

Appendix 8.3: Protected Species Survey Report

Car Duibh Wind Farm Limited

**An Càrr Dubh Wind
Farm EIA**

**Appendix 8.3: Protected
Species Survey Report**

Final report

Prepared by LUC

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Appendix 8.3: Protected Species Survey Report

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Appendix 8.3 Protected Species Survey Report

Introduction

1.1 This Appendix details the full methods and results of the protected species surveys undertaken to inform the Ecological Impact Assessment (EclA) of the proposed An Càrr Dubh Wind Farm (hereafter referred to as the 'Proposed Development'). The EclA is provided in **Chapter 8: Ecology** of the Environmental Impact Assessment Report (EIA Report).

Supporting Documents

1.2 This Appendix supports the EclA in addition to the following Appendices:

- **Appendix 8.1: Desk Study and Legal Context;**
- **Appendix 8.2: Habitats and Vegetation Survey Report;**
- **Appendix 8.4: Bat Survey Report;** and
- **Appendix 8.5: Outline Restoration and Enhancement Plan (OREP).**

1.3 This Appendix is supported by the following figures which can be found in **Volume 2** of the EIA Report:

- **Figure 8.1: Ecology Survey Area;** and
- **Figure 8.6: Protected Species Survey Results.**

Terminology and Survey Areas

1.4 The following terminology will be used throughout this Appendix:

- **Site**
 - All land within the red-line boundary (as shown in **Figure 8.1**).
- **Proposed Development**
 - The whole physical process involved in the development of the land at An Càrr Dubh Wind Farm including construction, operation and decommission (not associated with a particular piece of land).
 - Encompasses the construction of a 13 turbine wind farm and associated infrastructure including access tracks, crane hardstandings, substation compound and underground cabling (described in detail in **Chapter 8** of the EIA Report).
- **Ecology Survey Area (ESA)**
 - The area within the red-line boundary in which all ecology surveys were undertaken in line with good practice guidelines for all ecological features surveyed. For protected species this comprised the Proposed Development plus a buffer of up to 250m where survey methods dictate (as shown in **Figure 8.6**).

Scope

1.1 In April 2021 LUC submitted a Scoping Report¹ on behalf of Car Duibh Wind Farm Ltd ('the Applicant') as a means of agreeing the full scope of surveys with relevant consultees to inform the EclA.

1.2 Surveys for the following species were undertaken:

- Otter;
- Badger;

- Red squirrel;
- Pine marten;
- Water vole; and
- Bats.

1.3 Bat surveys, including methods, findings, and interpretation of results are addressed separately in **Appendix 8.4**.

1.4 Reference should be made to **Chapter 9: Ornithology** for details of ornithological survey and assessment.

Methods

Desk Study

1.5 A desk study was undertaken to inform the protected species surveys. An account of the methods adopted, and findings, is provided in **Appendix 8.1**, which also sets out the legislative provisions afforded to protected species. As such, the desk study is not discussed further in this Appendix.

Field Surveys

Overview

1.6 Protected species surveys were undertaken in May, June and September 2021, and January 2022. An additional survey of the proposed access track was undertaken in July 2022. This survey covered the section of the access track between the proposed junction with A83 (south-west of Inveraray) and the junction with the A819 (north of Inveraray). The turbine layout at the time of surveys extended up to 26 turbines (the EIA Scoping layout); the survey was based on the footprint, oversail and anticipated land take of the 26 turbine layout.

1.7 Surveys were completed during accepted survey seasons by experienced field ecologists, in appropriate weather conditions.

1.8 All survey data was collected on GIS-enabled field tablets to increase accuracy and facilitate robust interpretation. Where field evidence was recorded, photographs (referred to as 'Images' within this Appendix) were taken for post-survey analysis. Images are presented in **Annex A** of this Appendix.

1.9 Surveys sought to identify suitable habitat for, and, where appropriate, direct evidence of, protected species. Suitable habitat was considered to include opportunities for shelter/protection, habitation/rest, foraging and commuting. All surveys followed good practice methods as detailed below.

