



APPENDIX 6-4

INVASIVE SPECIES MANAGEMENT PLAN

Invasive Species Management Plan

Proposed Clonberne Wind
Farm, Co. Galway





DOCUMENT DETAILS

Client: **Clonberne Windfarm Ltd.**

Project Title: **Proposed Clonberne Wind Farm, Co. Galway**

Project Number: **180740**

Document Title: **Invasive Species Management Plan**

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1. INTRODUCTION

1.1 General Introduction

This project relates to a proposed wind farm development at Clonberne, Co. Galway (ITM Grid reference: X 554363, Y 756561). MKO were commissioned to prepare a site-specific Invasive Species Management Plan on behalf of the client, Clonberne Windfarm Ltd.

The location of the proposed development is shown in **Figure 1-1**. The proposed development is located adjacent to the Lough Corrib SAC, with the grid connection route partially overlapping this European designated site.

One Invasive Species (ISs) listed on the 'Third Schedule' of Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) was identified both within and directly adjacent to the proposed development site during the Multidisciplinary walkover surveys carried out by MKO on the 28th June 2019, 15th July 2019, 19th August 2019, 5th August 2021, 24th August 2021, 25th August 2021, 24th January 2022, 30th September 2022, 1st October 2022, 26th June 2023, 1st September 2023, 23rd November 2023 and the 18th January 2024. These surveys were carried out in preparation of the Natura Impact Statement (NIS) and Environmental Impact Assessment Report (EIAR) submitted as part of the planning application. ISs recorded included:

- *Rhododendron ponticum* (within and adjacent to the site)

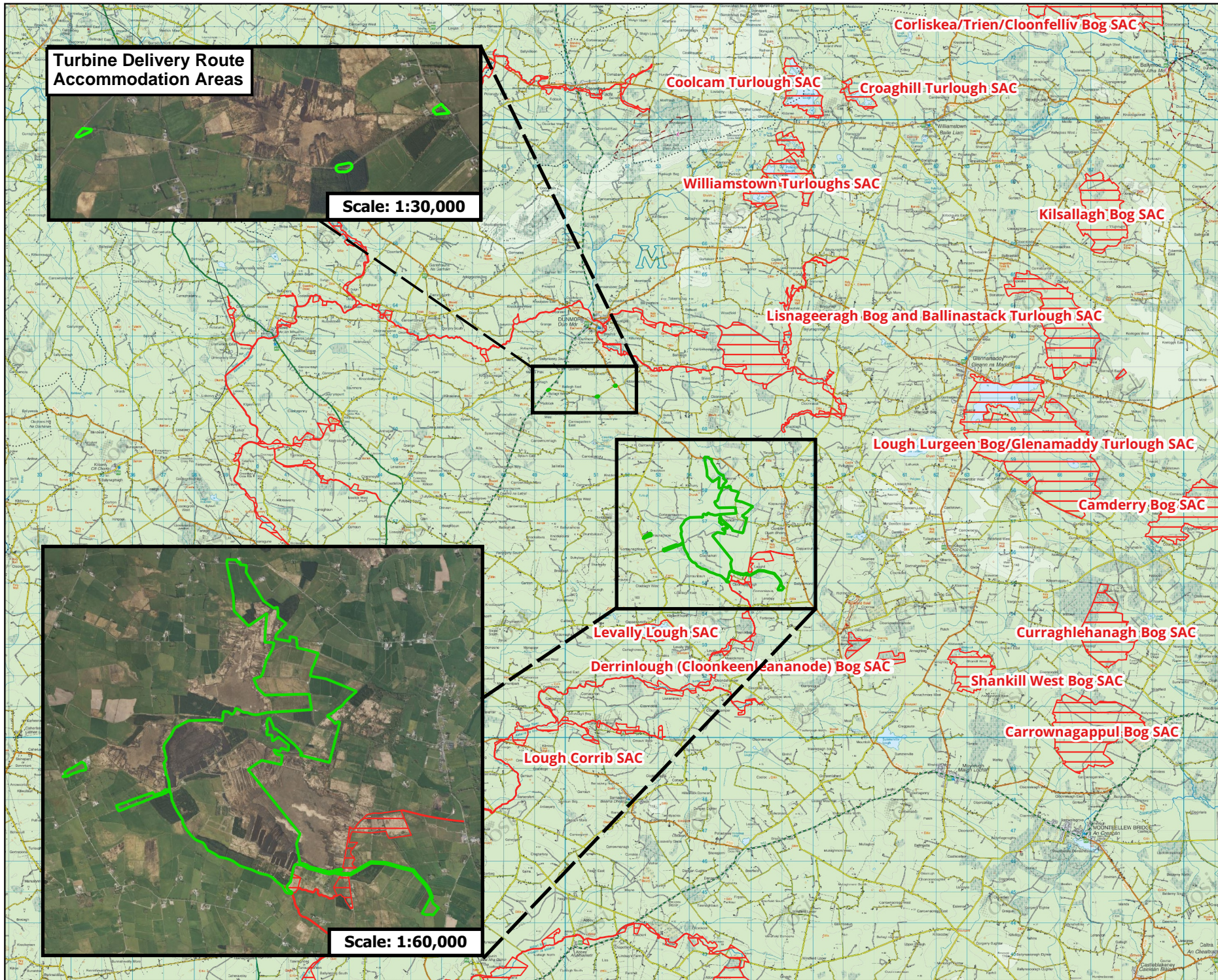
In addition, the invasive species Cherry Laurel (*Prunus laurocerasus*), was also recorded growing in association with the Rhododendron on the site. This species is not listed on the Third Schedule of the Birds and Natural Habitats Regulations as described above but is highly invasive and will be managed along with the Rhododendron.

