

Appendix 10A

Ecology Desk Study Report



RWE Renewables UK Ltd

Eredine Wind Farm Environmental Impact Assessment Report

Appendix 10A: Ecology Desk Study Report



Report for

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1. Introduction

1.1 Background

- 1.1.1.1 WSP UK Ltd was commissioned by RWE Renewables UK Ltd ('the Applicant') to provide ecological consultancy services in relation to the proposed Eredine Wind Farm, herein after referred to as 'the Proposed Development'. The site where the Proposed Development is located is referred to as the 'Development Site'.
- 1.1.1.2 This report provides information relating to a desk-based ecological study conducted in February 2021. Details of the Proposed Development are provided, followed by a description of methods employed to obtain desk study information, presentation of results, and a summary of findings.
- 1.1.1.3 The results of the desk-based study provide an insight into the nature conservation interest of the Development Site and surroundings and can be used to inform the Environmental Impact Assessment Report (EIA Report).

1.2 Development Site Context

- 1.2.1.1 The Development Site is positioned on land managed by Forestry and Land Scotland (FLS), located approximately 5.5 kilometres (km) north-west of the village of Furnace, and 10km south-west of the town of Inveraray, within Argyll and Bute Council (ABC) district (central Ordnance Survey [OS] (centred at coordinates (E)199418, (N) 704212).
- 1.2.1.2 The Development Site is situated within an area of land positioned between two large bodies of open water – Loch Awe to the north-west, and Loch Fyne to the south-east. Numerous fresh water lochans and ponds are present within the Development Site which are drained by a network of watercourses. Those to the north are drained by the Abhainn a' Bhealaich and associated tributaries (which eventually flow into Loch Awe) while those to the north-east are drained by Douglas Water and those to the south are drained by the Abhainn Dubhann and Leacann Water (all of which flow into Loch Fyne). The far south-west of the Development Site is drained by the River Add. Habitats within the Development Site are comprised primarily of coniferous plantation woodland, with open upland habitat within the north-west and also within the south of the Site, stretching from north-east to south-west.
- 1.2.1.3 The elevation of the Development Site ranges from approximately 100 metres (m) Above Ordnance Datum (AOD) at the Development Site entrance (OS Grid reference: NN 04451 04183), to 482m at Beinn Dearg (OS Grid reference: NN 02314 04934).

1.3 Development Site Design

- 1.3.1.1 The Proposed Development will include 22 turbines and associated hardstanding areas, access tracks, interconnecting cables between turbines, battery storage, a permanent met mast and a control building and substation. Temporary development areas will also be required in order to facilitate a construction compound, concrete batching plant, and potential borrow pits.
- 1.3.1.2 The installed capacity and turbine dimensions will be dependent upon environmental and technical considerations; however, it is understood that the maximum turbine height will be 200m, with an installed capacity in excess of 50 megawatts (MW).

2. Methodology

2.1.1.1 The desk-based study was carried out by Wood in February 2021, in line with the Chartered Institute of Ecology and Environmental Management (CIEEM) best practice guidelines¹. Information was collected regarding statutory and non-statutory sites designated for nature conservation purposes and protected or notable species including those on the Scottish Biodiversity List (SBL)², and Argyll & Bute Local Biodiversity Action Plan (LBAP)³. The desk study features of interest are summarised in Table 2.1 below. The Study Area is illustrated in **Figure 10A-1 (Annex B)**.

