflower, pollinator-friendly seed mix suitable for peatland soils including yellow rattle, ribwort plantain, ragged robin, red bartsia, bell heather, greater birds foot trefoil, bog asphodel, bog cotton, devil's bit scabious, lesser knapweed, marsh bedstraw, marsh cinquefoil, meadowsweet, oxeye daisy, red clover, wild angelica, wild carrot, wild valerian and yarrow (<http://www.wildflowers.ie>).
- › Where shallow peat occurs along the infrastructure footprint and sub peat material comprises calcareous mixed gravels and till such substrate will be used during the site reinstatement, along the infrastructure corridor. Such material will facilitate the establishment of calcareous plant species. The establishment of such vegetation will benefit pollinator species generally as well as providing a food source for adult marsh fritillary. Birds-foot Trefoil readily naturally colonises this substrate and is a key foodplant for both Common Blue and Dingy Skipper. In addition, such material, in combination with the surrounding peat substrate can also create a suitable substrate for the natural colonisation of devils-bit scabious in certain conditions and thus marsh fritillary breeding habitat.
- › Any management approach will be flexible and be tailored to the specific on-site environment where there will be a variety of peat depths, hydrological conditions and nutrient status. Management (e.g. mowing) should not be uniform. Different actions in different places should enhance the natural diversity of habitats already developing on site.

Transects will be walked yearly as part of this plan with specific monitoring for marsh fritillary. During the surveys, other butterflies, moths and bees will also be recorded to further establish the biodiversity value of the habitats and inform any future vegetation management. Surveys will follow the guidelines set out below:

- › Marsh fritillary butterfly (presence and distribution) using NBDC and NRA (2009¹) guidelines.

¹ *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes*

- › Marsh fritillary butterfly habitat (condition) using NBDC guidelines².

² NBDC, 2020, *Habitat Condition Assessment for Marsh Fritillary*, Online, Available at: <http://www.biodiversityireland.ie/wordpress/wp-content/uploads/Marsh-Fritillary-Habitat-Condition-Form.pdf>, Accessed, 15 January 2020

3. MONITORING OF ENHANCEMENT AREA

3.1.1 Vegetation Monitoring

To confirm that habitat enhancement has been successful, all areas of peatland restoration will be monitored post-enhancement. The criteria for success will be defined as per the guidance in the Raised Bog Monitoring and Assessment Survey 2013 (Fernandez et al. 2014). Monitoring results will be reported by a suitably experienced ecologist (person with relevant academic qualifications and peatland surveying experience) and within an Annual Environmental Report for the first 5 years post construction, and every 5 years thereafter for the operational life of the wind farm, with any criteria failures identified, and adaptive mitigation actions implemented if required.

Prior to the commencement of all habitat enhancement measures described in this Plan, permanent vegetation monitoring plots will be established within the management areas. The monitoring plot locations will be selected using stratified random sampling. This will allow the monitoring plots to be representative of microtopography and vegetation cover, sampling areas from the wettest, intermediate and driest parts of the management areas. Monitoring plots will be surveyed and classified using the relevé method as per the (Fernandez et al., 2014) with plot sizes being 4m x 4m. Biotic and abiotic parameters that form baseline indicators of ecological and hydrological condition of the bog will be recorded. Monitoring plots will be marked out permanently using fencing posts and their location recorded using GPS. The number of monitoring plots will be determined by the level of plant community heterogeneity identified following felling. However, it is proposed that a minimum of ten 2m x 2m monitoring plots will be established across the enhanced peatland areas and a single 10m x 10m (or 20m x 20m if size permits) plot will be established in the areas proposed for woodland planting.

Monitoring plots will be surveyed on the first, third and fifth year post implementation and every five years thereafter. Monitoring will be carried out for the lifespan of the windfarm (30 years) by a suitably qualified ecologist experienced ecologist (person with relevant academic qualifications and peatland surveying experience). Results will be analysed and a report of the findings for the year will be produced. The enhancement plan will be regularly updated and amended where necessary to improve the efficacy of the enhancement work.

Habitat data gathered during the monitoring surveys will be classified and analysed according to the methodology provided within the following documents:

- › Vegetation Description and Data Analysis: A Practical Approach, 2nd Edition (Kent, 2011)
- › Raised Bog Monitoring and Assessment Survey 2013 (Fernandez et al., 2014).

As part of the monitoring plan all species records for the site will be shared with the National Biodiversity Data Centre (NBDC).

3.2 Reporting

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 in years 1, 3, 5, 10, 15, 20, 25, 30 and 35 following commencement of the plan’s implementation.

Table 3-1. Monitoring requirements for proposed enhancement activities

Proposed activity	Years Monitoring
Restoration vegetation monitoring (peatland, woodland and grassland/infrastructure corridor verge)	1,3,5,10,15,20,25,30,35
Hydrological monitoring	1,2,3,4,5,10,15,20,25,30,35

4. CONCLUSION

As described in this report and in Chapter 6 of the EIAR, the majority of the proposed infrastructure is located within degraded cutover bog (PB4) habitats. The construction will result in the loss of approximately 1.03ha of degraded raised bog (PB1) and 2.78ha of woodland to facilitate the development.

This Habitat Management and Enhancement Plan sets out measures for the enhancement and restoration of an area of degraded, drained raised bog at the northern extent of Bracklin Bog, the creation of approx. 1.5ha of Oak-ash-hazel (WN2) woodland on a gravel mound at the southern extent of Bracklin Bog and the planting of native birch woodland along the western margin of Carranstown Bog. The plan also provides for the provision and enhancement of pollinator foraging habitat along the proposed infrastructure corridor.

The success of these measures will be evaluated through a detailed monitoring and reporting programme, as described in section 3.

5.

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