APPENDIX 5

2025 ECOLOGICAL SURVEY REPORT

Planning and Environmental Consultants

2025 Ecological Survey Report

Croagh Wind Farm, Co. Leitrim and Sligo



DOCUMENT DETAILS

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Planning and Environmental Consultants

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Table of Contents

1. INTRODUCTION 2
1.1 Background 2
1.2 Site Location ..... **Error! Bookmark not defined.**
1.3 Statement of Authority 2
2. DESCRIPTION OF THE PROPOSED DEVELOPMENT 4
2.1 Characteristics of the Proposed Development 4
2.1.1 Description of the project 4
3. FIELD SURVEY METHODOLOGY 5
3.1 Ecological Walkover 5
3.2 Non-volant Mammal Surveys 5
3.2.1 Badger Survey of Previously-Identified Sett Locations 5
4. DESCRIPTION OF THE BASELINE ECOLOGICAL ENVIRONMENT 7
4.1 Habitats within the Proposed Development Site 7
4.2 Invasive species 18
4.4 Mammals 23
5. DISCUSSION 27
6. CONCLUSION 29
BIBLIOGRAPHY 30

1. INTRODUCTION

1.1 Background

MKO were commissioned on behalf of FuturEnergy Croagh Designated Activity Company to carry out a targeted multi-disciplinary ecological walkover survey at the proposed Croagh Wind Farm site on the boundary of Co. Leitrim and Co. Sligo (Grid ref: ITM X 584650, Y 823261). The purpose of this survey was to verify the habitats previously mapped during ecological baseline surveys undertaken between 2017 and 2020 to support Chapter 6: Biodiversity of the EIAR and to provide updated ecological information as part of the remittal process for the proposed Croagh Wind Farm Development. The walkover survey focused on confirming the accuracy and current condition of the previously mapped habitats, identifying any new occurrences of invasive species and mammal signs, and revisiting two previously recorded badger setts to assess their activity. The findings of the walkover survey provide an updated understanding of the site's ecological features and any changes that may have occurred since the original assessment.

1.2 Statement of Authority

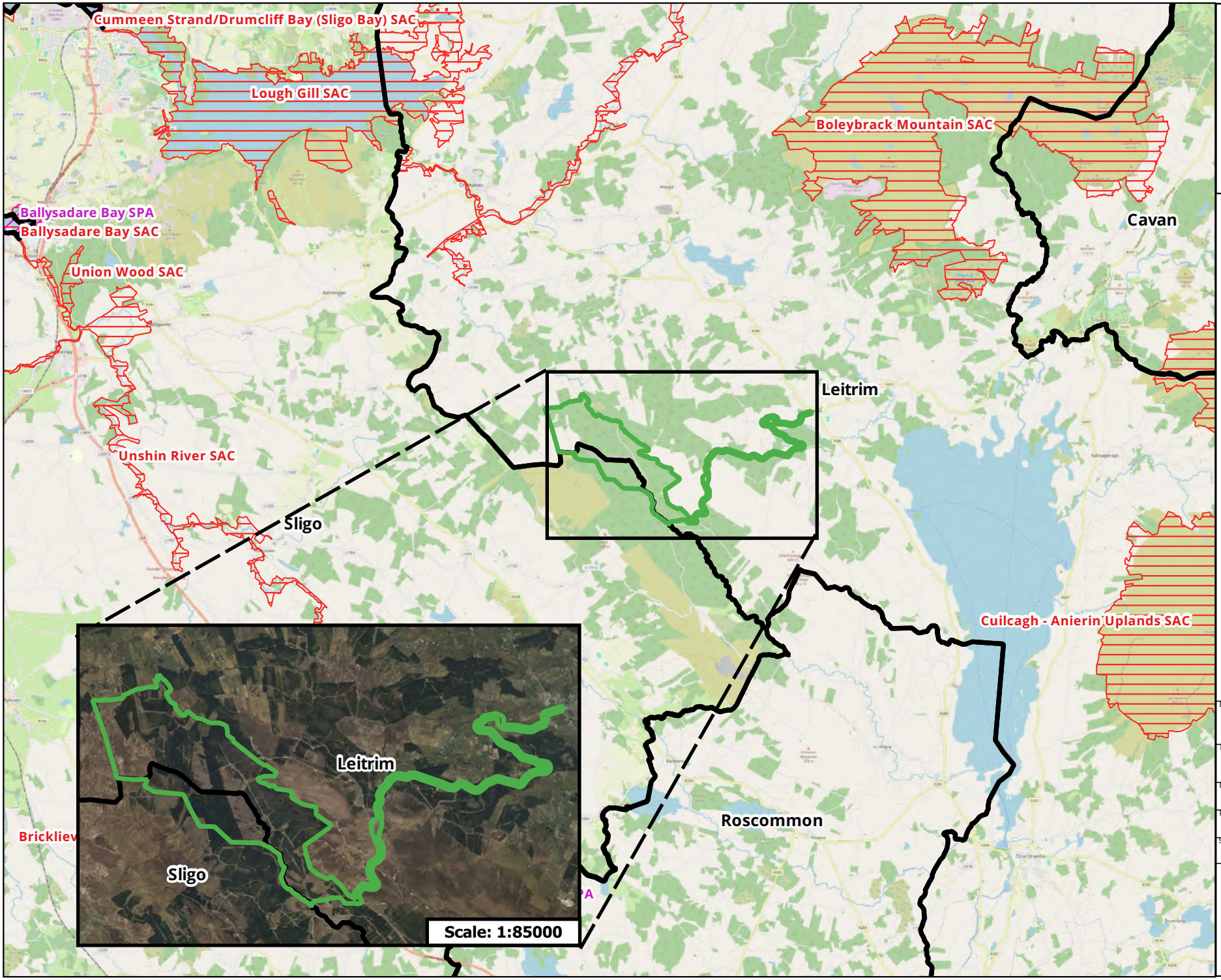
A baseline ecological walkover survey was undertaken on the 15th and 16th of September 2025 by Katy Beckett (B.A., M.Sc.), Amy McDermott (B.Sc. in Environmental Science), Bridin Foster (B.Sc. in Biological Earth and Environmental Sciences (Zoology)) and Matthew Kieran (B. Sc. Environmental Science with Ecology) of MKO. All surveyors have relevant academic qualifications and are competent in undertaking habitat and ecological assessments. This report has been prepared by Amy McDermott and reviewed by Katy Beckett and Kate O'Donnell (B.Sc., ACIEEM.). Amy possesses the relevant academic qualifications and is competent in undertaking ecological reporting. Katy and Kate are experienced ecologists with over two and six years' experience in ecological consultancy.

1.3 Site Location

The Proposed Development site is located in an upland area on the north-eastern slopes of Carrane Hill on the boundary of Counties Leitrim and Sligo. The main wind farm infrastructure is located approximately 3.8 kilometres west of Drumkeeran and approximately 7.5 kilometres southeast of Dromahair. The Grid Reference coordinates for the approximate centre of the site are ITM X 584650, Y 823261.

The Proposed Development layout makes maximum use of the existing access road and tracks within the site. The site of the Proposed Development is currently accessed, from the R280 to the west, via the local road network.

The EIAR Site Boundary covers an area of approximately 800 hectares as shown in Figure 1-1.



Map Legend

- EIAR Site Boundary
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- County Boundaries

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Drawing Title

Site Location

Project Title: Croagh Wind Farm, Co. Leitrim/Sligo	
Drawn By: AMcD	Checked By: KOD
Project No.: 180511-d	Drawing No.: Figure 1-1
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2. DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Characteristics of the Proposed Development

2.1.1 Description of the project

The Proposed Development comprises:

i. *Construction of 10 No. wind turbines with a maximum overall blade tip height of up to 170 metres, and associated hardstand areas;*
ii. *1 no. 38kV permanent electrical substation including a control building with welfare facilities, all associated electrical plant and equipment, security fencing, all associated underground cabling, waste water holding tank and all ancillary works;*
iii. *1 no. permanent Meteorological Mast with a maximum height of up to 100 metres;*
iv. *All associated underground electrical and communications cabling connecting the turbines to the proposed wind farm substation;*
v. *All works associated with the connection of the proposed wind farm to the national electricity grid, via underground cabling to the existing Garvagh substation;*
vi. *Upgrade of existing tracks and roads, provision of new site access roads and hardstand areas;*
vii. *The partial demolition and alteration of two agricultural buildings in the townlands of Sheena and associated junction access and road works to the existing yard, agricultural buildings and agricultural lands in the townlands of Sheena and Derrybofin to provide a link road primarily for construction traffic off the R280. This link road will be used for the delivery of abnormal loads to the site during the construction period and may be used during the operational period if necessary or to facilitate the decommissioning of the wind farm. Following construction, access to the link road will be closed off and the yard/agricultural building will revert to its use for agricultural purposes except if and when required for delivery of abnormal loads during the operational period of the windfarm or to facilitate the decommissioning of the wind farm;*
viii. *1 no. borrow pit;*
ix. *2 no. peat and spoil repository areas*
x. *2 no. temporary construction compounds;*
xi. *Recreation and amenity works, including marked trails, boardwalk and viewing area provision of a permanent amenity car park, and associated recreation and amenity signage*
xii. *Site Drainage;*
xiii. *Permanent Signage;*
xiv. *Ancillary Forestry Felling to facilitate construction and operation of the Proposed Development; and*
xv. *All associated site development works*

This application seeks a ten-year planning permission and 30 year operational life from the date of commissioning of the entire wind farm.