Table 2.1 Statutory and Non-Statutory Sites of Nature Conservation Value, Protected and Notable Species

Designation	Description	Study Area
Statutory nature conservation sites	Sites of international importance of relevance to this ecological study include designated Special Areas for Conservation (SAC) sites. Sites of national importance are designated as National Nature Reserves (NNRs) and Sites of Special Scientific Interest (SSSI) and local sites as Local Nature Reserves (LNRs). • SAC – sites designated under Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the Habitats Directive) as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive; • SSSI – these sites have been re-notified under the Wildlife and Countryside Act 1981 (as amended in Scotland) and provide statutory protection for the best examples of the UK's flora and fauna; • NNR – these are designated under the National Parks and Access to the Countryside Act 1949 or the Wildlife and Countryside Act 1981 (as amended) and contain examples of the most important natural and semi-natural terrestrial and coastal ecosystems; and • LNR – these are areas of natural heritage that are at least locally important. Local authorities select and designate LNRs under Section 21 of the National Parks and Access to the Countryside Act 1949 (as amended).	The Development Site and within 10km of it.
Non-Statutory nature conservation sites	These include Local Nature Conservation Sites (LNCSSs) such as: Listed Wildlife Sites (LWS); Sites of Importance for Nature Conservation (SINC); and Local Geodiversity Sites (LGS). Non-statutory conservation sites also include Scottish Wildlife Trust (SWT) reserves such as Provisional Wildlife Sites and areas included under the Ancient Woodland Inventory (AWI) or Semi Natural AWI (SNAWI). Priority Woodlands for Red Squirrel are also included as non-statutory conservation sites. These non-statutory sites, which are designated due to the presence of notable species or important habitats, broadly constitute the most	The Development Site and within 2km of it.

¹ CIEEM, (2017). Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

² The Scottish Biodiversity List is a list of plants, animals and habitats that Scottish Ministers consider to be of principal importance to biological conservation. <https://www.gov.scot/Topics/Environment/Wildlife-Habitats/16118/Biodiversitylist/SBL>

³ The Argyll & Bute LBAP was first published in 2001 following guidance set out by government. It was refreshed under the Ecosystem Approach in 2010 and is currently being re-drafted as an interim refresh to align it with the Scottish Biodiversity Strategy 2020. The 2010 - 2015 LBAP is available at: <https://www.argyll-bute.gov.uk/sites/default/files/Unknown/AandB%20BAP%20Draft.pdf>

Designation	Description	Study Area
	important wildlife and geological sites that do not reach the criteria required for SSSI designation.	
Protected species	Many species of animal and plant receive legal protection, which for the purposes of this study refers to: • European Protected Species as defined The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) (i.e. the Habitats Regulations); • Species included on Schedule 1, 5, 8 of the Wildlife and Countryside Act 1981 (WCA) (as amended), excluding species that are only protected in relation to their sale; and • Badgers, which are protected under the Protection of Badgers Act 1992, as amended by the Nature Conservation (Scotland) Act 2004.	The Development Site and within 2km of it.
Priority and notable habitats and species	These include habitats and species listed in Annex 1 and Annex 2 of the Habitats Directive, together with habitats and species which are listed on the SBL, Local Biodiversity Action Plans, and/or those which are of some other conservation interest based on their status nationally, regionally or locally. Species recorded on the IUCN Red List ⁴ of Threatened Species and/or local Red Lists for the UK or relevant sub-units (e.g. regions or counties).	The Development Site and within 2km of it.
Legally controlled species	Legally controlled species include those listed on Schedule 9 of the <i>Wildlife and Countryside Act 1981</i> (as amended).	The Development Site and within 2km of it.

2.1.1.2 A desk-based search for statutory and non-statutory designated sites, legally protected and notable species was carried out as follows:

- Information regarding statutory and non-statutory designated sites within an approximate 10km radius of the Development Site boundary was acquired using the NatureScot (formerly Scottish Natural Heritage) Sitelink⁵ and Multi-Agency Geographic Information for the Countryside (MAGIC)⁶ web-based applications.
- Commercially available records of protected and/or notable species from within the last ten years were searched within the National Biodiversity Atlas (NBN) database⁷;
- A data request for records of protected and/or notable species within a 2km radius of the Development Site boundary (extended to 5km for bat species) was submitted to Argyll Biological Records Centre (ABReC). Analysis of species data focussed only on records made within the last ten years, as older records may give an inaccurate picture of the current ecological interest within the Development Site and the surrounding area;
- A data request was made to FLS for records relating to protected/ notable species within 2km of the Development Site boundary; and

⁴ Red-listed species refer to those noted using IUCN criteria as being “Near Threatened”, “Vulnerable”, “Endangered” and “Critically Endangered”, and those on local Red Lists in the categories “Nationally Scarce” and “Nationally Rare”.

