



APPENDIX 6-5

INVASIVE SPECIES MANAGEMENT PLAN

Invasive Species Management Plan

Maughanaclea Renewable
Energy Development, Co,
Cork



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1. INTRODUCTION

1.1 General Introduction

MKO were commissioned by Maughanaclea Ltd. to prepare an Invasive Species Management Plan (ISMP) to accompany an Environmental Impact Assessment Report (EIAR) and planning application for the Maughanaclea Renewable Energy Development in Co. Cork, hereafter referred to as the ‘Proposed Project’.

The Proposed Wind Farm site is located within a rural setting in west Co. Cork, approximately 2.5km east of the village of Kealkill, 9.5km northeast of the town of Bantry, and 12.2km west of Dunmanway.

The Proposed Grid Connection includes for 110kV underground cabling from the proposed 110kV onsite substation, in the townland of Maughanaclea, Co. Cork, to the existing Dunmanway 110kV substation in the townland of Ballyhalwick, Co. Cork. The Proposed Grid Connection is approximately 20.5km in length and is located primarily within the curtilage of the public road corridor. One section (approximately 0.8km) of the Proposed Grid Connection is located in private land within an access road in the southern turbine cluster of the Proposed Wind Farm.

Invasive species surveys were carried out by MKO in 2024/2025. The surveys comprised a focussed search for Invasive Species (ISs) listed on the ‘Third Schedule’ of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011), and species listed on the ‘First Schedule’ of the European Union (Invasive Alien Species) Regulations 2024 (S.I. 374 of 2024).

Rhododendron (*Rhododendron ponticum*) was recorded within the Proposed Project Site. Japanese knotweed (*Reynoutria japonica*) was recorded along the proposed Turbine Delivery Route (TDR) however, this was completely outside of any proposed works areas.

This ISMP 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’ and the ‘First Schedule’ of the above-mentioned European Union/Communities Regulations.

The objectives of this report are summarised below:

- Provide site-specific best practice guideline 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) and the ‘First Schedule’ of the European Union (Invasive Alien Species) Regulations 2024 (S.I. 374 of 2024).

1.2 Legislative Framework

Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) and Regulation 17(a)/(b) of the European Union (Invasive Alien Species) Regulations 2024 (S.I. 374 of 2024), include legislative measures to deal with the dispersal and introduction of invasive alien species listed in the Third Schedule and First Schedule of the respective regulations. These regulations are highlighted below.

Regulation 49 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011)

“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 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011)

“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
- (b), can be reproduced or propagated, or
- (c), a vector material listed in Part 3 of the Third Schedule,”

Regulation 17 of the European Union (Invasive Alien Species) Regulations 2024 (S.I. 374 of 2024)

“(1)A person shall not

- (a) introduce into the State,
- (b) keep, including in contained holding,
- (c) breed, including in contained holding,
- (d) import into, export from or transport within the State, except for the transportation of species to facilities in the context of eradication,
- (e) place on the market,
- (f) use, exchange or offer for exchange,
- (g) permit to reproduce, grow or cultivate, including in contained holding, or
- (h) release into the environment, an invasive alien species of national concern.

(2) A person shall not

- (a) import or otherwise introduce into the State,
- (b) place on the market,
- (c) use, exchange or offer for exchange, or
- (d) release into the environment, a vector material.”

1.3

Guidance Documents

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

- TII (2020). *The management of Invasive Alien Plant Species on National Roads*. TII Publications, Transport Infrastructure Ireland.
- Crushell, P., Foss, P., Hurley, C. & O’Loughlin, B. (2011). *County Kerry Invasive Species Survey 2011 - Pilot Mapping Study of the River Lee Catchment, Tralee*. Report prepared for Kerry County Council and The Heritage Council.
- Stokes et al. (2004). Stokes, K., O’Neill, K. & McDonald, R.A. (2004) *Invasive species in Ireland*. Unpublished report.
- Actions for Nature 2023-2030, Ireland’s 4th National Biodiversity Action Plan.
- Inland Fisheries Ireland (2016) Best Practice for Control of Japanese Knotweed (*Fallopia japonica*)
- www.invasivespeciesireland.com

1.4

Statement of Authority

This report has been prepared by Lisa Buckley (B.Sc.) and reviewed by Rachel Walsh (B.Sc., MCIEEM).