1.10 Further details relating to specific survey methods are provided in **Sections 1.11 to 1.31** below.

Baseline Data Collection

Otter

1.11 An otter survey was undertaken on all watercourses located within the ESA in accordance with recognised best practice². Ecologists searched for evidence of suitable habitat for, and direct evidence of, otter. Watercourses were categorised into four suitability classifications based on a variety of characteristics including wet width, water depth, suitable foraging resources, suitable resting sites, and connectivity to suitable habitats. Descriptions of suitability categories are provided in **Table 8.3.1** below.

¹ LUC (2021). Car Duibh Wind Farm: EIA Scoping Report.

² NatureScot (2016). Protected Species Advice for Developers: Otters [Online]. Available at: <https://www.nature.scot/sites/default/files/2018-09/Species%20Planning%20Advice%20-%20Otter.pdf>. [Accessed March 2022].

Table 8.3.1: Watercourse Suitability for Otter

Suitability	Description
Optimal	Typically larger, main watercourses (at least 1m in wet width). These watercourses contain flow at all times of year (not just in spate) and will support foraging resources (such as amphibians and fish). Rocky banksides or vegetation overhangs will provide suitable resting places, and large boulders will provide ideal sprainting sites.
Sub-optimal	Generally a substantial watercourse, greater than 0.5m in width. These watercourses will comprise stone and rock substrate, with occasional boulders. There may be limited resting opportunities, however, vegetation overhangs and occasional rocky crevices may be present.
Suitable	These watercourses may be sporadically used by otter, with connectivity to optimal or sub-optimal watercourses. The watercourses themselves will typically be no wider than 0.5m, with a relatively shallow flow of water. Substrate may comprise stone and earth, and banksides may comprise grassland.
Unsuitable	Generally will be a narrow channel, which may contain very little water. The channel may be very densely vegetated with limited suitability to support otter foraging resources.

1.12 Where watercourses were considered suitable to support otter, a detailed survey was undertaken for field signs, including:

- Resting sites (as defined in **Table 8.3.2**);
- Spraint (including age and description: fresh, recent, old);
- Prints, tracks, slides and runs; and
- Feeding remains.

Table 8.3.2: Otter Resting Site Classifications

Resting Site Type	Description
Natal Holt	A discreet holt site that is used by a bitch to birth cubs, where they will normally remain for up to three months, before being moved to a secondary holt. These sites are seldom located during surveys and they are rarely recorded without the aid of camera traps. It is generally accepted that most natal holts will contain bedding material and sprainting activity is minimal whilst occupied.
Holt	A cavity or hole on or adjacent to a watercourse. It may be in the ground, under tree roots, within rocks or caves; where it cannot be readily observed. If a holt is confirmed as active it usually contains field evidence such as spraint.
Hover	A bolt hole or ledge that provides temporary cover or a place to eat prey. It is not fully enclosed, and the back of the feature can normally be observed. There may be spraints, footprints and feeding evidence present.
Couch	An above-ground shelter normally used for lying-up and grooming. They may take the form of a depression in tall vegetation or may be covered in a vegetated grass 'roof'.
Breeding Site	An area of land in which otters breed. The site may be large, and it is usually more important to protect this site than an individual natal holt.

1.13 The otter surveys were subjective and corroborated by the presence or lack of field evidence located in, or around features within the ESA. Diagnostic evidence (such as spraints, urination "green" spots, spraint mounds, sign heaps, grooming hollows, footprints, paths, and slides) where identified was used to interpret if a resting site was present.

³ Scottish Badgers (2018). Surveying for Badgers: Good Practice Guidelines. Version 1.

⁴ NatureScot (n.d.). Protected Species Advice for Developers: Badger [Online]. Available at https://www.nature.scot/sites/default/files/2018-09/Species%20Planning%20Advice%20-%20Badger_0.pdf [Accessed March 2022].

1.14 Where spraint was recorded, it was allocated an age class in accordance with the following descriptions:

- **Fresh:** The spraint is still very moist and pungent, and was likely to have been deposited within the last few hours or days.
- **Recent:** The spraint has become decayed but retains consistency and some odour. It is dry and colour is more faded. It is likely to have been deposited within the last week or two.
- **Old:** The spraint is desiccated and powdery having lost its shape and most odours. Usually remains are still evident and identifiable, usually by the abundance of fish-bone or scales. It is likely to have been deposited approximately a month ago (sometimes longer).