⁵ <https://sitelink.nature.scot/home>

⁶ <https://magic.defra.gov.uk/>

⁷ <https://nbnatlas.org>

- A search to determine the potential habitats and features of interest was conducted using 1:25,000 scale Ordnance survey maps⁸ and aerial imagery from (Google Maps⁹ and Google Earth¹⁰ websites).

⁸ www.ordnancesurvey.co.uk

⁹ www.maps.google.co.uk

¹⁰ <https://earth.google.com/web/>

3. Results

3.1 Nature Conservation Designations

3.1.1 Statutory Designated Sites

- 3.1.1.1 A total of two statutory designated SSSIs for nature conservation and a National Park are located within 10km of the Development Site boundary, the locations of which are displayed in **Figure 10A-1 (Annex B)** and details of each provided in **Table 3.1**.

Table 3.1 Statutory Designated Sites within 10km of the Development Site Boundary

Site name	Designation	Area (ha)	Qualifying/ notable features	Distance and orientation from Development Site boundary
Dalavich Oakwood	SSSI	20.78	Upland oak woodland and Wet woodland	5km, NW
Ardchylne Wood	SSSI	176.07	Upland oak woodland	5.4km, E
Loch Lomond and Trossachs	National Park	-	Landscape renowned for its rural beauty; Highland landscapes and pastoral lowlands; Water in various forms; Rich variety of woodlands.	7km, SE

- 3.1.1.1 Sites designated for ornithological interest are considered in **Chapter 11: Ornithology**.

3.1.2 Non-Statutory Designated Sites

- 3.1.2.1 Several non-statutory designated sites in the form of ancient woodland are present within 2km of the Development Site boundary (**Figure 10A-1, Annex B**). In Scotland, ancient woodland is defined as land that is currently wooded and has been continually wooded since at least 1750. Its age means that it is important for biodiversity and cultural identity.
- 3.1.2.2 Pockets of ancient woodland situated within 2km of the Development Site boundary have the potential to provide suitable foraging and/ or roosting habitat for bats. In addition, built structures within the village of Eredine and Furnace (positioned approximately 2km north-west and south-east of the Development Site boundary respectively) may provide further opportunities for roosting bats.

3.1.3 Legally Protected and Notable Species

- 3.1.3.1 Records obtained from ABReC relating to legally protected and/or notable species within 2 km of the Development Site boundary (extended to 10 km for bats) are presented in **Table 3.2**. The scientific names for each species identified are presented in **Annex A**.

Table 3.2 Records of Legally Protected/Notable Species obtained from ABReC (2011 – 2020)

Species	Number of records	Year of most recent record	Conservation designation
Terrestrial mammal			
Badger	1	2017	PBA
Pine marten	1	2017	WCA 5, SBL
Eurasian red squirrel	1	2018	WCA 5, SBL, AB LBAP
Reptile			
Adder	1	2017	WCA 5, SBL, AB LBAP
Common lizard	1	2017	WCA 5, SBL
Insect			
Chequered skipper butterfly	1	2017	SBL, AB LBAP
Small heath butterfly	3	2017	SBL

WCA 5 – animal species protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); SBL – Scottish Biodiversity List; PBA – Protection of Badgers Act 1992; AB LBAP – Argyll and Bute Local Biodiversity Action Plan

3.1.3.2 In addition to data obtained from ABReC, data provided by FLS relating to legally protected/ priority species recorded within the last 10 years is presented in **Table 3.3**.