3. FIELD SURVEY METHODOLOGY

The following sections outline the methodology employed during the field surveys undertaken in 2025.

3.1 Ecological Walkover

A multidisciplinary ecological walkover survey was conducted on the 15th and 16th of September 2025 by Katy Beckett, Amy McDermott, Bridin Foster and Matthew Kieran of MKO in line with TII (2008) guidelines (Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes). Habitats were identified in accordance with level three of the Heritage Council's '*Guide to Habitats in Ireland*' (Fossitt, 2000). Plant nomenclature for vascular plants follows '*New Flora of the British Isles*' (Stace, 2019), while mosses and liverworts nomenclature follows '*Mosses and Liverworts of Britain and Ireland - a field guide*' (British Bryological Society, 2010).

During the surveys, the site was also searched for species listed on 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 (S.I. 477 of 2011).

3.2 Non-volant Mammal Surveys

A 50m buffer of the proposed infrastructure footprint was surveyed for mammals. All mammal surveys adhered to the guidance as set out in *Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Roads Schemes* (NRA 2009) and followed CIEEM's *Best practice competencies for species surveys* (CIEEM, 2013). The site was systematically searched for signs of otter, badger, pine marten, red squirrel and other protected mammal species. Signs searched for included incidental dens, setts, prints, latrines, sprainting sites, couches, foraging signs or sightings.

3.2.1 Badger Survey of Previously-Identified Sett Locations

During baseline ecological surveys undertaken between 2017-2020 to support the planning application for the Proposed Development, two active badger setts were identified within the site. Therefore, a targeted badger survey of these locations was carried out in line with *Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes* (NRA 2006). The badger survey aimed to confirm the continued presence, absence and condition of the two previously recorded badger setts. The purpose of this survey was to review the locations and activity levels of the two badger setts and to identify any new or altered signs of badger activity within the site boundary.

The setts were classified using the conventions set out in NRA (2009). Classification of setts as per the *Best Practice Badger Survey Guidance Note* provided by SNH (2003) is provided in Table 4-1 below.

Table 3-1 Classification of Badger Setts (Definition as per SNH 2003)

Sett Type	Description
Main	Several holes with large spoil heaps and obvious paths emanating from and between sett entrances.
Annexe	Normally less than 150m from main sett, comprising several holes. May not be in use all the time, even if main sett is very active.
Subsidiary	Usually at least 50m from main sett with no obvious paths connecting to other setts. May only be used intermittently.

Outlier	Little spoil outside holes. No obvious paths connecting to other setts and only used sporadically. May be used by Foxes and rabbits.

Main setts normally have a large number of entrances (both used and disused), with obvious heaps of spoil. These setts look well used with obvious tracks between entrances. Annexe setts are close to the main sett and are usually between 50 and 150m in distance and are usually connected to the main sett by tracks. They usually have several holes but may not be in use all the time. Subsidiary setts are not connected to another sett by obvious paths and are not continuously active. Outlier setts have usually just one or two holes, without obvious spoil heaps or paths. They are used by badgers sporadically and are often taken over by foxes and rabbits (Smal, 1995).

4. DESCRIPTION OF THE BASELINE ECOLOGICAL ENVIRONMENT

Assessing the effects of any project and associated activities requires an understanding of the ecological baseline conditions prior to and at the time of the project proceeding. Ecological baseline conditions are those existing in the absence of proposed activities (CIEEM 2018).

4.1 Habitats within the Proposed Development Site

The majority of the Proposed Development site is dominated by plantation forestry, comprising mainly of sitka spruce (*Picea sitchenis*) and lodgepole pine (*Pinus contorta*). The site is accessible via a network of existing forestry access tracks and forestry rides. The remainder of the wind farm infrastructure site is dominated by degraded Upland blanket bog (PB2). The haul route to the east of the site primarily traverses' areas of Wet grassland (GS4), Scrub (WS1), Conifer plantation (WD4) and existing roads.

Conifer plantation (WD4)

The majority of the Proposed Development site is dominated by Conifer plantation (Plate 4-1). This habitat is composed mainly of sitka spruce (*Picea sitchensis*) with frequent lodgepole pine (*Pinus contorta*). The site is accessible via an established network of forestry access tracks and rides. Within the plantation, the substrate overlies wet heath, blanket bog, and wet grassland, resulting in very wet underfoot conditions in many areas. The ground flora is well developed and characterised by abundant *Sphagnum* hummocks, including *Sphagnum rubellum, S. palustre, and S. subnitens.* Other bryophtyes recorded include *Polytrichum commune, P. trifolium, Rhytidiadelphus loreus, Hylocomium splendens, Hypum jutlandicum, Thuidium tamariscinum, and Kindbergia praelonga,* reindeer lichen (*Cladonia portenosa*) was recorded locally.

Vascular plant species within the plantation understory and along many of the more open fire breaks present within the conifer plantation include ling heather (*Calluna vulgaris*), bell heather (*Erica cinerea*), cross-leaved heath (*Erica tetralix*), bilberry (*Vaccinium myrtillus*), purple moor-grass (*Molinia caerulea*), deergrass (*Trichophorum germanicum*), soft rush (*Juncus effusus*), tormentil (*Potentilla erecta*), foxglove (*Digitalis purpurea*), marsh thistle (*Cirsium palustre*), bramble (*Rubus frticosus agg.*), grey willow (*Salix cinerea*), and occasional cottongrass (*Eriophorum epp.*). Ferns recorded include hart's-tongue fern (*Asplenium scolopendrium*) and broad buckler fern (*Dryopteris dilatata*).

An area currently classified as conifer plantation, located to the west of Turbine 7, is proposed for felling and as a peatland restoration area. This area was dominated by lodgepole pine (*Pinus sylvestris*) with a high cover of ling heather (*Calluna vulgaris*). Other species recorded included soft rush (*Juncus effusus*), bilberry (*Vaccinium myrtillus*), broad buckler fern (*Dryopteris dilatata*), common cottongrass (*Eriophorum angustifolium*) and the bryophytes *Hylocomium splendens, Rhytidiadelphus loreus, Hypnum jutlandicum* and *Polytrichum commune.*

Proposed Turbines 2, 3, 4, 5, 6, 7, 8, 9 and 10, as well as the proposed borrow pit, site compounds, peat repositories, onsite substation and new access roads to turbine locations are all located within conifer plantation. Additionally, the amenity facilities including walkways, boardwalks, car park and platform are also located within conifer plantation.

Recently felled woodland (WS5)

An area previously identified as conifer plantation during the 2017–2020 surveys had been recently felled by the time of the 2025 multidisciplinary ecological walkover survey. As a result of the recent

forestry operations and the absence of replanting at the time of survey, this area was reclassified as recently felled woodland (Plate 4-2).

The proposed location of the met mast is located along the border of the conifer plantation habitat and the recently felled woodland habitat.

Wet grassland (GS4)

Wet grassland habitats occur extensively along the eastern access route and along both sides of existing roads. At the eastern boundary of the site, an agricultural field accessed via the proposed route is classified as Wet grassland. Species recorded include creeping buttercup (*Ranunculus repens*), broad-leaved dock (*Rumex obtusifolius*), common nettle (*Urtica dioica*), soft rush (*Juncus effusus*), and perennial ryegrass (*Lolium perenne*). Similar species composition was recorded along road verges and adjoining lands throughout the access corridor. Wet grassland margins are also present along watercourses and forestry roads (Plate 4-3).

