Earraghail Renewable Energy Development

on behalf of ScottishPower Renewables

Technical Appendix 8.1: Terrestrial Mammals

avianecology

CONTENTS

ANNEXES

1 INTRODUCTION

1.1.1 This Technical Appendix has been prepared to accompany **Chapter 8** of the Environmental Impact Assessment (EIA) Report for ScottishPower Renewables' Earraghail Renewable Energy Development (hereafter 'the proposed Development').

1.1.2 It presents detailed methodologies and results of desk studies and field surveys completed to establish baseline conditions with regards to protected and notable terrestrial mammals (excluding bats), in order to inform the design and assessment of the proposed Development. Latin names for species are included in **Annex 1**.

1.1.3 It should be read with reference to the following specific figures, presented in Volume 3 of the EIA Report:

- **Figure 8.1** - Designated Sites for Nature Conservation; and,
- **Figure 8.2** - Terrestrial Mammal Survey Plan and Results.

1.1.4 Methods and results relating to bat species are considered separately in **Technical Appendix 8.4** in Volume 4 of the EIA Report.

1.1.5 The following term is used throughout this Appendix:

- Site - All lands within the redline application boundary shown in **Figures 8.1** and **8.2**.

1.2 Site Overview

1.2.1 The location of the proposed Development, as shown by the application boundary in **Figure 8.1** and **8.2** and hereafter referred to as 'the Site', is centred at NR 88596 63376 and lies within the Forestry and Land Scotland (FLS) forests of Skipness and Corranbuie, Kintyre, Argyll (see **Figure 8.1**).

1.2.2 The Site is predominantly comprised of commercial coniferous woodland of varying heights and maturity, with open ground at the centre of the Site supporting areas of wet modified bog and dry heath. The Site is intersected by a number of watercourses and supports several lochans; the larger of which include Loch na Machrach Bige and Loch na Machrach Moire.

1.2.3 The surrounding wider area includes similar commercial forestry plantations, and larger expanses of open moorland to the west, and is adjacent to the sea to the east.

1.2.4 The Site has not been subject to any previous investigations for a potential large-scale renewable energy development. There have been investigations into windfarm developments in the surrounding area, including the 'Cnoc an Fhionn' Windfarm located immediately to the west, but none have been progressed into any publicly available planning consultation or submission. An operational hydro-power scheme is located along the Abhainn Achachoish.

1.2.5 The consented and currently under construction Inveraray to Crossaig Overhead Power Line also crosses the proposed access track to the Site, to the west.

1.2.6 A Phase 1 habitat plan for the Site is provided as **Figure 8.4** of the EIA Report, with further details of baseline habitat conditions within the Site provided in **Technical Appendix 8.3**, presented in **Volume 4** of the EIA Report.

2 METHODOLOGY

2.1 Desk Study and Consultation

2.1.1 A desk study and consultation with specialist recording groups was undertaken in July 2020 to identify:

- The proximity of the Site to any statutory or non-statutory designated sites for nature conservation with terrestrial mammal qualifying interests; and
- To identify any existing records of protected and/or notable terrestrial mammals within or in close proximity to the Site. This was in order to identify the likely sensitivity of any such species to the proposed development and to inform the requirements for targeted field surveys.

2.1.2 The desk study has included a review of the following key sources summarised in **Table 2.1**.

Table 2.1: Desk study key sources and information sought.

Key Source	Information Sought	Study Area
NatureScot Sitelink[1]	Proximity to statutory designated sites for nature conservation with qualifying mammal interests.	Within 10 km of the application boundary.
Argyll Biological Records Centre (ABReC) – *via the Highland Biological Recording Group (HBRG)*	Existing protected and notable mammal records.	Within 2 km of the application boundary.
Saving Scotland's Red Squirrels[2]	Existing red squirrel records.	Within 2 km of the application boundary.

2.1.3 Available EIA documentation for the Sheirdrim Renewable Energy Development (Planning Ref. 19/02424/S36) has been reviewed together with additional peer reviewed literature and industry guidance, referred to where relevant.

2.1.4 NatureScot were consulted in July 2020 to ensure that they were in agreement with the desk study and field survey approach and this was confirmed within their consultation response (NatureScot 2020).

