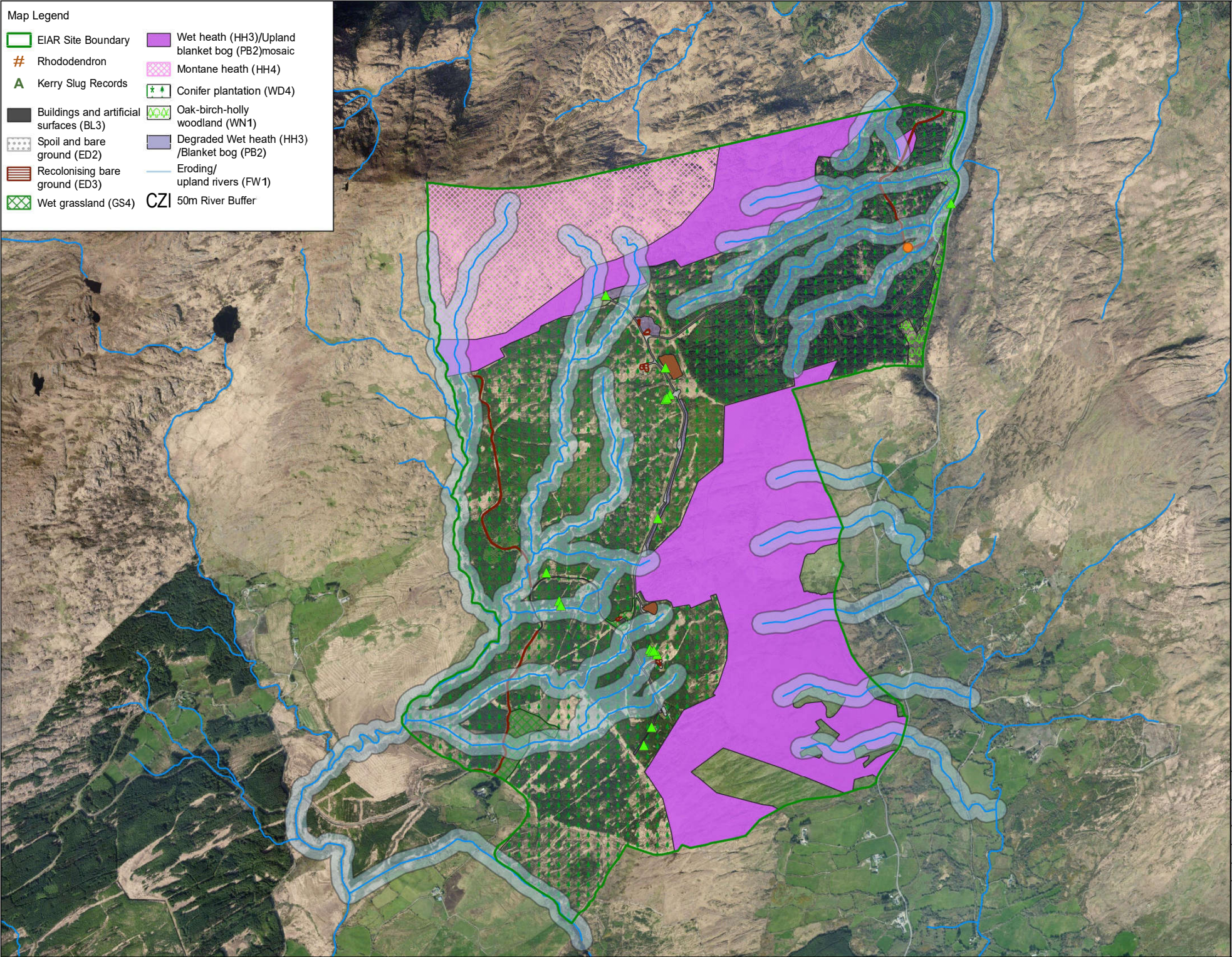


Map Legend

EIAR Site Boundary	Wet heath (HH3)/Upland blanket bog (PB2)mosaic
Rhododendron	Montane heath (HH4)
Kerry Slug Records	Conifer plantation (WD4)
Buildings and artificial surfaces (BL3)	Oak-birch-holly woodland (WN1)
Spoil and bare ground (ED2)	Degraded Wet heath (HH3) /Blanket bog (PB2)
Recolonising bare ground (ED3)	Eroding/ upland rivers (FW1)
Wet grassland (GS4)	50m River Buffer