Road widening works are proposed with small areas of the wet grassland habitats along the L4282 access road.

Buildings and artificial surfaces (BL3)

At the eastern boundary of the site, the proposed access route begins within an area of Buildings and artificial surfaces, comprising of farm sheds and associated hardstandings. The proposed access route connects westwards from this area to an existing surface road (L4282), which forms part of the access corridor through the site and is also classified as buildings and artificial surfaces. Many of the existing forestry tracks through the Proposed Development that are proposed for upgrade are also classified as buildings and artificial surfaces.

Upland blanket bog (PB2) and associated habitats

The remainder of the wind farm infrastructure footprint, outside plantation forestry, is dominated by degraded upland blanket bog classified as Upland blanket bog. This habitat occurs along sections of the access route, and in larger areas towards the western and north-western extents of the site. The areas of Upland blanket bog conform to EU Habitats Directive Annex I habitat Blanket Bog [7130] and is of high biodiversity. Species recorded within this habitat include ling heather (*Calluna vulgaris*), tormentil (*Potentilla erecta*), heath rush (*Juncus squarrosus*), soft rush (*Juncus effusus*), heath bedstraw (*Galium saxatile*), bilberry (*Vaccinium myrtillus*), purple moor-grass (*Molinia caerulea*), broad buckler fern (*Dryopteris dilatata*) marsh willowherb (*Epilobium palustre*), red fescue (*Festuca rubra*), and the bryophytes and lichens *Sphagnum palustre, Rhytidiadelphus triquetrus, Polytrichum commune*, *Hylocomium splendens* and *Cladonia portentosa*.

A proposed peatland rehabilitation area is located within an area of upland blanket bog in the centre of the site, to the north of Turbine 7. This area remains suitable for peatland rehabilitation and was found to comprise of species including ling heather (*Calluna vulgaris*), bog asphodel (*Narthecium ossifragum*), deergrass (*Trichophorum germanicum*), cross-leaved heath (*Erica tetralix*), bilberry (*Vaccinium myrtillus*), cranberry (*Vaccinium oxycoccos*), *Sphagnum papillosum*, *Sphagnum rubellum*, *Hypnum jutlandicum* and *Cladonia portentosa*. Notably, there is evidence of lodgepole pine (*Pinus sylvestris*) sapling encroachment from surrounding forestry, which may adversely affect bog hydrology and vegetation structure if unmanaged, supporting the need for targeted peatland rehabilitation measures.

To the east of Turbine 1 along its proposed access route are two patches of **Transition mire and quaking bog (PF3).** These areas were dominated by *Sphagnum* species, with areas of blunt-flowered rush (*Juncus subnodulosus*), bogbean (*Menyanthes trifoliata*), fescue (*Festuca* sp.) and bare open water. Other species recorded included marsh cinquefoil (*Comarum palustre*), bottle sedge (*Carex rostrata*), and very small amounts of Yorkshire fog (*Holcus lanatus*), common sorrel (*Rumex acetosa*) and devil's-bit scabious (*Succisa pratensis*). An Annex I habitat assessment was carried out on this area of transition

mire east of Turbine 1, in line with Irish Wildlife Manual 79 'Guidelines for a national survey and conservation assessment of upland vegetation and habitats in Ireland Version 2.0' (Perrin *et al.,* 2014)[1]. The assessment included recording the presence of positive and negative indicator species, vegetation structure and physical structure, including the cover of bare ground and evidence of disturbance. This habitat was not found to conform to any Annex I habitats (Plate 4-4).

Four small patches of **Poor fen and flush (PF2)** were also recorded along the access route to the east of the proposed location of Turbine 1, in a mosaic with the transition mire. These areas comprise species such as blunt-flowered rush (*Juncus subnodulosus*), devil's-bit scabious (*Succisa pratensis*), common sorrel (*Rumex acetosa*), tormentil (*Potentilla erecta*), and *Polytrichum commune* (Plate 4-5).

Dystrophic lake (FL1) and associated habitats

Located within the centre of the site is Lough Nacroagh, a lake classified as a Dystrophic lake (FL1) (Plate 4-6). This habitat is surrounded largely by coniferous forestry. Transition mire and quaking bog (PF3) was also recorded along the margins of Lough, which was largely dominated by bottle sedge (*Carex rostrata*) and *Sphagnum cuspidatum*, with some areas of cranberry (*Vaccinium oxycoccos*) and hummocks *of Polytrichum commune* (Plate 4-7).

Scrub (WS1)

One area of Scrub habitat was identified within the site during the 2025 multi-disciplinary walkover survey and was located along the eastern edge of the forestry, where the L4282 road enters the conifer plantation. The scrub area is characterised by a mix of species including willow (*Salix* sp.), gorse (*Ulex europaeus*), and bramble (*Rubus fruticosus* agg.). A second area, which had been identified as scrub in previous surveys, however it was reclassified as wet grassland following reassessment of the habitats. This area may have been cleared of scrub to allow for agricultural activities.

Eroding / upland river (FW1)

A network of watercourses traverse the Proposed Development site, with tributaries of the Killanummery River in the northwest of the site flowing northwest, tributaries of the Arigna (Roscommon) River in the centre of the site, flowing in an overall southeasterly direction, and a number of watercourse crossings of the Owengar (Leitrim) along the proposed haul route in the east. These watercourses were generally fast-flowing and classified as Eroding/upland rivers. Where these watercourses were bordered by wet grassland margins, such as south of the proposed access route leading towards Turbine 9, vegetation typically includes white clover (*Trifolium repens*), tormentil (*Potentilla erecta*), marsh thistle (*Cirsium palustre*), soft rush (*Juncus effusus*), jointed rush (*Juncus articulatus*), creeping buttercup (*Ranunculus repens*), and bilberry (*Vaccinium myrtillus*). Bryophytes recorded include *Hylocomium splendens* and *Polytrichum commune*, with broad buckler fern (*Dryopteris dilatata*) and heather (*Calluna vulgaris*) also present (Plate 4-8).

An updated habitat map of the EIAR Site Boundary, incorporating the small areas of reclassified habitats identified during the 2025 surveys, is shown in Figures 4-1 and 4-2, showing the western and eastern portions of the site, respectively. A habitat map with the Proposed Development footprint overlain is similarly shown in Figures 4-3 and 4-4.

[1] *Perrin, P.M., Barron, S.J., Roche, J.R. & O'Hanrahan, B. (2014). Guidelines for a national survey and conservation assessment of upland vegetation and habitats in Ireland. Version 2.0. Irish Wildlife Manuals, No. 79. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.*



Plate 4-1 View of Conifer plantation (WD4) habitat with wet underfoot conditions visible



Plate 4-2 Example of Recently-felled woodland (WS5)



Plate 4-3 Example of Wet grassland (GS4)



Plate 4-4 View of Degraded upland blanket bog (PB2) habitat



Plate 4-5 View of Poor fens and flush (PF2) habitat located within the northwest section of the site