Badger

1.15 Badger surveys were undertaken in accordance with best practice guidelines^{3,4}. Surveys sought to identify suitable habitat for, and direct evidence of, badger. Suitable habitat was considered to be sheltered areas with free-draining soils; normally woodland, scrub or mosaics that incorporate these habitat types. Where suitable habitat was identified, direct evidence was searched for, including:

- Badger setts (as defined in **Table 8.3.3**);
- Tracks, prints, and paths (including scratched logs and fallen wood);
- Guard hair;
- Latrines and dung pits (categorised as fresh, recent or old);
- Snuffle holes (i.e. surface foraging); and
- Feeding remains.

Table 8.3.3: Badger Sett Definitions

Sett Type	Definition
Main	These usually have a large number of entrances with large spoil heaps. The sett generally looks well used. They may have well used paths to and from the sett and between sett entrances.
Annexe	These usually have a large number of entrances with large spoil heaps. The sett generally looks well used and is connected to the main sett by clear tracks and paths.
Subsidiary	These setts often only have a few entrances and are located at least 50m from a main sett. They are not continuously active and evidence may be limited.
Outlier	These setts may have only one or two entrances with little spoil. Used sporadically, these setts often show little signs of use.

Red Squirrel

1.16 A red squirrel survey was undertaken in accordance with best practice guidelines^{5,6} and aimed to assess suitability of habitats within the ESA for the species. Suitable habitat includes cone-bearing coniferous plantation woodland located on free-draining soils, with good connectivity to other woodland habitats. Where suitable red squirrel habitat was recorded, searches for foraged cones, dreys and tracks/prints were undertaken.

⁵Gurnell, J., Lurz, P., McDonald, R. and Pepper, H. (2009). Practical Techniques for Surveying and Monitoring Squirrels. Forestry Commission [Online]. Available at: <https://www.forestryresearch.gov.uk/documents/666/fcpn011.pdf> [Accessed March 2022].

⁶ NatureScot (n.d.). Protected Species Advice for Developers: Red Squirrel [Online]. Available at: <https://www.nature.scot/sites/default/files/2018-09/Species%20Planning%20Advice%20-%20red%20squirrel.pdf> [Accessed March 2022].

Pine Marten

1.17 A pine marten survey was undertaken on all habitats within the ESA in accordance with best practice guidelines^{7,8}. The survey aimed to assess habitats within the ESA for their suitability to support the species, while searching for indicative field signs such as feeding remains, scat, footprints, and dens.

1.18 The survey was undertaken using a systematic approach, where possible. Suitable habitats were surveyed for evidence of pine marten by walking linear routes. Transects generally followed defined wayleaves, firebreaks and access tracks as these are frequently used by pine marten and, therefore, where indicative field signs are most commonly found.

Water Vole

1.19 The water vole survey aimed to assess the suitability for all watercourses within the ESA to support populations of water vole in accordance with recognised best practice⁹. Ecologists searched for evidence of suitable habitat for, and direct evidence of, water vole.

1.20 Watercourses were classified for their suitability to support water vole depending on a variety of characteristics including bankside composition, substrate, water flow rate and bankside vegetation. Descriptions of watercourse suitability categories are detailed in **Table 8.3.4** below.

Table 8.3.4: Watercourse Suitability for Water Vole

Suitability	Description
Optimal	These watercourses will typically have a very slow flow rate and will comprise peaty bankside and substrate. Banksides will also comprise tussocky vegetation, including rushes (a common food source of water vole). The watercourses will generally be deep to enable predatory escape.
Sub-Optimal	Typically, these watercourses will have a relatively slow flow rate. Banksides may be peaty but may not be very steep, therefore not allowing burrows to account for varying water levels. Rushes will be present, providing foraging resource.
Suitable	Banksides may comprise earth allowing for some burrowing. Herbaceous vegetation will generally be lacking, and invertebrates, amphibians and fish will be sparse. Flow rate will be slow to moderate; however, watercourse may comprise rocky substrate.
Unsuitable	Watercourses will comprise rock and stone substrate and banksides. The flow rate will be moderate or fast flowing and rushes will be absent from bankside vegetation Watercourses may also be heavily poached by livestock.