1
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Habitat Map Curraglass

Project Title Curraglass Renewable Energy Development Co. Cork	
Drawn By Laoise Kelly	Checked By John Hynes
Project No 190301	Drawing No Figure 2-3
Scale 1:15315	Date 06.05.2020

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3. MITIGATION STRATEGY

3.1 Translocation

During the construction phase of the proposed development, including any felling works, the construction corridor will be kept to a minimum to avoid direct habitat loss for Kerry slug. Individual slugs within the footprint of the works will be translocated. Translocation will be to adjacent suitable habitats (outside of other construction works area). This is to ensure that suitable habitat remains and food sources for the Kerry slugs following their removal from the works area.

Kerry slugs have colour variations which are associated with different habitat types i.e., brown slug with yellow spots in forested habitats, and a black/grey slug with white spots in peatland habitats. This has been identified as a camouflage adaptation, and the translocation will consider this. For example, the translocation of any slugs from forested habitat will be to a suitable forested habitat outside of the impacted area. Any translocation which does not consider this will result in a mismatch of colouration. This in turn has the potential to result in an increase in predation caused by visually- foraging predators (O'Hanlon et al. 2017). This has been taken into consideration in the translocation methodology outlined below.

Translocation Methodology (Pre-Construction)

The surveys for translocation will follow the methodology outlined in Mc Donnell & Gormally (2011), consisting of a hand search and the deployment of metric refuge traps manufactured by De Sangosse (Pont du Casse, France). The surveys will be undertaken in suitable weather conditions where the felling is permitted. Only trained and licensed personnel will carry out the Kerry slug surveys.

The surveys will follow the translocation methodology as set out below:

- Search, trapping, and translocation will only occur during suitable weather conditions (wet/humid weather).
- The identification of suitable receiving habitat is critical. Animals found on sandstone will be translocated to sandstone, those found on oak trees will be located to oak trees, etc.
- Translocate to suitable habitat within 50m of the construction area (or to suitable habitat within a number of monitoring plots: 20x20).
- Prior to the commencement of construction, the location of the proposed development footprint will be surveyed by a suitably qualified professional, under a survey license from NPWS. The results of this survey will be submitted to the NPWS for comment and approval and the survey will identify areas where further surveys or the removal of slugs may be required.
- It is likely that some removal and translocation of slugs will be required. The areas where this will be required will be informed by the initial surveys to be undertaken. The methods by which this will be undertaken will be submitted to the NPWS for approval. Any translocation works will be carried out by suitably qualified professionals under this licence. The removal will be undertaken before the commencement of construction activity.
- Slugs will be translocated to suitable areas of similar habitat within the study area, such as forestry, wet heath, scrub, or woodland. These sites will be approved by the NPWS as part of their approval process for the translocation methodology.
- Slugs collected from forestry will be re-located to a forested habitat and slugs collected from grassland will be relocated to grassland etc.

Measures during Construction:

- The extent of the development footprint will be clearly marked to prevent any encroachment on Kerry slug habitat located outside the works area.
- Should Kerry slugs be found in the works area during the construction phase the site ECoW will notify the project ecologist and they will be relocated by a licenced and suitably qualified individual to a suitable habitat outside the works area to avoid direct mortality.
- Turves and boulders/exposed rock will be stored adjacent to the infrastructure footprint where practicable before reinstatement to maintain suitable habitat for the species in the vicinity of the works during construction.

There is sufficient evidence that such mitigation measures have been successful elsewhere (O’Hanlon et al. 2017) along with record returns (DER/KERRY SLUG – 2018 – 88).

4.