This document has been prepared with reference to current legislation and best practice guidelines in the identification, treatment and management of invasive alien species listed on the 'Third Schedule' of Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011). The document does not provide advice or guidance with reference to waste legislation.


The objectives of this report are summarised below:

- Provide site specific best practice measures for the control and management of invasive species.
- Provide detailed recommendations for the management of invasive species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011).

The recorded Rhododendron is mapped in **Figure 2-1**, showing its distribution within and adjacent to the proposed development site boundary.



Map Legend

-  EIA Site Boundary
-  Special Area of Conservation (SAC)



Drawing Title

Site Location

Project Title	
Proposed Clonberne Wind Farm, Co. Galway	
Drawn By	Checked By
KB	KOD
Project No.	Drawing No.
180740	Figure 1-1
Scale	Date
1:160,000	21.03.2024



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1.2

Legislative Framework

Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) include legislative measures to deal with the dispersal and introduction of invasive alien species.

Non-native species subject to restrictions under Regulations 49 and 50 are included in the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011). High impact invasive species on this list include, among others, Japanese Knotweed, Giant Hogweed, Giant Knotweed, Giant Rhubarb, Himalayan Balsam, Himalayan Knotweed, Bohemian Knotweed and Rhododendron.

Regulation 49

“any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow in any place specified in relation to such plant in the third column of Part 1 of the Third Schedule, any plant which is included in Part 1 of the Third Schedule, shall be guilty of an offence.”

Regulation 50

“a person shall be guilty of an offence if he or she has in his or her possession for sale, or for the purposes of breeding, reproduction or propagation, or offers or exposes for sale, transportation, distribution, introduction or release;

- (a) an animal or plant listed in Part 1 or Part 2 of the Third Schedule, (b) anything from which an animal or plant referred to in subparagraph
- (a), can be reproduced or propagated, or
- (c) a vector material listed in Part 3 of the Third Schedule,”

1.3

Guidance Documents

The following guidance documents and literature sources were consulted during the preparation of this report:

- Department of Environment (2013). An Invasive Alien Species Strategy for Northern Ireland. www.doeni.gov.uk
- TII (2020) The Management of Invasive Alien Plant Species on National Roads – Technical Guidance
- NRA (2021). Guidelines on management of noxious weeds and non-native invasive plant species on national roads. National Roads Authority.
- Stokes *et al.* (2004) Invasive species in Ireland. Unpublished report.