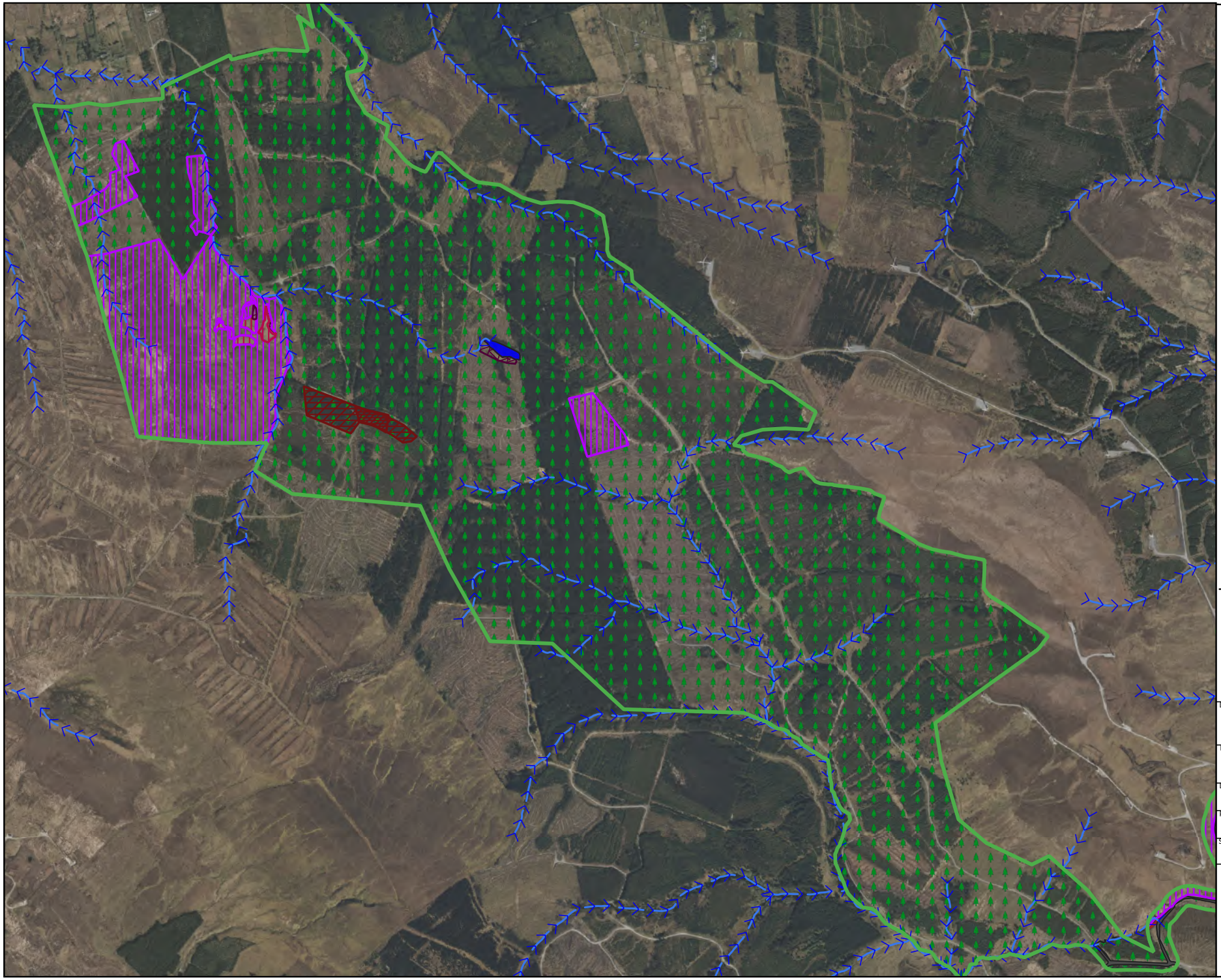
Plate 4-6 View of Dystrophic lake (FL1) habitat



Plate 4-7 View of Transition mire and quaking bog (PF3) surrounding the Dystrophic lake (FL1)



Plate 4-8 View of Eroding/ upland river (FW1) habitat



Map Legend

- EIAR Site Boundary

Habitats

- Buildings and artificial surfaces (BL3)
- Dystrophic lakes (FL1)
- Wet grassland (GS4)
- Wet heath (HH3)
- Upland blanket bog (PB2)
- Poor fen and flush (PF2)
- Transition mire and quaking bog (PF3)
- Conifer plantation (WD4)
- Recently-felled woodland (WS5)
- Scrub (WS1)
- WFD River Waterbodies

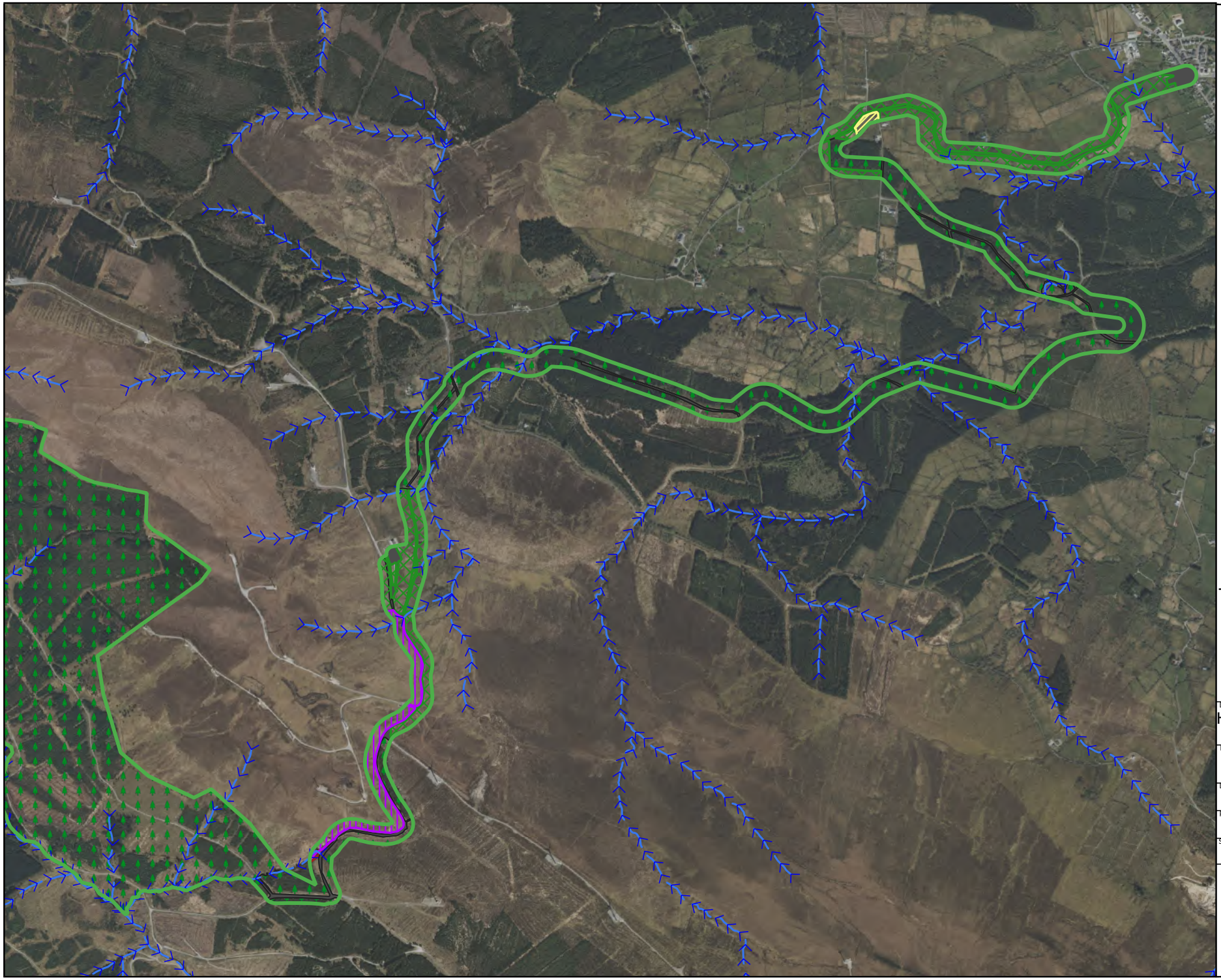
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Drawing Title
Habitat Map - Western Side of Site

Project Title
Croagh Wind Farm, Co. Leitrim/Sligo

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Project No.	Drawing No.
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Map Legend

- EIAR Site Boundary

Habitats

- Buildings and artificial surfaces (BL3)
- Wet grassland (GS4)
- Upland blanket bog (PB2)
- Conifer plantation (WD4)
- Scrub (WS1)
- Improved agricultural grassland (GA1)
- WFD River Waterbodies