ENHANCEMENT AND MONITORING

The following enhancements for Kerry slug specifically will be undertaken:

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

The Kerry slug population on the site will be monitored to assess the success of the above enhancement measures and provide data on Kerry slug in the area. This will involve conducting surveys on an annual basis for three years post construction, the results of which will be reported to NPWS. These surveys will be carried out during optimal weather conditions (mild, damp, overcast and not excessively windy) by suitably qualified professionals, under survey licence. They will follow Mc Donnell & Gormally (2011) and involve both hand searching and metric refuge trapping and will be carried out in the same locations and roughly around the same time every year to allow a comparison between years. If monitoring demonstrates that the enhancement measures are unsuccessful, the measures will be reviewed and additional methods will be explored.

5.

PRE-CONDITIONS

Article 16 of the Habitats Directive sets out three pre-conditions, all of which must be met before a derogation from the requirements of Article 12 or Article 13 of the Directive can be granted. These preconditions are also set out in Regulation 54 of the Regulations.

The preconditions are:

1. A reason(s) listed in Regulation 54 (a)-(e) applies
2. No satisfactory alternatives exist
3. Derogation would not be detrimental to the maintenance of a population(s) at a favourable conservation status.

It is believed that the pre-conditions for granting a derogation licence have been met, as follows:

Test 1 – Reasons for Seeking Derogation Regulation

54(2) (a)–(e) states that a derogation licence may be granted for any of the reasons listed (a) to (e). We are of the opinion that the following reasons apply:

(c) In the interests of public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.

The construction of the wind farm will have consequences of primary importance for the environment by producing renewable energy and helping Ireland in the reduction of carbon emissions as part of the Climate Action Plan to halve Ireland's emissions by 2030 and reach net zero by no later than 2050. Whilst the habitats within the construction footprint provide suitable habitat for Kerry slug, they are highly modified, and supporting habitat is widespread in the area. Therefore, the loss of such habitats and the required disturbance to this species, provided that this derogation allows for the appropriate translocation of Kerry slug, to progress the development is considered acceptable in the effort in meeting Ireland's climate action goals.

Test 2 – There is no Satisfactory Alternative

There is no satisfactory alternative to the proposed development.

Do nothing scenario

Should the proposed development not proceed, the opportunity to construct a renewable energy development in a suitable location will be lost.

Disturbance avoidance

Mitigation by avoidance was considered in the project design. The proposed development has been designed to minimise the loss of any habitat of ecological importance, including suitable Kerry slug habitat. Existing infrastructure, such as existing roads and previous turbine hard stands, has been used in the design of the development, and as such, loss of suitable supporting habitat has been kept to a minimum. The overall construction footprint is small (approximately 2.55 ha in a site of 267 ha), and the loss of suitable habitat will not be significant in the context of the wider site.

Given the ecology of Kerry slug, their localised nature and year-round presence, there is no viable alternative regards seasonal works to avoid disturbance to this species.

Viable option

Vegetation removal to accommodate the proposed development will be undertaken in consultation with NPWS, under supervision of an appointed ECoW, and under licence. The translocation and survey methodologies detailed in this report will be fully adhered to, and will allow the progression of the proposed development while not impacting the favourable status of Kerry slug within the site.

There is no satisfactory alternative to the translocation of individuals under licence

Test 3 – Favourable Conservation Status

Annex IV species must be maintained at Favourable Conservation Status or restored to favourable status if this is not the case at present. The net result of granting a derogation licence must be neutral or positive for the species in question.

Mitigation in the form of translocation is prescribed to ensure that Kerry slugs within the works area are translocated to a suitable similar nearby habitat minimising loss of individual animals during the works. Suitable habitat for the Kerry slugs will be lost due to the construction of the proposed wind farm. However, suitable habitat is abundant in the wider area and habitat enhancement measures will also be provided in line with the EIAR as follows:

- Turves and boulders/exposed rock will be stored adjacent to the infrastructure footprint and reinstated along the construction corridor post construction of the hardstanding areas. The boulders, currently containing lichen growth, will be placed to one side during construction and will be subsequently reinstated along the newly installed infrastructure to facilitate the restoration of this habitat.
- In addition, vegetated turves, stripped to 30cm during initial site preparation, will be temporarily stored to one side and reinstated along the construction corridor following the installation of hardstanding.
- In addition, any forestry felling around the infrastructure will result in tree stumps being left to decay naturally. This will further provide suitable habitat for Kerry slug.