Lisa is a Project Ecologist with over five years' experience in ecological assessment. She has extensive experience undertaking ecological surveys in a range of habitats and has worked on Appropriate Assessment and Ecological Impact Assessment for a wide range of developments.

This report has been reviewed by Rachel Walsh (B.Sc., MCIEEM). Rachel is a Senior Ecologist with over 5 years' experience in ecological consultancy, with the relevant qualifications in Environmental Science.

The baseline ecological surveys were conducted by MKO ecologists; Rachel Minogue (B.Sc.), Matthew Kieran (B.Sc.), Fiona Kileen (B.Sc.), Colin Murphy (B.Sc., M.Sc.), Tom Peters (B.Sc., M.Sc.), Ciara Lynn Sheehan (B.Sc.), and Niamh Rowan (B.Sc.) throughout 2024 and 2025. All surveyors have relevant academic qualifications and are competent in undertaking the habitat and ecological assessments.

2.

CHARACTERISTICS OF THE PROPOSED PROJECT

The Proposed Project comprises the construction of 14 no. wind turbines and all associated works.

The proposed turbines installed on within the Proposed Wind Farm will have the following dimensions:

- > Overall blade tip height of 169m,
- > Rotor diameter of 133m,
- > Hub height of 102.5m.

The overall layout of the Proposed Project is shown on Figure 4-1 of the EIAR.

Full details of the Proposed Project are provided in Chapter 4: Description of the Proposed Project.

3. INVASIVE SPECIES WITHIN THE PROPOSED PROJECT SITE

3.1 Rhododendron (*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 have an allelopathic action on other species (inhibiting their growth) which may further inhibit plants from growing within close proximity.

During field surveys undertaken, Rhododendron was recorded within the Site, with infestations occurring throughout the Proposed Wind Farm site and two occurrences along the Proposed Grid Connection. Additionally, there were four occurrences recorded along the TDR, but these areas won't be impacted as no accommodation works are required. The locations of this plant within the Proposed Wind Farm site are shown on Figure 3-1. Examples of records of Rhododendron plant identified within the Proposed Wind Farm site are shown in Plate 3-1, Plate 3-2 and Plate 3-3.

The coordinates of all Rhododendron recorded, as well as size of infestation, are provided in Table 3-1.

Table 3-1 Locations of Rhododendron recorded during the surveys undertaken

Map ID	Description	Coordinates
R1	Rhododendron recorded in isolation, within the Site in the south western section of the Proposed Wind Farm site	51.74639686, -9.33835672
R2	One small bush recorded in isolation, within the Site, in the south western section of the Proposed Wind Farm site	51.74185008, -9.32813081
R3	Rhododendron recorded within the Site, in the south western section of the Proposed Wind Farm site	51.74142894, -9.32519118
R4	Rhododendron recorded within proposed forestry felling lands, in the south western section of the Proposed Wind Farm site	51.74274481, -9.32034752
R5	Rhododendron recorded along access track, in the southern section of the Proposed Wind Farm site	51.74752512, -9.30769757
R6	Rhododendron recorded along access track within the Site and adjacent to borrow pit BP3 location, in the southern section of the Proposed Wind Farm site	51.74909414, -9.30421800
R7	Rhododendron recorded within the Site, adjacent to the R585, in the central section of the Proposed Wind Farm site	51.75620101, -9.30146562
R8	Rhododendron sapling recorded within the Site, in the northern section of the Proposed Wind Farm site	51.77670101, -9.27894540
R9	Rhododendron sapling recorded within the Site, in the northern section of the Proposed Wind Farm site	51.77665042, -9.27866955