1.4

Statement of Authority

Baseline ecological surveys were undertaken on the 28th June 2019, 15th July 2019, 19th August 2019, 5th August 2021, 24th August 2021, 25th August 2021, 24th January 2022, 30th September 2022, 1st October 2022, 26th June 2023, 1st September 2023, 23rd November 2023 and the 18th January 2024 by Sarah Mullen (B.Sc., Ph.D.), Pat Roberts (B.Sc., MCIEEM), Rachel Walsh (B.Sc.), Luke Dodebier (B.Sc.), Katy Beckett (B.A., M.Sc.), Kate O'Donnell (B.Sc., ACIEEM) and Ciara Lynn Sheehan (B.Sc.) of MKO. All surveyors are competent and experienced in the surveys in which they were involved. This

Invasive Species Management Plan (ISMP) has been prepared by Katy Beckett and reviewed by Pat Roberts B.Sc. (Env.) MCIEEM. Katy is an ecologist with MKO with relevant academic qualifications and survey experience, and Pat is an experienced ecologist with over 19 years' professional experience in ecological consultancy.

2.

CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

The Proposed Project (in-combination Proposed Wind Farm and Proposed Grid Connection) will consist of the provision of the following:

Proposed Wind Farm

The proposed development will consist of the provision of the following:

- i. 11 no. wind turbines with an overall turbine tip height of 180 metres; a rotor blade diameter of 162 metres; and hub height of 99 metres, and associated foundations, hard-standing and assembly areas;
- ii. Underground electrical cabling (33kV) and communications cabling;
- iii. Provision for the undergrounding of a section of proposed 38kV overhead electrical cabling and the provision of 2 no. 38kV Line to Cable Interface End Masts to facilitate the undergrounding of the proposed 38kV cabling.
- iv. Upgrade of existing tracks/roads and provision of new site access roads, junctions and hardstand areas;
- v. Construction of 1 no. new gated permanent site entrance off the R328 Regional Road to facilitate the delivery of the construction materials and turbine components to site;
- vi. Construction of 2 no. temporary construction compounds and associated ancillary infrastructure including temporary site offices, staff facilities and car-parking areas for staff and visitors, all to be removed at end of construction phase;
- vii. Development of 1 no. borrow pit;
- viii. Provision of 3 no. passing bays adjacent to the L22321 Local Road and an existing access track to facilitate the transport of stone material to the site;
- ix. Peat and spoil management including the provision of 4 no. peat repository areas and 1 no. spoil repository area;
- x. Junction accommodation works including temporary accommodation areas adjacent to the N83 National Secondary Road, R328 Regional Road and L6466 Local Road to facilitate the delivery of turbine components to site;
- xi. Site Drainage;
- xii. Peatland Enhancement Area;
- xiii. Biodiversity Enhancement Measures (including the planting of woodland, linear habitat, grassland management and invasive species removal);
- xiv. Tree felling and hedgerow removal to facilitate construction and operation of the proposed development;
- xv. Operational stage site signage; and
- xvi. All ancillary works and apparatus.

A thirty five-year operational life from the date of full commissioning of the entire wind farm is being sought and the subsequent decommissioning.

The application is seeking a ten-year planning permission. A concurrent planning application in relation to a proposed substation which will comprise of a 220kV Gas Insulated Switchgear (GIS) building, an Independent Power Producer (IPP) compound, a Battery Energy Storage System (BESS) compound, underground grid connection and associated cabling to connect the proposed Clonberne Wind Farm to the national grid via the existing Flagford to Cashla 220kV overhead line in the townland of Laughil is also being lodged to An Bord Pleanála.