6. CONCLUSION

In conclusion, this report supports the application for a derogation license for Kerry slug associated with the proposed wind farm development at Curraglass, Co. Cork. As required as part of the application process, the report addresses the following:

- Explanation as to why the derogation licence sought is the only available option for works and no suitable alternative exists as per Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations.
- Evidence that actions permitted by a derogation licence will not be detrimental to the maintenance of the populations of the species to which the Habitats Directive relates at a favourable conservation status in their natural range as is required under Section 54(2) of the European Communities (Birds and Natural Habitats) Regulations.
- Details of any mitigation measures planned for the species affected by the derogation at the location, along with evidence that such mitigation has been successful elsewhere.
- As much information as possible to allow a decision to be made on this application.

With the implementation of mitigation and enhancement measures as outline in this report it can be concluded that the granting of the derogation licence would not be detrimental to the maintenance of the Kerry slug populations locally or in the wider County and the favourable conservation status of the species will not be undermined.

7.

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APPENDIX 1

**LICENCE RETURN REPORT
(C71/2020)**

Licence Returns Report C71/2020

Kerry Slug, Curraglass,
Co. Cork





DOCUMENT DETAILS

Client: **NPWS**

Project Title: **Kerry Slug, Curraglass, Co. Cork**

Project Number: **190301**

Document Title: **License Returns Report C71/2020**

Document File Name: **LRR F -2021.09.22 - 190301**

Prepared By: **MKO**
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Rev	Status	Date	Author(s)	Approved By
01	Final	22/09/2021	LK	PR

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APPENDICES

<i>Appendix 1.....</i>	<i>NPWS Licence C71/2020</i>
<i>Appendix 2.....</i>	<i>Photographic Records Kerry Slug</i>

1. INTRODUCTION

1.1 Background

As part of a proposed wind farm at Curraglass, Co. Cork a Kerry Slug license was applied for in order to determine the presence of this species with regard to the proposed development footprint. This licence is provided in **Appendix 1** of this report. The location of the site is shown in Figure 1-1.

1.1.1 Kerry Slug Ecology

The Kerry Slug has a very restricted global range and occurs only in Ireland, Spain and Portugal. The species is marked with white or yellow spots and two colour forms exist: a blue/grey slug with white spots and a ginger or brown form with yellow spots. Adults can grow to 80 millimeters in length but may contract into a ball shape when disturbed or may lie flat and elongate themselves to fit into cracks and crevices. Kerry Slugs are capable of self-fertilisation and produce eggs between July and October. The eggs are large, laid in batches of 18 to 30, and will hatch between six and eight weeks. Individuals can live for up to seven years.

The species feeds on lichens, liverworts and mosses on rocky outcrops or on mature trees and timber. The species is largely active at night, throughout the year, and will emerge during the daylight hours during damp or humid conditions. In Ireland, Kerry Slug is largely restricted to west Cork and Kerry from fifty 10km squares. Within its range, it occurs within two broad habitat types:

Oak-dominated or mixed deciduous woodland with a mixture of oak and birch. Woodlands with rocky outcrops or boulders are particularly favoured.