R10	Rhododendron single bush recorded within the Site, in the northern section of the Proposed Wind Farm site	51.77674941, -9.27794056
R11	Rhododendron sapling recorded within the Site, in the northern section of the Proposed Wind Farm site	51.77527229, -9.27453663
R12	Small Rhododendron plant recorded within the Site, in the northern section of the Proposed Wind Farm site	51.77569439, -9.27384423
R13	Rhododendron recorded along the Proposed Grid Connection, within the Site, along the grass verge of the existing road	51.74977825, -9.17544503
R14	Rhododendron recorded along Proposed Grid Connection, within the Site, along the grass verge of the existing road	51.75353262, -9.15200252
R15	Rhododendron recorded along TDR and a section of the Proposed Wind Farm site on the R585 where 33kV internal wind farm cabling is proposed, along the grass verge of the existing road	51.75330336, -9.29022458
R16	Rhododendron recorded along TDR, along the grass verge of the existing road	51.78257944, -9.10012834
R17	Rhododendron recorded along TDR, along the grass verge of the existing road	51.83701932, -8.83931441
R18	Rhododendron recorded along TDR, along the grass verge of the existing road	51.83740214, -8.83876974



Plate 3-1 Third Schedule species Rhododendron (R2) within the Proposed Wind Farm site



Plate 3-2 Second example of Rhododendron (R9) located within the Proposed Wind Farm site



Plate 3-3 Third example of Rhododendron (R12) located within the Proposed Wind Farm site.

3.1.1

Proposed Management Strategy

Rhododendron plants were recorded within the construction footprint of the Proposed Wind Farm and therefore, the following steps will be taken to ensure that this species does not spread into the wider environment, as a result of the Proposed Project. There is no potential for disturbing or spreading this species along the TDR. Similarly, there is no potential for impacts on the Rhododendron records along the Proposed Grid Connection given that the cable will be constructed completely within the public road network, apart from a small section within the Proposed Wind Farm site. Therefore, the below applies to plants within the Proposed Wind Farm site only.

3.1.1.1 Site Set Up

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

- A pre-commencement survey for Rhododendron will be undertaken by a fully qualified ecologist to determine the locations and extent of the species within the Proposed Wind Farm site and to determine whether there have been any changes in the extent of the infestation since the undertaking of surveys in 2024 and 2025.
- The locations and extent of Rhododendron within the Proposed Wind Farm site will be clearly marked out using hazard tape to ensure they are not disturbed.
- For Rhododendron stands that occur outside of the construction footprint and will not be directly impacted, a 10m buffer zone (Higgins, G.T. 2008) surrounding each stand will also be applied using temporary fencing, to avoid disturbance of potentially contaminated soils.

Due to the young age and small size of the infestations recorded within the Proposed Wind Farm site, it is proposed to treat the plant *in-situ*. The recommended option for *in-situ* treatment is to manually remove 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.

- Cut the tree/plant as close to the ground as possible. This should be carried out from October to early March, outside the bird nesting season.
- The cut material can be stacked and stored onsite, used as firewood or mulched.
- A 30 mm hole 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.
- Where immature plants occur, hand pulling can be undertaken at any time of the year and left to dry out on an impermeable surface.

Where the Ecoplug method is unsatisfactory or where the plant requires removal due to being present within the construction footprint, physical extraction of the root/stump from the ground will be carried out.

- Cut the tree/plant as close to the ground as possible. This should be carried out from October to early March, outside the bird nesting season.
- The root/stump will be removed from the ground using hand tool or an excavator.
- The cut material can be stacked and stored within the Proposed Wind Farm site, used as firewood or mulched.
- The root/stump will be placed on an impermeable surface such as palettes or a radon barrier membrane and left to dry out.

Following treatment or eradication of the plant, excavated soil from the site of infestations at the Proposed Wind Farm will still be considered to be contaminated on a precautionary basis. In order to avoid the potential spread of the species, the top layer of soil/peat from the 10m buffer zone will be removed and if possible, used as back fill within the same infested area or stored outside of the construction footprint within the Proposed Project Boundary. This area will then be fenced off and will be monitored and if necessary, re-treated following the initial treatment and should continue until no growth is recorded for a period of at least two consecutive years.

Alternatively, the excavated spoil from within the buffer zone can be transported to an offsite waste facility, under license from the NPWS.

3.1.2 Post Treatment Monitoring

Ongoing monitoring will be required, with suitable follow-up management in order to control new growth or re-establishment of this species within the infested areas.