Proposed Grid Connection

The proposed development will consist of the provision of the following:

- i. *Construction of a permanent substation which will comprise of a 220kV Gas Insulated Switchgear (GIS) building, an Independent Power Producer (IPP) compound, a Battery Energy Storage System (BESS) compound, including 4 no. 18-metre high Lightning Monopoles, welfare facilities, car parking, wastewater holding tank, 36-metre-high Telecommunications Mast, 2.6-metre high palisade fencing, external lighting, underground cabling, and all associated infrastructure and apparatus;*
- ii. *All works associated with the connection of the proposed Clonberne Wind Farm to the national electricity grid, including the provision of underground electrical cabling (220kV) to the existing Flagford to Cashla 220kV overhead line, in the townland of Laughil;*
- iii. *The provision of 2 no. loop-in towers, 2 no. gantries within 2 no. cable compounds to facilitate the connection of the proposed substation to the existing Flagford to Cashla 220kV overhead line;*
- iv. *Construction of 2 no. gated permanent site entrances off the L6501 Local Road to facilitate access to the proposed development and the proposed Clonberne Wind Farm;*
- v. *Provision of 4 no. joint bays, communication chambers and earth sheath links along the underground electrical cabling route and temporary accommodation areas to facilitate underground cabling works;*
- vi. *Provision of a cable access track to facilitate the installation and maintenance of cabling and provide access to the proposed substation;*
- vii. *Reinstatement of the road or track surface above the proposed cabling trench along existing roads and tracks;*
- viii. *Operational access road to the proposed development and the proposed Clonberne Wind Farm;*
- ix. *Site Drainage;*
- x. *Tree felling and hedgerow removal to facilitate construction and operation of the proposed development;*
- xi. *Operational stage site signage; and*
- xii. *All ancillary works and apparatus.*

The application is seeking a ten-year planning permission. The development subject of this application will facilitate the connection of the proposed 11 no. wind turbine Clonberne Wind Farm to the national electricity grid. A concurrent application in relation to proposed Clonberne Wind Farm is also being lodged to An Bord Pleanála.

Location/extent of Invasive Species within the Proposed Project Site

Several seedlings, small, medium and large sized stands of *Rhododendron* are identified within the site boundary at various locations. Large stands are growing extensively within the area of Non-Annex I Bog woodland (WN7) to the south of T2. Many smaller stands and seedlings are also growing within this area as the species spreads. These stands extend across the existing road to the south and west as well as outside the Proposed Development site boundary to the east.

A further stand is also present to the northwest of T5 along an area of Conifer plantation (WD4), as well as to the east of this turbine within a further area of Bog woodland (WN7). The highly invasive, non-Third Schedule cherry laurel (*Prunus laurocerasus*) was also growing in large stands in this area. Further extensive areas of *Rhododendron* invasion are present to the south of T5 and along both sides of the existing road, however these areas are outside of the Proposed Development site boundary and therefore have not been mapped. As this existing road continues to the west, it re-enters the Proposed Development site, with medium stands of *Rhododendron* present along the northern roadside.

Two further medium/large stands of *Rhododendron* have been identified along the grid connection route. The eastern stand is located within the footprint of the proposed grid route, adjacent to the water crossing of the Levally stream. This stand is also located 10m from the Lough Corrib SAC, through which the Levally stream flows. The western stand is located approximately 7-8m south of the footprint of the proposed grid connection route, partially outside the Proposed Development boundary.

Several large stands of *Rhododendron* were also identified at the central land take area of the proposed turbine delivery route along the L6466 at the junction with a forestry road to the south (Plate 2-1). The highly invasive plant species cherry laurel was also found growing in large stands along with the *Rhododendron* in this area (Plate 2-2).