2.2 Field Surveys

2.2.1 A review of aerial imagery and mapping indicates that there are habitats within and adjacent to the Site which could be suitable for the following protected and notable terrestrial mammal species, for which field surveys were subsequently undertaken:

- Badger;
- Red squirrel;

[1] https://sitelink.nature.scot/home [Accessed June 2021].
[2] https://scottishsquirrels.org.uk/squirrel-sightings/ [accessed June 2021].

- Pine marten;
- Otter;
- Water vole; and
- Wildcat.

Key Guidance

2.2.2 Survey methodologies and subsequent interpretation of results have made reference to the following key pieces of guidance:

- Standing Advice for Planning Consultations – Protected Species: Badger (NatureScot, 2020a);
- Standing Advice for Planning Consultations – Protected Species: Red squirrel (NatureScot, 2020b)
- Standing Advice for Planning Consultations – Protected Species: Pine Marten (NatureScot, 2020c);
- Standing Advice for Planning Consultations – Protected Species: Otter ((NatureScot, 2020d);
- Standing Advice for Planning Consultations – Protected Species: Water Vole (NatureScot, 2020e); and
- Standing Advice for Planning Consultations – Protected Species: Wildcat (NatureScot, 2020f).

2.2.3 The following additional pieces of species-specific guidance and peer reviewed literature have also been referred to:

- 'BAP Mammals Interim Guidance for Survey Methodologies, Impact Assessment and Mitigations' (Cresswell *et al*., 2012);
- Survey and Scoping of Wildcat Priority Areas (Littlewood *et al.,* 2014);
- 'Surveying Badgers' (Harris *et al*., 1989);
- 'Best Practice Badger Survey Guidance Note' (SNH, 2018);
- 'Monitoring the Otter. Conserving Natura 2000 Rivers Monitoring Series No.10' (Chanin, 2003); and
- 'The Water Vole Mitigation Handbook' (Dean *et al*., 2016).

2.3 Study Area

2.3.1 The 'Study Area' as shown in **Figure 8.2** has comprised all areas of the Site, extended to include areas of suitable habitats accessible by public rights of way, out to the following distances in accordance with NatureScot species-specific guidance (NatureScot, 2020a, c-f):

- 50 m of the Site for water vole;
- 100 m of the Site for badger;
- 200 m of the Site for otter; and

- 250 m of the Site for pine marten and wildcat.

2.4 Field Survey Methodology

2.4.1 The field survey comprised a walkover survey of the Study Area to assess habitat suitability followed by a systematic search of habitat features, to record the location and distribution of field signs identifying the presence and/or potential presence of terrestrial mammal species within the Study Area as summarised in **Table 2.2**.

2.4.2 The survey was undertaken over two staggered visits on 21st September and 12th December 2020.

2.4.3 All surveys were undertaken in conditions conducive to the survey of terrestrial mammals, including normal flow conditions of on-site watercourses.

Table 2.2: Terrestrial mammal field survey methodology summary.

Species	Survey Methodology Summary
Badger	Walkover search of suitable habitat for signs of badgers, such as footprints, hair, snuffle holes, latrines and sett entrances.
Red squirrel	Walkover search of suitable habitats for feeding remains and potential dreys.
Pine marten	Walkover search of suitable habitats for scats and potential den sites.
Otter	Walkover search of suitable habitat for spraints, paw prints, paths, slides, food remains, holts and places used for breeding and/or shelter.
Water vole	Walkover search of suitable habitats for potential burrows, runs, footprints, feeding stations and feeding remains, droppings and latrines.
Wildcat	Walkover search of suitable habitats for potential den sites, footprints, feeding remains, scratching posts and scats.

2.5 Personnel

2.5.1 All field surveys have been undertaken by Mr M. Wood, a highly experienced field ecologist with considerable experience in the survey and identification of field signs of protected mammal species in Scotland.

2.6 Survey Limitations

2.6.1 Access to land within the Study Area outside of the Site, was restricted to habitats accessible by public rights of way only.

2.6.2 The original application boundary considered during terrestrial mammal surveys in 2020 was more extensive than the Site, with the southern boundary extending out by approximately 1 km to include a larger area of commercial conifer plantation. The previous boundary in the north extended out to a maximum of approximately 2 km to the west from the access track, and the eastern extreme included Tarbert Wood Special Area of Conservation (SAC) and Tarbert to Skipness Coast Site of Special Scientific Interest (SSSI). The Site was subsequently reduced to the current application boundary as shown in **Figures 8.1 and 8.2**. Although the application boundary has altered over the course of the survey period (reduced in extent in June 2021), the study areas for all terrestrial mammal surveys were covered, given the extent of the Site was at its greatest extent when these were undertaken.