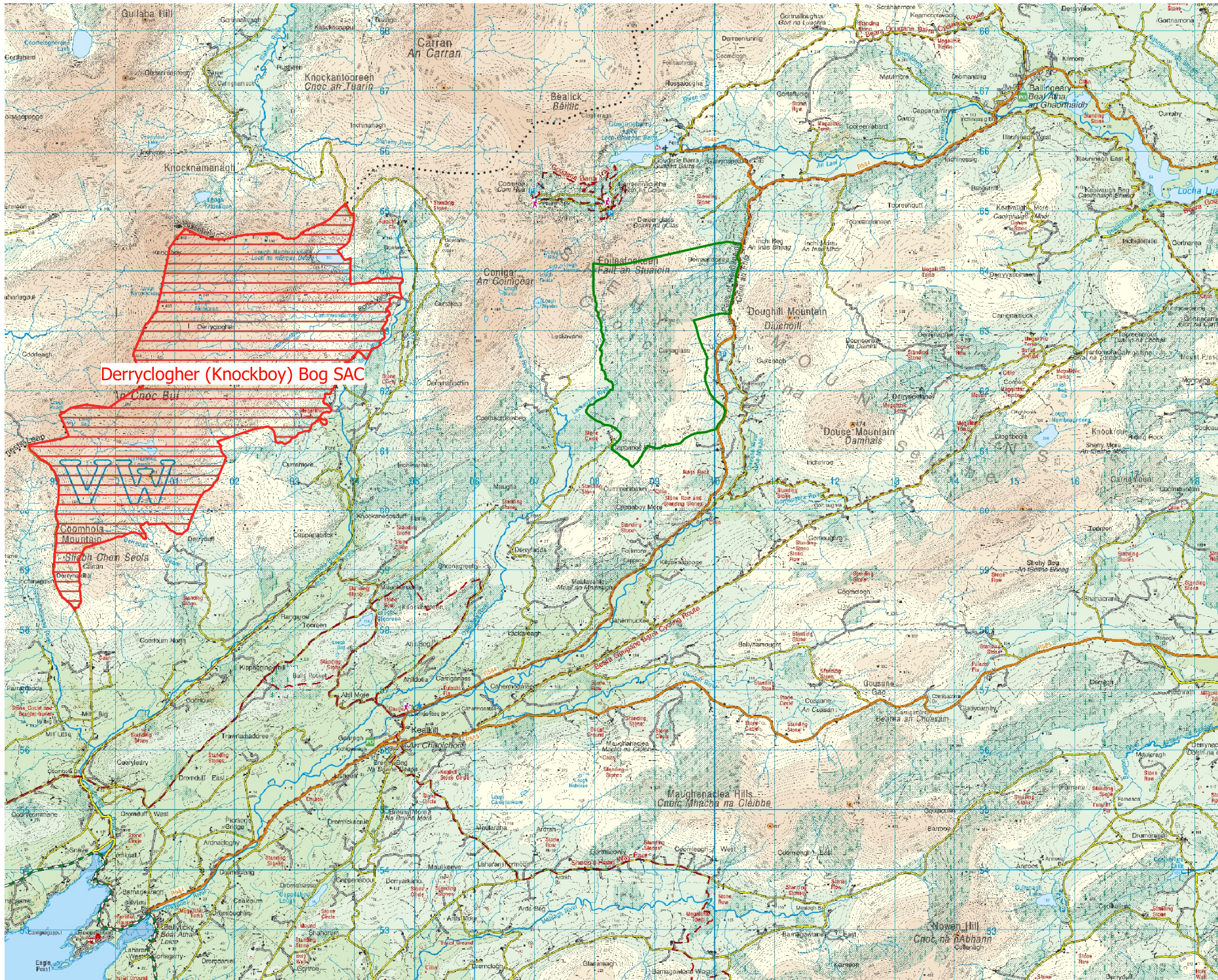
Unimproved oligotrophic open moor or blanket bog with sandstone outcrops or boulders. These areas are largely devoid of vegetation except for lichens and mosses which provide sufficient grazing material for the species.

1.1.2 Legal Protection

Kerry Slug is a protected species under the Wildlife Act, 1976 and Wildlife (Amendment) Act, 2000, in Ireland and is also protected under Annex II and Annex IV of the EU Habitats Directive (Council Directive 92/43/EEC) resulting in the designation of seven Special Areas of Conservation (SACs) for the species protection in Ireland. The nearest European Site designated for Kerry Slug is Killarney National Park, Macgillycuddy's Reeks and Caragh River Catchment SAC (000365), located 8.4 kilometres north of the EIAR site boundary.