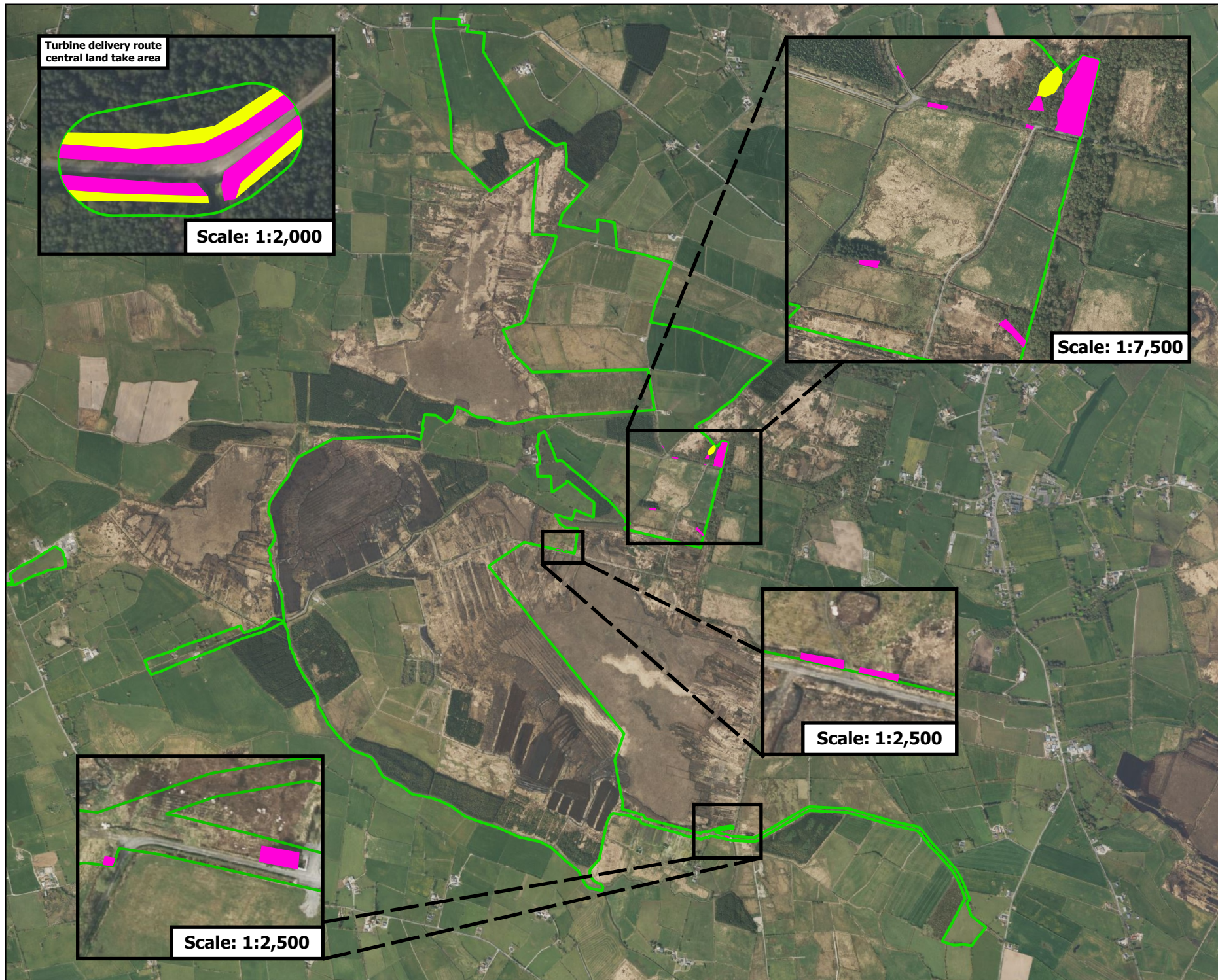
The locations of *Rhododendron* and cherry laurel within the site are shown in **Figure 2-1**.



Plate 2-1 A large stand of Rhododendron growing in the central land take area of the proposed turbine delivery route.