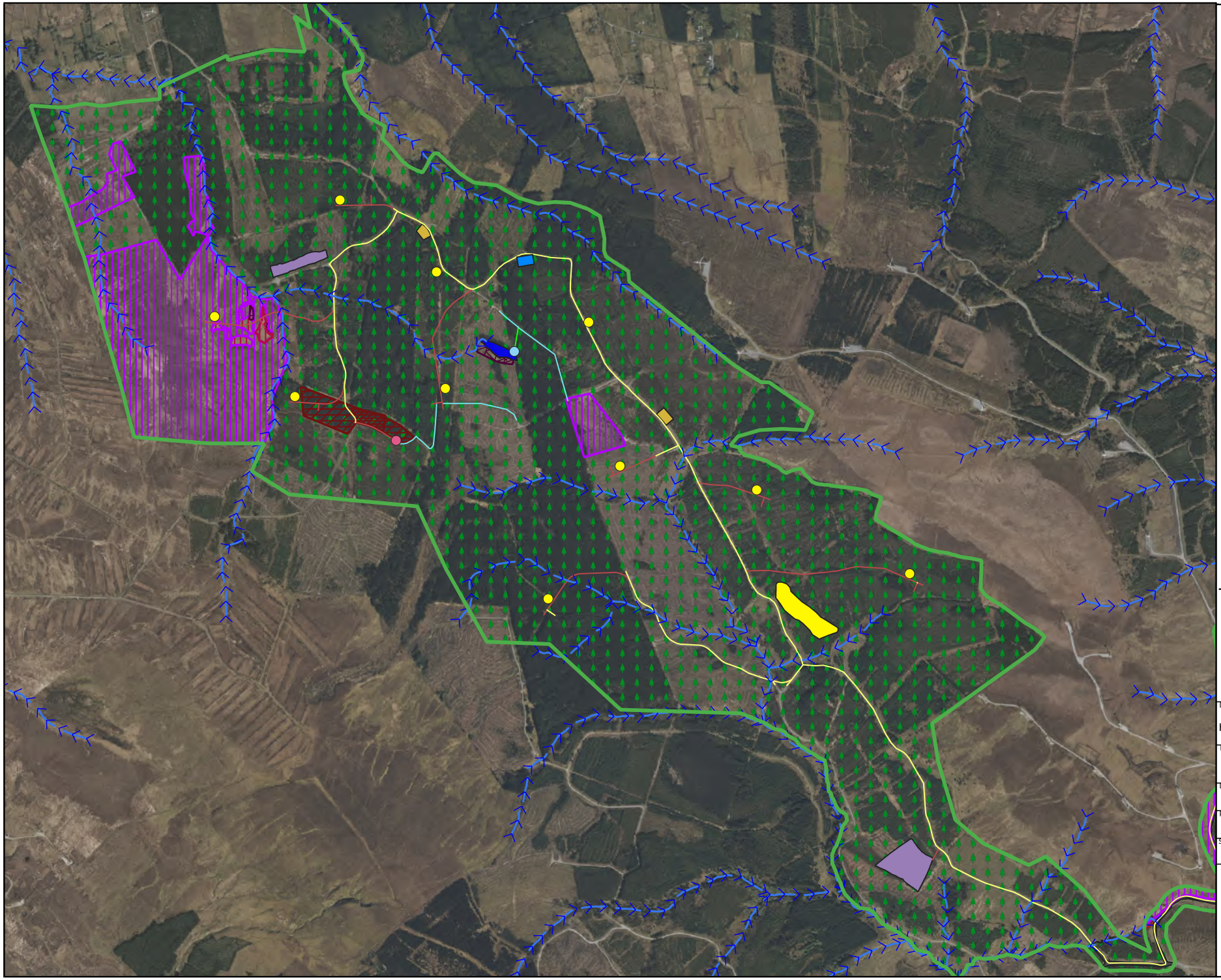
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Drawing Title
Habitat Map - Eastern Side of Site

Project Title
Croagh Wind Farm, Co. Leitrim/Sligo

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Map Legend

EIAR Site Boundary

Infrastructure

- Borrow Pit
- Compounds
- Met Mast
- Peat Repositories
- New Roads
- Road Upgrade
- Substation
- Turbine Layout
- Viewing Platform Location
- Amenity Boardwalk
- Amenity Walkways

Habitats

- Buildings and artificial surfaces (BL3)
- Dystrophic lakes (FL1)
- Improved agricultural grassland (GA1)
- Wet grassland (GS4)
- Wet heath (HH3)
- Upland blanket bog (PB2)
- Poor fen and flush (PF2)
- Transition mire and quaking bog (PF3)
- Conifer plantation (WD4)
- Scrub (WS1)
- Recently-felled woodland (WS5)

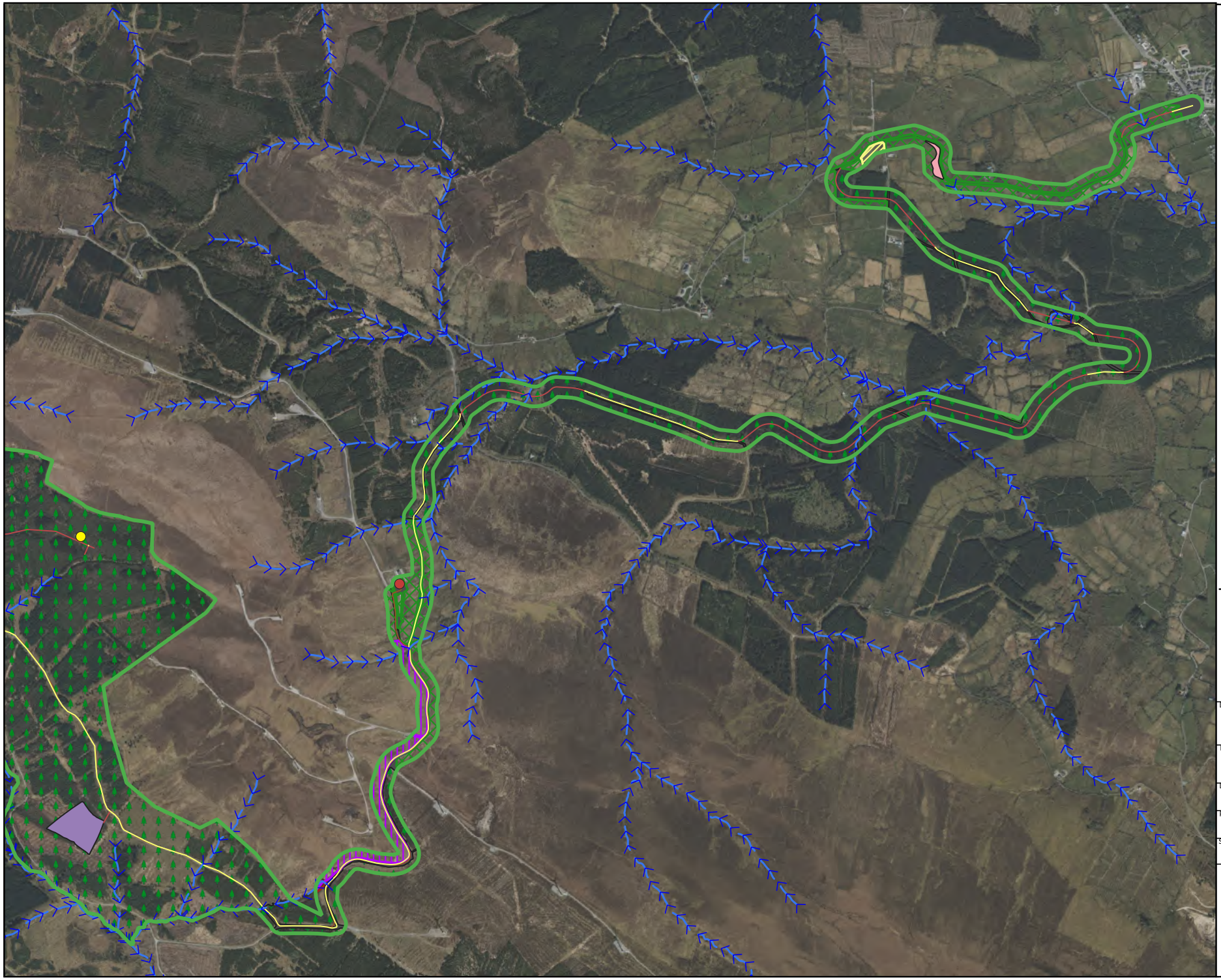
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Drawing Title
Infrastructure Footprint Overlaying Habitat Map of the Western Side of the Proposed Development Site

Project Title
Croagh Wind Farm, Co. Leitrim/Sligo

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Map Legend

- EIAR Site Boundary

Infrastructure

- Peat Repositories
- New Roads
- Road Upgrade
- Turbine Layout
- Garvagh Grid
- Garvagh Substation Location
- Road Widening Works Area

Habitats

- Buildings and artificial surfaces (BL3)
- Improved agricultural grassland (GA1)
- Wet grassland (GS4)
- Upland blanket bog (PB2)
- Conifer plantation (WD4)
- Scrub (WS1)

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Drawing Title
Infrastructure Footprint Overlaying Habitat Map of the Eastern Side of the Proposed Development Site

Project Title
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4.2 Invasive species

A small stand of Japanese knotweed (*Reynoutria japonica*), recorded during the previous ecological surveys, was reassessed and re-recorded in the easternmost part of the site, located within the boundary of the proposed access route, immediately west of the farm shed (Plate 4-9). At the time of the survey, this stand was in poor condition and was not flowering. The knotweed was located within an area of wet grassland that was being actively grazed by livestock during the survey period. The surrounding area contained scattered waste materials, including scrap wood, wire and pipes. These materials may suggest past site use or incidental storage of scrap material. The proposed access route for the Proposed Development passes through this area of Japanese knotweed and therefore has the potential to result in its introduction and spread.