1.21 Where watercourses were considered suitable, these were surveyed with the aim of identifying and recording presence of water vole.

1.22 Field signs searched for included:

- Burrows and tunnel systems;
- Runs, tracks and slides;
- Latrines (with droppings categorised as fresh, recent, or old);
- Feeding stations and remains; and
- Physical sightings.

⁷ Cresswell, W.J., Birks, J.D.S., Dean, M., Pacheco, M., Trehwella, W.J., Wells, D. and Wray, S. (2012). UK BAP Mammals: Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation. The Mammal Society, Southampton.

⁸ NatureScot (n.d.). Protected Species Advice for Developers: Pine Marten [Online]. Available at: <https://www.nature.scot/sites/default/files/2018-09/Species%20Planning%20Advice%20-%20pine%20marten.pdf> [Accessed March 2022].

Other Observations

1.23 While surveys for other species were not specifically undertaken, incidental observations of other species were recorded, particularly where legislation protections were relevant. For example, ad-hoc sightings of reptiles and amphibians were noted on GIS-enabled field tablets.

Constraints and Limitations

1.24 All ecological surveys represent a snapshot of the faunal and floral assemblages of any given site. While surveys provide an overview of the habitats and species present, they cannot be used to determine long-term trends in species and habitat populations or behaviours. Methods adopted within the ESA at An Càrr Dubh Wind Farm represent current good practice but the data collected cannot be used to confirm the absence of a species from the ESA. Faunal and floral assemblages are dynamic and can change over short periods of time. To that end, the ESA's suitability to support protected species is considered, in addition to direct searches for evidence.

1.25 All surveys aimed to avoid periods directly following heavy rainfall, particularly for otter and water vole. This was to minimise the risk of surveying areas where evidence had been washed away and to reduce the health and safety risk of these surveys. Whilst weather conditions were generally optimal, occasional rainfall was unavoidable. It is considered unlikely that this rainfall will have caused a significant reduction in evidence being present and therefore is not considered to have had a negative effect on the assessment.

1.26 All areas of woodland were surveyed for evidence of protected species, where possible. Areas which posed a health and safety risk (such as wind-blown trees or dense plantation) were not surveyed in full. However, a cautious approach was taken; areas were surveyed from a distance and accessed where possible. It is therefore considered unlikely that this will have negatively affected the assessment.

Baseline

Desk Study

1.27 Historical records identified the presence of otter, red squirrel and pine marten within 2km of the Site (see **Appendix 8.1**).

1.28 In addition, water vole is known to be present within the Site having been previously recorded during surveys undertaken for the Ardchnonnel Wind Farm Environmental Statement¹⁰.

Field Study

Habitats Overview

1.29 The ESA supports a range of different habitat types, with varying degrees of suitability for protected species.

1.30 The ESA consists of undulating topography and steep sided hills, resulting in a variety of vegetation communities and habitats. Peat deposits were noted to be widespread, with localised pockets of deep peat scattered throughout. At higher elevations, where peat deposits were at their shallowest, blanket bog communities gave way to both wet and dry heath habitats, which were often recorded in mosaics with acid grassland.

1.31 To the south-east of the ESA, coniferous and mixed plantation woodland is present. Sitka spruce monoculture was noted to be abundant on wetter soils. It was noted that much of the mature forestry plantation had recently been clear-felled.

1.32 The ESA supports a complex network of lochs, lochans and flowing watercourses, many of which flow through deeply eroded peat channels. These watercourse vary in width and substrate, as well as suitability for protected species.

1.33 For more detailed descriptions of the habitats present within the Proposed Development, please see **Appendix 8.2**.

⁹ Strachan, R., Moorhouse, T. and Gelling, M. (2011). Water Vole Conservation Handbook. Third Edition. Wildlife Conservation Research Unit, Oxford.