Plate 2-2 Cherry laurel growing in association with Rhododendron in the central land take area of the proposed turbine delivery route.



Turbine delivery route
central land take area




Scale: 1:2,000

Scale: 1:7,500

Scale: 1:2,500

Scale: 1:2,500

Map Legend

-  EIAR Site Boundary
-  Rhododendron ponticum
-  Cherry laurel



Drawing Title:

Invasive Species within the
Site

Project Title

Proposed Clonberne
Wind Farm, Co. Galway

Drawn By

KB

Checked By

KOD

Project No.

180740

Drawing No.

Figure 2-1

Scale

1:23,000

Date

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3. RHODODENDRON AND CHERRY LAUREL MANAGEMENT PLAN

3.1 Rhododendron ponticum

Rhododendron (*Rhododendron ponticum*) is an evergreen, acid loving shrub introduced to Ireland in the 18th Century. Since its introduction it has established itself as a major weed of acid woodlands in Wicklow, Kerry and Cork. It can withstand considerable shade and thrives as an understorey species in woodland, though it also tolerates open conditions in suitable acid soils. In addition to shading, the foliage of rhododendron contains various compounds that appear to have an allelopathic action on other species (inhibiting their growth) which may further inhibit plants from growing within close proximity.

3.2 Cherry Laurel

Cherry laurel is an evergreen shrub, up to 10m tall, leaves oblong-ovate 5-15cm, flower white, with purple-black fruit, which can be eaten by birds. It spreads via layering and suckering and the seed can be dispersed by birds. It outcompetes native species and suppresses regeneration by forming thick stands and avoids herbivory by wildlife. It often grows in association with Rhododendron ponticum.

3.3 Proposed Management Strategy

Much of the Rhododendron and cherry laurel identified within the Proposed Development site is within the footprint of the Proposed Development, while other large stands are also present outside of the footprint.

A proposed new road passes through large stands of Rhododendron and cherry laurel between T2 and T5, with smaller stands also present adjacent to the existing road proposed to be upgraded. A further stand of Rhododendron is also present to the northwest of T5 along an area of conifer plantation which is located within the felling buffer of T5.

Further large stands of Rhododendron and cherry laurel are growing within the central land take area of the proposed turbine delivery route along the L6466 at the junction with a forestry road to the south.

It is proposed to physically remove Rhododendron and cherry laurel plants located within or directly adjacent to the footprint of the Proposed Project. Stands that are located adjacent to the Proposed Project footprint but which do not require immediate removal are proposed for herbicide treatment.

3.3.1 Pre-Commencement Surveys

Prior to the commencement of any works, the following site setup procedures will be carried out:

- A pre-commencement survey for Rhododendron and cherry laurel will be undertaken by a fully qualified ecologist to determine the locations and extent of the species within and immediately adjacent to the Proposed Project footprint and to determine whether there have been any changes in the extent of the infestation since the undertaking of the most recent surveys in January 2024.
- The locations and extent of Rhododendron and cherry laurel within the footprint will be clearly marked out before removal.

3.3.2 Mechanical Removal

Prior to the commencement of construction works, all Rhododendron and cherry laurel within the works footprint will be removed following the methodology outlined below for seedlings, medium and large stands. Medium plant stands are those with no flower head present or visible, thin stems, and that cannot be removed by hand, or where the root cannot be fully removed from the ground. Large plants are those with trunk like stems that exceed 5cm in width.

- All seedlings within and adjacent to (within 3 metres) the Proposed Project footprint will be removed by hand or with a hand tool to fully remove the plant root from the ground. This can occur at any time of the year as they will not produce flowers and seeds at this early stage of growth.
- For medium and large stands, the tree/plant will be cut as close to the ground as possible. Cutting of any foliage will not occur within bird nesting season (March 1st to August 31st) in accordance with the Wildlife Act (as amended).
- The cut material will be stacked and stored on site to dry, used as firewood or mulched as this plant material is deemed inert and can be used for landscaping as natural weed barriers or other horticultural purposes. Cut material will be stacked away from the cut stumps or other plants.
- The remaining root/stump will be removed from the ground using hand tool or an excavator.
- The root/stump will be placed on an impermeable surface such as palettes or a radon barrier membrane and left to dry out.