A larger stand of Japanese knotweed was recorded in the southernmost part of the site, directly adjacent to the forestry access route known as the Garvagh Glebe Forest Track. At the time of the survey, this stand was actively growing and in flower. The infestation was situated along the boundary of the conifer plantation habitat (Plate 4-10). This area is outside the proposed infrastructure footprint and therefore is not at risk of disturbance or spread as a result of the construction of the Proposed Development.

A third stand of Japanese knotweed was identified within the north-eastern section of the site east of the proposed Turbine 2 location. This stand had previously been recorded during initial walkover surveys undertaken between 2017 and 2020; however, during the 2025 walkover survey it was confirmed that the infestation is located further southeast along the forest road than originally mapped. At the time of the 2025 survey, the stand was actively growing and in flower and was situated immediately adjacent to the forest road and along the conifer plantation edge (Plate 4-11). While the previously-mapped location of this stand was located outside the proposed infrastructure footprint, the location mapped in 2025 is located within 7m of a proposed road upgrade, and is therefore at risk of contamination and spread as a result of the Proposed Development.

A small mature stand of Rhododendron (*Rhododendron ponticum*) was identified within the conifer plantation, located in the area of forestry between the proposed Turbine 8 and Turbine 9 (Plate 4-12). While this species was not previously identified within the site, this stand is located outside the proposed infrastructure footprint and is therefore not at risk of spread or contamination as a result of the construction or operation of the Proposed Development.

All identified invasives species record during the walkover survey are mapped in Figure 4-5.



Plate 4-9 View of the small stand of Japanese knotweed located west of the Buildings and artificial surfaces (BL3) habitat adjacent to the farm sheds



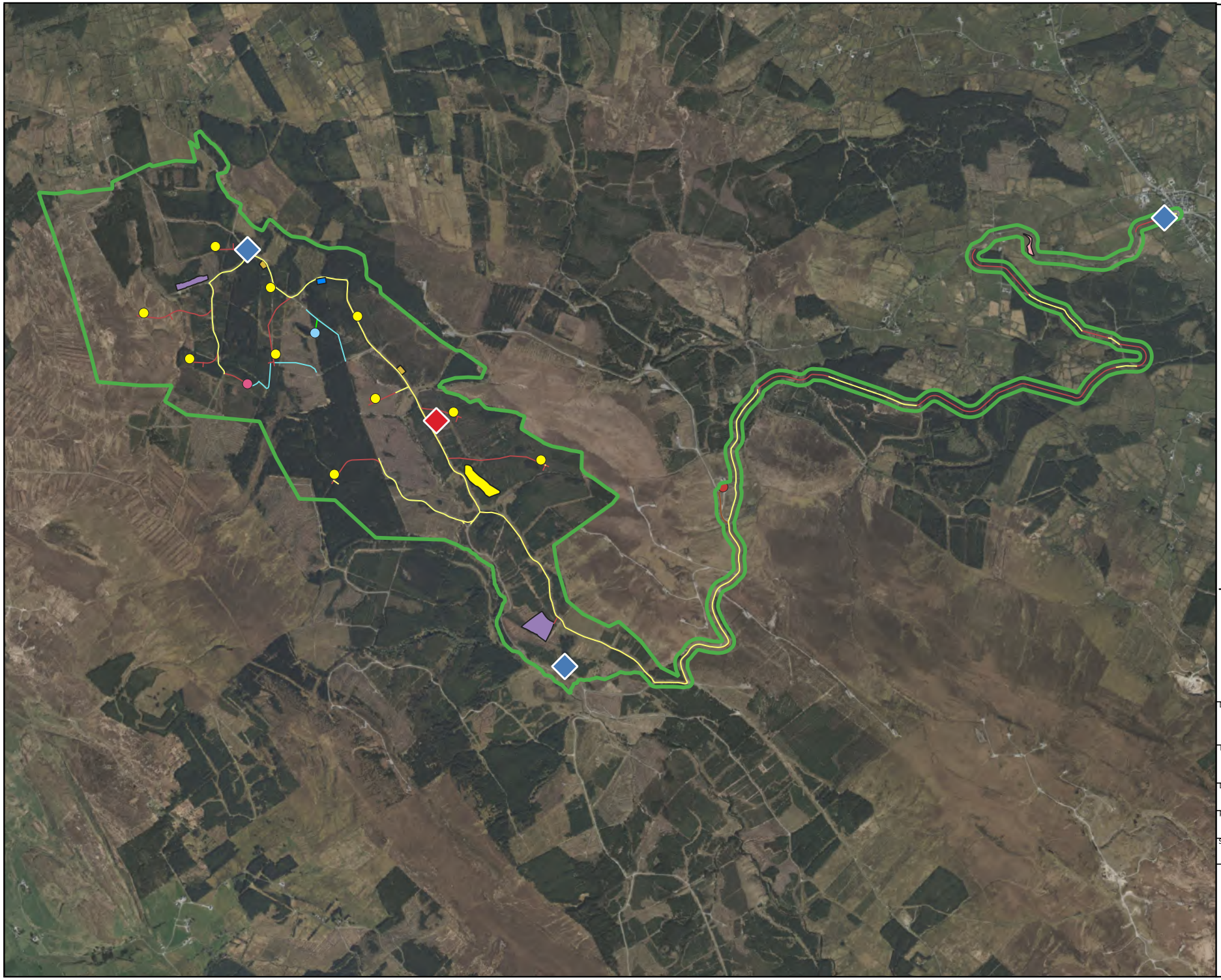
Plate 4-10 View of larger stand of Japanese knotweed located in the southern section of the site



Plate 4-11 View of larger stand of Japanese knotweed located in the north east section of the site, southeast of the proposed location of Turbine 2.



Plate 4-12 View of Rhododendron stand located within the conifer plantation (WD4) located between the proposed Turbine 8 and Turbine 9 locations.



Map Legend

- EIAR Site Boundary

Infrastructure

- Borrow Pit
- Compounds
- Met Mast
- Peat Repositories
- New Roads
- Road Upgrade
- Substation
- Turbine Layout
- Viewing Platform Location
- Amenity Boardwalk
- Amenity Walkways
- Garvagh Grid
- Garvagh Substation Location
- Road Widening Works Area

Invasive Species

- Rhododendron (Rhododendron ponticum)
- Japanese knotweed (Reynoutria japonica)

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Drawing Title

Invasive Species Locations

Project Title

Croagh Wind Farm, Co. Leitrim/Sligo

Drawn By	Checked By
AMcD	KB
Project No.	**Drawing No.**
180511-d	Figure 4-5
Scale	**Date**
1:35,000	02.03.2026

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4.4 Mammals

Two badger setts previously recorded during the 2018 ecological surveys were revisited to assess their present status and any changes in activity or condition

Sett A was located along the southern side of the proposed site access road, positioned on the woodland edge adjoining an area of wet grassland. The sett comprised of one main active entrance (Plate 4-13), one collapsed entrance, and one entrance located beneath a tree root system. The active entrance displayed clear evidence of recently used tracks. Freshly dug soil was identified in front of the sett entrance. Mammal trails were noted in the surrounding area and throughout the woodland indicating recent badger activity. The sett had a typical 'D' shaped entrance which is an indicative sign of a badger burrow. The surrounding vegetation consisted of conifer plantation with some overgrown scrub area, providing suitable cover and foraging environment for badgers.

Sett B was situated adjacent to the Owengar River, within the conifer plantation (Plate 4-14). This sett contained three active entrances, both showing signs of recent of worn paths, indicating active use by badger. Freshly dug soil was identified in front of sett entrance. Large sett entrance comprised of a typical 'D' shape for a badger burrow. The location offers ideal conditions for badger.

Both setts appear to be in good condition and show ongoing badger activity, consistent with findings from the 2017-2020 baseline surveys. No additional new setts or signs of significant changes in badger activity were recorded within the survey area during the walkover survey.

The location of the setts are provided in the Confidential Appendix 1.