Table 3.3 Records of Legally Protected/ Notable Species obtained from FLS (2011 – 2020)

Species	Number of records	Details	Conservation designation
Terrestrial mammal			
Otter	1	A probable holt recorded by Camas Daoine Loch (NN 0249 0650). No sign of recent use.	HabRegs, WCA 5, SBL, AB LBAP
Badger	4	One confirmed badger sett and one potential sett present within the Development Site boundary; and two further badger setts within 2 km of the Development Site boundary	PBA
Pine marten	2	One record relating to a potential den within 2km of the Development Site that was destroyed under licence; and one relating to an observation recorded on camera within the Development Site boundary.	HabRegs, WCA 5, SBL

Species	Number of records	Details	Conservation designation
Water vole	3	Three records of water voles were recorded in 2012 within the Development Site. Water vole holes were recorded where the burn flows into fen area of Loch Sidheannach. One animal was seen. A second record was provided of water vole holes and droppings on the River Add (west of the Development Site) and outside the Study Area.	WCA 5, SBL
Bat species	-	Bat boxes (suspected active): One bat box present within the Development Site boundary; and A minimum count of 19 bat boxes present approximately 1.5km north-west of the Development Site boundary.	HabRegs, SBL, AB LBAP
Plants			
Common juniper	1	Recorded within the Development Site boundary in 2012.	SBL, AB LBAP

HabRegs – Species that receive full protection under the Conservation (Natural Habitats & c) Regulations 1994 (Habitat Regulations); WCA 5 – animal species protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); SBL – Scottish Biodiversity List; PBA – Protection of Badgers Act 1992; AB LBAP – Argyll and Bute Local Biodiversity Action Plan

- 3.1.3.3 NBN Atlas also returned several records relating to roosting common pipistrelle bats located approximately 5km north-west of the Development Site boundary. These were recorded through the National Bat Monitoring Programme between years 2007 and 2012¹¹.
- 3.1.3.4 Records relating to roosting soprano pipistrelle bats recorded within the grounds of Crarae Garden in 2012 and 2015, located approximately 4km south of the Development Site boundary (National Trust for Scotland, 2020).

¹¹ Bat Conservation Trust (2020) National Bat Monitoring Programme Roost Count. Records provided by BCT, accessed through NBN Atlas website.

4. Summary

- 4.1.1.1 This desk-based ecological study has been carried out to identify any potential ecological constraints to the Proposed Development. A summary of the assessment findings is provided below:
- Three statutory Nature sites (two SSSIs and Loch Lomond National Park) have been identified within 10km of the Site.
 - Non-statutory sites include woodland habitat classified within the AWI. No further information relating to non-statutory designated sites within 2km of the Development Site boundary was obtained from ABReC or detailed within the NatureScot Sitelink application.
 - Based on ecological data records provided by ABReC and FLS, potential exists for otter and red squirrel to use the Development Site for foraging, commuting, and sheltering purposes. Badger, otter and pine marten are also known to utilise the Development Site.
 - Given the presence of multiple bat boxes within 2km of the Development Site boundary and confirmed bat roosts within 5km of the Development Site boundary, there is potential for bat species such as common pipistrelle, soprano pipistrelle, and myotis to utilise the Development Site for foraging and commuting purposes.

Annex A

Scientific Species Names

Common name	Scientific name
Adder	<i>Vipera berus</i>
Badger	<i>Meles meles</i>
Common juniper	<i>Juniperus communis</i>
Common lizard	<i>Zootoca vivipara</i>
Common pipistrelle bat	<i>Pipistrellus pipistrellus</i>
Chequered skipper	<i>Carterocephalus palaemon</i>
Eurasian red squirrel	<i>Sciurus vulgaris</i>
Myotis bat species	<i>Myotis sp.</i>
Otter	<i>Lutra lutra</i>
Pine marten	<i>Martes martes</i>
Small heath	<i>Coenonympha pamphilus</i>
Soprano pipistrelle bat	<i>Pipistrellus pygmaeus</i>

Annex B

Figures