3 RESULTS

3.1 Desk Study

Designated Sites for Nature Conservation

3.1.1 In a review of Sitelink, there are no statutory designated sites with qualifying terrestrial mammal qualifying interests within 10 km of the Site.

Non-statutory Designated Sites for Nature Conservation

3.1.2 ABReC were consulted for the locations and citation of non-statutory designated sites for nature conservation, located within 2 km of the Site. No such sites were identified.

Existing Records of Protected Terrestrial Mammal Species

ABReC

3.1.3 No existing records of protected terrestrial mammal species were provided ABReC within 2 km of the Site. Records of otter were returned within the desk study but these were located over 5 km from the Site and therefore are not considered further.

3.1.4 The request to ABReC also returned records of species which due to their common and widespread nature are not considered further in this report.

Saving Scotland's Red Squirrels

3.1.5 A review of red squirrel records, available on the Saving Scotland's Red Squirrels website, was undertaken in June 2021.

3.1.6 In review, fifteen existing records of red squirrel are identified within 2 km of the Site, dated between 2011 and 2020. These are concentrated along the A83 around Tarbert to the north and north-west of the Site, the closest being approximately 600 m away.

Other Wind Farm EIA Documentation

3.1.7 A summary of existing protected terrestrial mammal records identified in review of EIA documentation for the Sheirdrim Renewable Energy Development (RED) is provided in **Table 3.1**.

Table 3.1: Existing records of protected terrestrial mammal species – Sheirdrim RED EIA documentation.

Wind Farm	Summary
Sheirdrim	Baseline terrestrial mammal surveys undertaken in 2018 identified the presence of otter and pine marten within the site. An otter was sighted on the bank of Loch Ciaran, and spraints were recorded at Loch Lurach, Lochan Fraoich and Larachmor Burn. Pine marten scats were recorded at the site, mostly located within the forestry along the southern border of the site, but also at Loch Lurach and Larachmor Burn. Water vole and red squirrel were considered likely to be present following the 2018 survey. Whilst no evidence of badger could be identified, small areas of suitable habitat do exist and therefore their presence could not be discounted. It was considered that the site was of limited suitability for wildcat and that further surveys were not required

Wind Farm	Summary
	for this species. Terrestrial mammal surveys undertaken in 2019 did not find any evidence of otter, pine marten, badger or water vole but the site was appraised to be suitable for these species.

3.2 Field Survey

3.2.1 This section should be read with reference to **Figure 8.2**.

Badger

3.2.2 A single badger latrine was recorded within the Study Area as shown in **Figure 8.2** and summarised in **Table 3.2,** but no badger setts were identified.

3.2.3 Plantation woodland, heathland and grassland habitats do provide some suitable sett-building and foraging opportunities for badger. Wetter heathland and blanket bog habitats within the central part of the Study Area however are considered sub-optimal for this species.

Table 3.2: Terrestrial mammal survey results – Badger.

Grid Reference	Description
NR 91257 63296	Latrine.

Red squirrel

3.2.4 No signs indicative of the presence of red squirrel, including feeding signs or possible dreys, were recorded within the Study Area during field surveys.

3.2.5 The woodland habitats within the Study Area do provide suitable foraging and drey buildings opportunities for red squirrel however, the predominance by coniferous plantation is less favourable for the species than mixed native woodlands. The more open wet heathland and blanket bog habitats may deter red squirrel from crossing the central part of the Study Area.

3.2.6 The records of red squirrel along the A83 to the north of the Study Area are more likely to be associated with the oak woodlands present at this location. An incidental sighting of an individual red squirrel was also noted in a parcel of oak woodland along the A83 during the terrestrial mammal survey.

Pine marten

3.2.7 Evidence of pine marten activity recorded within the Study Area comprised scats in several locations as shown in **Figure 8.2** and summarised in **Table 3.3**. No potential dens were recorded.

3.2.8 The woodland habitats of the Study Area do provide some opportunities for the establishment of dens, with pockets of heath and grassland habitats also providing a mix of habitat interest; this species is known to utilise open habitats to some degree, at least for foraging and commuting. Rocky outcrops may also offer denning opportunities for this species. Wetter heathland and blanket bog

habitats within the central part of the Study Area are generally suboptimal for pine marten, and it is considered unlikely that they use this area extensively.