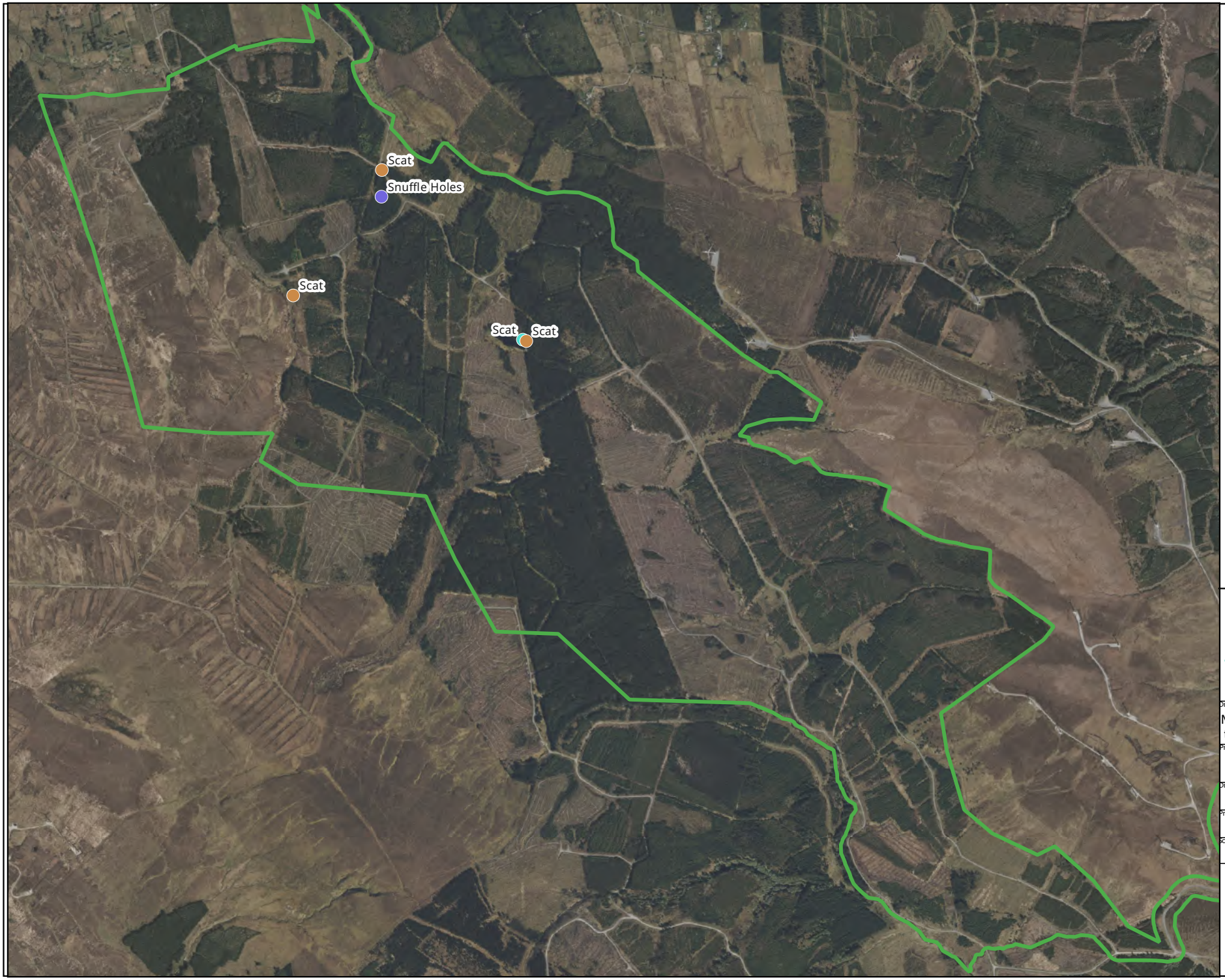
Additionally, one snuffle hole (associated with badger foraging) was recorded in the northern section of the site, located south of the proposed Turbine 2 location. Fox droppings were identified to the west of this snuffle hole. Mustelid scats were recorded at two separate locations along the southern site boundary. Deer droppings were identified at two locations within the WD4 habitat in the vicinity of the proposed Turbine 9 and a fallow deer was seen site adjacent to the access route in the east of the site. Further mustelid scat was also recorded near the proposed Turbine 7 location, within the proposed peatland restoration area. An additional sett was identified in close proximity to badger sett B but it appeared too small in size to be attributed to badger. It was identified as a potential fox den entrance. Mammal signs are shown in Figure 4-6 and Figure 4-7 below.



Plate 4-13 Badger sett A entrance



Plate 4-14 Badger sett B entrance



Map Legend

EIAR Site Boundary

Mammal Signs

- Badger
- Deer
- Fox
- Mustelid

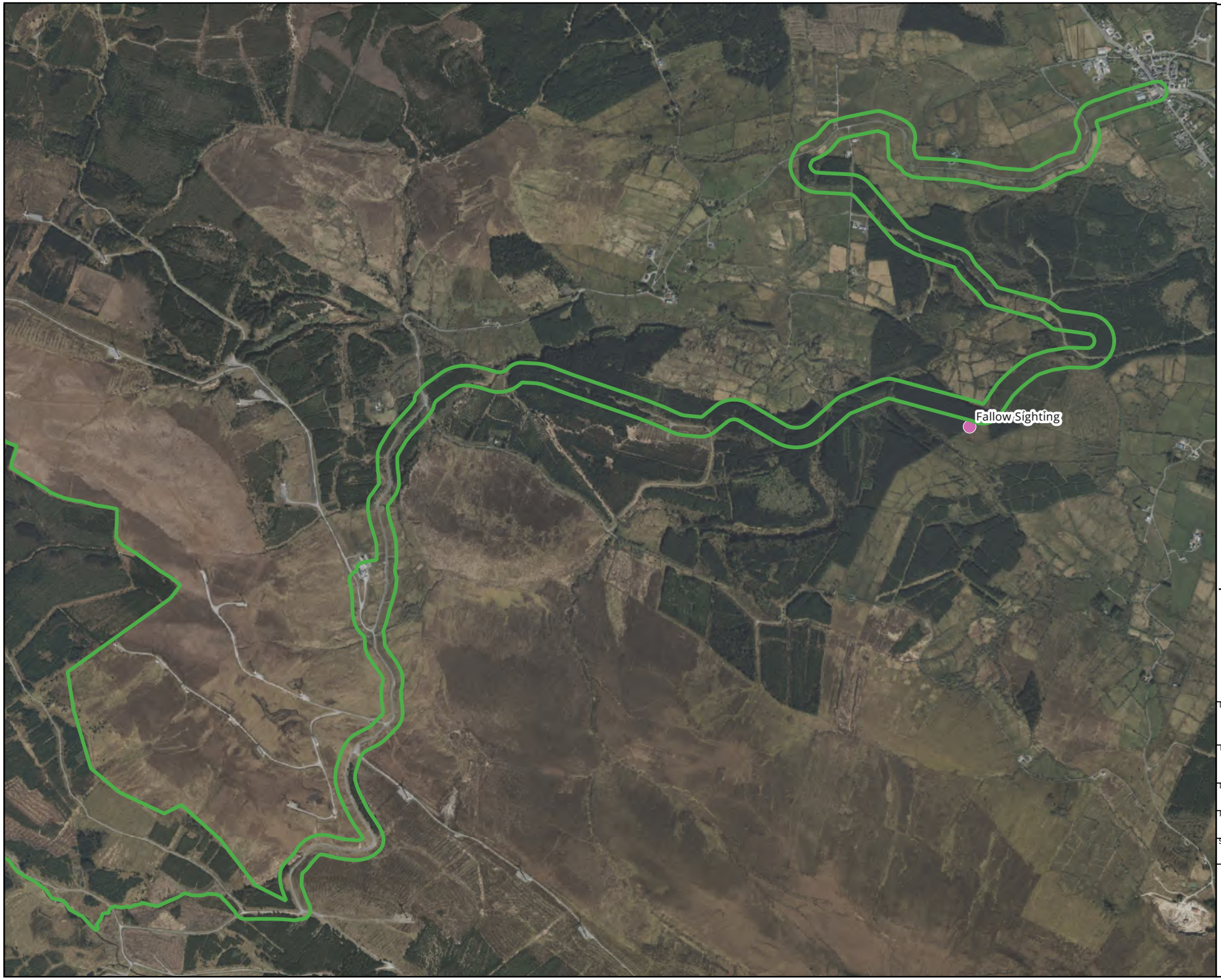
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Drawing Title
Mammal Signs - Western Side of the Proposed Development Site

Project Title
Croagh Wind Farm, Co. Leitrim/Sligo

Drawn By	Checked By
AMcD	KB
Project No.	Drawing No.
180511-d	Figure 4-6
Scale	Date
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Map Legend