3.3.3 Herbicide Treatment

Medium and large stands of Rhododendron and cherry laurel that are located adjacent to (within 3 metres) the Proposed Project footprint but do not require removal before the commencement of construction works will be treated using herbicide methods, as outlined below.

- Medium sized plants (stem diameter of >20mm) will be sliced at the mid-section of the stem at a 45-degree angle and treated with a herbicide immediately after being cut. Given the wet nature of the site, it is recommended that a Glyphosate-based herbicide suitable for use near watercourses be applied as a spot treatment to each individual plant to avoid contamination by spray drift to the surrounding environment and native plant species.
- For large plants (>100mm), it is recommended to treat in-situ by manually removing the upper parts of the plant and apply the Ecoplug method (www.landscapedepot.ie) as to avoid spray drift and to minimise the potential for spraying of non-target species. The Ecoplug method is outlined below.
 - The tree/plant will be cut as close to the ground as possible. Cutting of any foliage will not occur within bird nesting season (March 1st to August 31st) in accordance with the Wildlife Act (as amended).
 - The cut material can be stacked and stored on site to dry out, used as firewood or mulched as this plant material is deemed inert and can be used for landscaping as natural weed barriers or other horticultural purposes. The cut material will not be stacked on the cut stems.
 - A 30mm deep hole, and 13mm wide will be drilled into the remaining stump and the Ecoplug will be inserted into the hole until it is flush with the top of the stump.

3.4 General Biosecurity Measures

The following best practice measures will be adhered to during the treatment and management of the ISs within the proposed development site.

- No ground works will take place on site prior to the application of this site-specific ISMP. The ISMP will ensure all measures are taken to avoid the spread of species listed on the Third Schedule.
- All staff will be given a Toolbox Talk, by a qualified ecologist, on invasive species removal, and their management on site.
- Ensure all visitors to the site are made aware of the location of the ISs recorded and are familiar with its characteristics and method of reproduction.
- A designated bio-secure area/exclusion zone will be set up at recorded invasive species locations to prevent disturbance in these areas. Third schedule invasive species will be marked with hazard tape in order to identify the species prior to vegetation clearance works and to keep it separate from other brash material.
- All machinery will be thoroughly cleaned down prior to arriving on the site to avoid the potential spread of invasive species from elsewhere.
- The contractor will assign a member of their team as Environmental Officer to ensure the management plan is adhered to throughout the proposed works.
- All works in relation to the Third Schedule invasive species will be supervised by a suitably qualified ecologist.
- Any soil and topsoil required on the site will be sourced from a stock that has been screened for the presence of any invasive species and where it is confirmed that none are present.
- Any material imported to the site will be screened for invasive species by a suitably qualified ecologist before transportation to the site.
- All measures prescribed in the invasive species management plan will be incorporated into the contractor's respective method statements for works where Third Schedule invasive species and invasive species of potential concern occur.

4.

CONCLUSION

This bespoke management plan for the treatment of the invasive species recorded within the construction footprint of the Proposed Project at the proposed Clonberne Wind Farm, as outlined in this document above, has been designed to follow the guidance outlined in Section 1.3. Careful implementation of the prescribed management measures will ensure that the works are conducted within the confines of legislation as outlined in Section 1.2.

It is proposed to treat all relevant species in-situ, either by physical removal or by chemical control.

It should be noted that this management plan provides for the management of Rhododendron, a Third Schedule invasive species, and cherry laurel only within or directly adjacent to Proposed Project footprint. Any invasive species that are located beyond this will be left undisturbed and will not be the subject of any management as part of the current proposal. All such areas will be avoided during construction activities to avoid potential spread of any invasive plant species.

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