1.2 Statement of Authority

Kerry Slug surveys were carried out by Laoise Kelly (BSc., MCIEEM) in March and 25th March and 26th May 2020. Laoise has over 6 years ecological consultancy experience. The surveys were carried out under license C71/2020 (see Appendix 1). This report was written by Laoise Kelly and reviewed by Pat Roberts (BSc., MCIEEM). Pat has over 15 years' experience in ecology and environmental management.



Map Legend

- Special Area of Conservation
- EIAR Site Boundary

Drawing Title

Site Location Curraglass

Project Title

Curraglass Renewable Energy Development, Co. Cork

Drawn By

Checked By

Project No.

Drawing No.

Scale

Date

190301

Figure 1-1

1:82500

08.04.2020

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2. METHODOLOGY

2.1 Desk Study

The following data sources were consulted as part of desk studies:

- Review of online web-mappers: National Parks and Wildlife Service (NPWS)
- Review of the publicly available National Biodiversity Data Centre (NBDC) web-mapper
- Specially requested records from the NPWS Rare and Protected Species Database for the hectads in which the Proposed Development is located.
- NPWS Article 17 Range and distribution maps
- NPWS Threat Response Plan for Kerry Slug (*Geomalacus maculosus*).

The desk study revealed that the Proposed Development is located within the known geographical range of the Annex II and IV species Kerry Slug. The species occurs in two main natural habitats in Ireland: woodland, and blanket bog/wet heathland (NPWS 2019). In recent studies by Johnson et al. (2018) it has been shown that Kerry Slug can also be abundant in conifer plantation.

2.2 Field Survey Methodology

Given that the Proposed Development fell within the known range for Kerry Slug as highlighted by NPWS data provided in the desk study, a general survey for Kerry Slug was carried out within areas of suitable supporting habitat within the site on the 25th of March 2020. In addition, a designated survey was carried out within the study area by means of trapping. A licence was obtained from NPWS (Licence No.: C71/2020) and metric traps were placed within areas of the Proposed Development footprint and other habitat areas within the study site. This licence is provided in Appendix 1.

Surveys for this species comprised a combined methodology based on most recent studies and guidelines. Hard searching is the first stage in determining presence/absence. If no evidence is found, then metric traps should be deployed for a 4-6 week period to confirm absence of the species (McDonnell, 2011). As the purpose of this survey was to determine presence/absence of Kerry Slug within the study area a combined approach was used. Trapping should take place during wet weather on blanket bogs and heaths, and during spells of dry weather in woodlands (O'Donnell 2011). Hand searching was carried out in appropriate weather conditions (damp weather, according to Platts & Speight, 1988 (Reich 2012)) with temperatures at a minimum of 8 degrees celsius on the 25th of March 2020. This comprised searching the surface of rocky outcrops and tree trunks as well as peeling back moss from the tree base to confirm if individuals were present. De Sangosse traps were used which comprised a square of absorbent material with reflective upper surface and perforated dark lower surface measuring 50cm x 50cm. The traps were baited with a piece of carrot approx. 2.5cm in size, moistened with water and placed within conifer plantation, rocky outcrops and other suitable habitat within and adjacent to the Proposed Development footprint. Areas of newly proposed infrastructure such as turbine bases, borrow pits, substation and construction compound were targeted for placement of traps. The traps were secured with string and/or rocks and pegs where placed on the ground. Band traps were also erected around tree trunks. These were placed approximately 1.5m from the ground and secured with string. A map showing the location of the 20 Kerry Slug traps deployed on the 25th March 2020 is shown on Figure 2-1. Records of incidental records of Kerry Slug as well as records obtained from the metric traps on the 26th May 2020 are provided in Figure 2-2.

2.3 Limitations and Constraints

As per the NRA (2009) guidelines, surveys for Kerry Slug can be completed all year round. It is recommended to conduct surveys at night during damp or humid conditions. Surveys can also be