EIAR Site Boundary

Mammal Signs

- Badger
- Deer
- Fox
- Mustelid

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Drawing Title
Mammal Signs - Eastern Side of the Proposed Development Site

Project Title
Croagh Wind Farm, Co. Leitrim/Sligo

Drawn By	Checked By
AMcD	KB
Project No.	Drawing No.
180511-d	Figure 4-7
Scale	Date
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5. DISCUSSION

The additional multi-disciplinary ecological walkover survey was conducted to assess the current condition of habitats, invasive species presence and the presence of mammals within the EIAR Site Boundary. The survey confirmed that the habitats present largely correspond to those recorded in the previous assessments, with no significant changes in habitat extent or quality observed. There was however, one site previously identified as Conifer plantation (WD4) during the 2017-2020 surveys and was reclassified as Recently-felled woodland (WS5) habitat during the 2025 surveys. Another area previously identified as Scrub (WS1) along the haul route was reclassified to Wet grassland (GS4) habitat. The site supports a mosaic of habitats which provide important ecological connectivity and resources for the environment and the small updates to the habitat mapping in these areas does not represent a significant change in the baseline environment, and do not introduce any new Key Ecological Receptors that require further consideration.

The proposed Croagh Wind Farm will result in the loss of approximately 0.38 hectares of peatland habitat that has been classified as conforming to the EU Habitats Directive Annex I habitat; Blanket Bog [7130]. The drainage plan for the site has been specifically designed to limit the extent of impacts outside the immediate footprint of the proposed infrastructure as much as possible. As outlined within the Peatland Enhancement and Biodiversity Management Plan for the Proposed Development, which was included as Appendix 6.5 of the EIAR, the area that will be lost or degraded through drainage to facilitate Turbine no. 1 will be compensated for in full by felling an equivalent area of land where conifers have been planted on blanket bog habitat. In addition, an area of blanket bog adjoining the proposed restoration area will also be enhanced through the implementation of drain blocking and removal of encroaching conifers. This blanket bog enhancement area covers an area of 3.74 hectares within the Coillte landholding. The combination of enhancing 3.74 hectares of degraded blanket bog (due to drainage and establishing conifers, growing as a result of natural seed dispersal) and locating the proposed compensation area of 0.38 hectares adjacent to this aims to maximise the potential overall biodiversity benefits associated with the restoration plan. It is therefore concluded in Section 6.7.3.1.2 of the EIAR that, following the implementation of mitigation and the arising effect of the mitigation measures, there will be no significant residual effect on these Upland blanket bog (PB2) locations. There may be a short-term slight negative effect in the early stages of implementation of the Biodiversity Management Plan in the form of habitat loss.

During the survey, signs of species of interest such as badger, pine marten, fox and deer were observed and recorded, with the badger setts previously-recorded showing signs of continued use. As outlined in Section 6.7.3.2.1 of the EIAR, a pre-commencement badger survey will be undertaken and an exclusion zone will be put in place along the section of haul road during the construction phase to ensure works are not undertaken within 30 metres of a known badger sett on site (known to be approx. 40 metres from the proposed footprint). No additional resting or breeding sites were recorded for any protected species, and no additional mitigation or enhancement measures are required for any species further to those outlined within Section 6.7.3 (Likely Significant Effects During Construction Phase) of Chapter 6: Biodiversity of the EIAR.

The survey also identified the invasive species Japanese knotweed and Rhododendron within the site boundary. These invasive species are listed on 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). If unregulated, these species have the potential to spread rapidly and outcompete native vegetation, which could affect habitat quality if left unmanaged. The Proposed Development has the potential to disturb Japanese knotweed in two locations within the site, along the proposed access route in the easternmost section of the site as well as along a proposed road upgrade to the east of Turbine 2. Section 6.7.3.3 (Potential Introduction or Spread of Invasive Alien Plant Species) of Chapter 6 in the EIAR outlines strict mitigation measures to prevent the spread of this species, which will continue to be adhered to and will also be implemented for the re-sited stand to the east of Turbine 2. These mitigation measures were

further expanded upon in Section 2.57.1 of the Further Information Response submitted to Leitrim County Council in April 2021 (P. 20/120).

Additionally, while no Rhododendron was identified within site during previous baseline surveys, a single stand was identified in 2025, within an area of forestry between the proposed Turbines 8 and 9. This stand is located outside the proposed infrastructure footprint and is therefore not at risk of spread or contamination as a result of the construction of the Proposed Development. However, as outlined within Section 6.7.3.3.1 (Pre-Mitigation Impacts) of the Biodiversity Chapter, a pre-construction invasive species survey will be undertaken prior to the construction of the Proposed Development and will provide updated data in advance of any construction given the intervention time period between the original survey work and any future grant of permission/ construction.

In conclusion, the ecological walkover survey indicates that the site remains largely unchanged, supporting a range of habitats and species consistent with previous assessments. With the implementation of appropriate mitigation and best practice measures as outlined within Section 6.7.3 (Likely Significant Effects During Construction Phase) Chapter 6 of the EIAR, potential impacts on ecological features can be effectively minimised, ensuring the continued conservation and connectivity of habitats across the site. No further mitigation or enhancement measures are required.

Chapter 6 of the EIAR submitted as part of the planning applications concluded:

"The site is located primarily within a large plantation coniferous forestry (WD4) of varying ages that has been assessed as of low ecological value. Consequently, any potentially significant effects on the Key Ecological Receptors identified in this report have been avoided through their avoidance during the project design or by the implementation of mitigation measures as detailed in Section 6.7 of this chapter; including all references made to mitigation specified in other Chapters and appendices of the EIAR.

A small area of fragmented Upland blanket bog (PB2) also occurs within the northwest of the site. This area of peatland and associated habitats have been assessed as corresponding to those listed in Annex I of the EU Habitats Directive and were therefore identified as of County importance. The proposed development has been designed in order to avoid peatland habitats where possible and where some loss has been identified; appropriate mitigation and compensation measures have been incorporated into the proposed project through a Biodiversity Management Plan.

Faunal species records within the EIAR study area, during detailed ecological surveys undertaken between 2017 and 2020, were found to be common and widespread in the wider area, and in a National context. Protected species such as badger were identified within the site boundary. The badger setts recorded have been fully avoided by the proposed development footprint. In addition. a number of standard best practice measures have been incorporated into the project for the avoidance of impact on badger as a result of disturbance/displacement. The implementation of these measures in full will ensure compliance with the Wildlife Act.

Taking the above information into consideration and having regard to the precautionary principle, the proposed development will not result in a residual loss of peatland habitat of high ecological significance and will not have any significant impacts on the ecology of the wider area.
Provided that the proposed development is constructed and operated in accordance with the design, best practice and mitigation that is described within this application, significant impacts on ecology are not anticipated at any geographic scale".

Following a review of the ecological data collected during the additional ecological survey in 2025, it is concluded that there will be no changes to the findings or conclusions of the Biodiversity Chapter submitted as part of the planning applications.

6. CONCLUSION

This Ecological Report has set out the results of detailed habitat and mammal surveys undertaken within the Proposed Development site at the proposed Croagh Wind Farm, Counties Sligo and Leitrim, in September 2025. Detailed survey results have been outlined within the preceding sections.

Following a review of the ecological data collected during the additional ecological survey in 2025, it is concluded that there will be no changes to the findings or conclusions of the Biodiversity Chapter submitted as part of the planning applications.

An addendum to the Natura Impact Statement (NIS) has been prepared which separately addresses the findings and conclusions of the NIS and any updates relating to Site-Specific Conservation Objectives documents that have occurred in the intervening period since the submission of the original NIS.

This addendum to the NIS concludes that

> *"Taking into account the results of the updated ecological surveys of the site and the updates to the Site Specific Conservation Objectives (SSCO) documents for relevant European Sites, no potential pathways for significant effects were identified on any new European sites and no potential pathways for adverse effects on any European Site were identified.*
>
> *No additional pathways for effect were identified with respect to the relevant European Sites and no additional mitigation measures, further to those outlined within the NIS which accompanied the planning application, are deemed necessary to prevent adverse effects on any European Sites.*
>
> *There are no changes to the findings of the AASR and NIS which accompanied the planning applications for the Proposed Development and the conclusions of these assessment documents remain valid. It can be concluded, in view of best scientific knowledge and based on objective information, that the Proposed Development will not adversely affect the integrity of any European Site."*

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