Following the initial treatment and completion of the Proposed Wind Farm site, the treated areas will be re-surveyed annually and if necessary, re-treated until no growth is recorded for two consecutive years. If invasive plants are found to be re-establishing, they shall be treated as per the measures outlined in this report.

3.2 Japanese Knotweed (*Reynoutria japonica*)

Japanese Knotweed (*Reynoutria japonica*) is a tall, vigorous, ornamental plant that escaped cultivation in the late nineteenth century and has since become an aggressive invader in both rural and urban environments. The plant can grow up to 2-3m high and its root system can extend up to 3m into the ground and 7m laterally from the parent plant. The reason this plant is such a threat is due to the nature of its regeneration. Cut fresh stems can produce fresh shoots and roots (rhizome) from nodes when immersed in soil or water. Very small fragments (0.7g) of fresh Knotweed shoot and root material have the potential to start a whole new plant.

During field surveys undertaken, Japanese Knotweed was not recorded within the Site. It was recorded at one location along the bank of an unmapped watercourse (51.79429269270019, -9.054759697626793), shown in Plate 3-4. This area is adjacent to the existing road along the TDR but outside of any proposed works areas. No invasive species were recorded within this area.

Therefore, there is no potential for impact on the recorded stands of Japanese knotweed as a result of the Proposed Project.



Please note however, that as part of the pre-commencement invasive species surveys prescribed, the Proposed Wind Farm site and all associated areas of proposed works will be surveyed for invasive species including Japanese knotweed, to ascertain whether there have been any changes since the baseline surveys. In addition, the areas of Japanese knotweed infestation will be taped off so staff are aware of its presence.



Plate 3-4 Japanese knotweed recorded adjacent to a watercourse along the TDR




Map Legend

-  EIAR Site Boundary
-  Rhododendron



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Drawing Title	
Recorded Invasive Species	
Project Title	
Maughanaclea Wind Farm	
Drawn By	Checked By
LB	RW
Project No.	Drawing No.
240225	Figure 3-1
Scale	Date
1:26,000	20.02.2026
	
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4.

SITE HYGIENE AND BIOSECURITY MEASURES

The following site hygiene and biosecurity measures will be adhered to for the management of invasive species within the Site:

- All works in relation to the invasive species will be supervised by an ECoW.
- All staff will be given a Toolbox Talk, by a suitably qualified person or ecologist, on invasive species removal in relation to Rhododendron and its management on site.
- The contractor will assign a member of their team as Environmental Officer to ensure the management plan is adhered to throughout the proposed works.
- A designated bio-secure area/exclusion zone will be set up at recorded invasive species locations to prevent disturbance in these areas. 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 should be thoroughly cleaned down prior to arriving on the site to avoid the potential spread of invasive species from elsewhere.
- Machinery that is used for excavation and onsite removal of invasive material will not be used for any other works until they are fully cleaned down and then visually inspected by a specialist to ensure no fragments of invasive plant material are present.
- Prior to leaving the invasive species exclusion zones, all boots and clothing will be thoroughly brushed down to remove any contaminated material prior to leaving the area.
- As a precautionary measure, machinery will be thoroughly cleaned down before exiting the Site to prevent potential spread of invasive species elsewhere.
- Clean down will be carried out using brushes and shovels and power washing will be avoided insofar as possible. This is to prevent potentially contaminated run-off spreading outside the Site.
- Material used for tracking machinery out of the contaminated areas onsite e.g. plywood will be thoroughly cleaned down under supervision of the ECoW prior to removal off site.
- 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.

5. CONCLUSIONS

This ISMP has been designed to facilitate the eradication and/or management of First and Third Schedule Invasive Species recorded within the Site. This ISMP has provided a record of the locations of invasive species recorded to date. Infestations of all invasive species identified within the Site during surveys undertaken in 2024 and 2025 will require additional surveys within the relevant growing season prior to commencement of any works to determine if the recorded species have spread further throughout the Site.

Provided that the management measures and biosecurity measures outlined within this ISMP are adhered to during construction of the Proposed Project, there is no potential for spread of Third Schedule/First Schedule invasive species.

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