Table 3.3: Terrestrial mammal survey results – Pine Marten.

Grid Reference	Description
NR 89208 61289	Scat.
NR 89149 60849	Scat.
NR 90640 61800	Scat.
NR 85582 65949	Scat.
NR 84462 65867	Scat.
NR 86984 67327	Scat.
NR 86910 67516	Scat.

Otter

3.2.9 Evidence of otter activity recorded within the Study Area comprised multiple spraints as shown in **Figure 8.2** and summarised in **Table 3.4**. These were all associated with the banks of Loch Fyne and no evidence of otter was noted along any of the watercourses within the Study Area. No potential holt sites or resting places were recorded but suitable habitat is present within the Study Area.

3.2.10 Watercourses within and intersecting the Study Area do provide suitable commuting opportunities for otter but are considered to provide relatively poor foraging opportunities due to their low importance for fish species (see **Technical Appendix 8.2**, presented in **Volume 4** of the EIA Report). Wetter heathland and blanket bog habitats, and associated waterbodies, within the central part of the Study Area do however, present some foraging opportunities for the species, particularly for amphibians.

Table 3.4: Terrestrial mammal survey results – Otter.

Grid Reference	Description
NR 91802 61986	Multiple spraints.
NR 91327 63296	Spraint.
NR 91027 63816	Spraint.
NR 90932 64228	Multiple spraints and bathing pool in burn.
NR 88436 67751	Spraint.

Water vole

3.2.11 No evidence of water vole activity was recorded within the Study Area and no records were returned within the desk study.

3.2.12 The majority of ditches and watercourses sections within the Study Area are choked with a poor diversity of bank side vegetation often with poorly defined water channels and limited shallow flows, which is generally considered suboptimal for water vole (Dean *et al*., 2016). Water voles will however utilise sub-optimal habitats, to disperse through their environments in order to establish new territories in more favourable habitats. Wetter heathland and blanket bog habitats within the central part of the Study Area may also present opportunities for the species.

Wildcat

3.2.13 No signs indicative of the presence of wildcat were recorded during field surveys. The Study Area is not located within a Priority Wildcat Area and no records were returned within the desk study.

3.2.14 Plantation woodland habitats that dominate the Study Area are generally considered to provide suboptimal habitats for wildcat, with more favourable habitats provided by mosaics of deciduous woodland, scrub and grasslands and which are generally absent from this area of Scotland.

Additional Species

3.2.15 Numerous common and widespread mammals were identified during the field surveys and/or via desk study records. This included the presence of roe deer and red deer within the Site.

4 SUMMARY

4.1.1 Terrestrial mammal surveys have identified evidence of badger, otter and pine marten activity within the Study Area, as well as red squirrel nearby, but habitats present are largely considered to be suboptimal and most likely providing dispersing and commuting opportunities for such species through the wider area.

4.1.2 No evidence of water vole or wildcat was recorded and no existing records for these species were identified in the desk study suggesting their likely absence from the Study Area.

5 REFERENCES

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Cresswell, W. J., Birks, J. D. S., Dean, M., Pacheco, M., Trewhella, W. J., Wells, D. and Wray, S. (2012) UK BAP Mammals Interim Guidance for Survey Methodologies, Impact Assessment and Mitigations. The Mammal Society, Southampton.

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NatureScot (2020c). Standing Advice for Planning Consultations – Protected Species: Pine Marten. NatureScot, Inverness.

NatureScot (2020d). Standing Advice for Planning Consultations – Protected Species: Otter. NatureScot, Inverness.

NatureScot (2020e). Standing Advice for Planning Consultations – Protected Species: Water Vole. NatureScot, Inverness.

NatureScot (2020f). Standing Advice for Planning Consultations – Protected Species: Wildcat. NatureScot, Inverness.

SNH (2018). Best Practice Badger Survey Guidance Note. SNH, Inverness.

ANNEX 1: MAMMAL SCIENTIFIC NAMES

- Badger *Meles meles*;
- Otter *Lutra lutra*;
- Pine marten *Martes martes*;
- Red deer *Cervus elaphus*;
- Red squirrel *Sciurus vulgaris*;
- Roe deer *Capreolus capreolus*;
- Water vole *Arvicola amphibius*; and
- Wildcat *Felis silvestris*.