¹⁰ The Ardchnonnel Wind Farm Environmental Statement is available online on the Argyll and Bute Council planning portal <https://publicaccess.argyll-bute.gov.uk/online-applications/>, reference 13/02835/PP, appeal reference PPA-130-2045.

Habitat Suitability and Evidence

Otter

1.34 Surveys identified suitable habitat for otter. Many of the larger watercourses within the ESA offer suitable conditions for sheltering, commuting, and foraging.

1.35 Evidence of otter was recorded to the north-west and south-east of the ESA, as illustrated in **Figure 8.6**. Evidence of otter included spraints (of various ages) and fresh footprints. No resting sites were recorded within the ESA. Details relating to each otter sign are provided in **Table 8.3.5** below, and illustrated in **Figure 8.6**.

Table 8.3.5: Otter Evidence Recorded within the ESA

Otter Evidence ID	Evidence	National Grid Reference (NGR)	Location	Details
1	Footprint	NN 01476 11453	Eas an Amair watercourse	Two footprints located within mud alongside watercourse. Image 1, Annex A
2	Footprint	NN 01506 11434	Eas an Amair watercourse	One footprint located within mud alongside watercourse.
3	Spraint	NN 02011 12599	Blanket Bog	One recent spraint.
4	Spraint	NN 01347 11754	Eas an Amair watercourse	Three spraints: two recent, one old. Located on prominent rock next to watercourse. Image 2, Annex A
5	Spraint	NN 02402 12131	Unnamed watercourse flowing into Loch Sionnaich	Eight spraints: all ages. Located on prominent rocks next to watercourse.
6	Spraint	NN 02217 11866	Unnamed watercourse flowing out of Loch Sionnaich	Two old spraints. Located on prominent rock next to watercourse.
7	Spraint	NN 07133 09185	Steallaire Bàn Loch, 250m Buffer of Access Track	One old spraint.

Badger

1.36 No field signs of badger or setts were recorded during the surveys. The habitats within the ESA were generally considered to be unsuitable to support badger. The majority of the ESA, particularly to the centre and west, comprised of exposed heathland and bog habitats. These areas are unsuitable for badger as they are wet, boggy, and exposed due to an absence of tree and shrub cover.

1.37 Suitable foraging habitat (such as improved grassland, arable fields and deciduous woodland) was recorded in the very east of the ESA, along the proposed access route. Areas of steeply sloping ground with dense scrub, adjacent to farmland pasture, were recorded here.

1.38 While the coniferous plantation forest within the east of the ESA provided more cover and sheltering opportunities for the species, the general structure of the forestry does not provide suitable conditions. The ground was often wet with *Sphagnum* and other mosses, which would be unsuitable for sett construction.

1.39 However, it was not possible to survey some denser areas of forestry (see **Constraints and Limitations**), therefore it is possible that drier areas are present within the coniferous plantation which would be more suitable for badger. While no evidence of badger was recorded, the presence of badger in plantation forestry in the east of the ESA, albeit at low density, cannot be ruled out.

¹¹ Trees for Life (2022). Red Squirrel: Diet [Online]. Available at: <https://treesforlife.org.uk/into-the-forest/trees-plants-animals/mammals/red-squirrel/red-squirrel-diet/> [Accessed June 2022].

Red Squirrel

1.40 Habitats within the ESA vary in their suitability to support red squirrel. Coniferous plantation forest within the Site in the east of the ESA provides suitable cover for red squirrel. However, the general age and structure of the forestry generally provided sub-optimal conditions as it is dominated by semi-mature Sitka spruce.

1.41 Pockets of mixed woodland are present along the proposed access route. These areas are more suitable for red squirrel due to the diversity and age of the tree species recorded there. Red squirrel prefer a diverse mix of tree species (including spruce, pine, larch and fir)¹¹ that can produce year-round food resources.

1.42 Two red squirrels were recorded along the proposed access route (**Figure 8.6**); two squirrels were seen chasing each other up and down trees at the northern end of the survey area (NN 09076 08762). No dreys were observed and no further signs of red squirrel were recorded.

1.43 The centre and west of the ESA is considered unsuitable for red squirrel due to a lack of woodland cover.

1.44 It was not possible to survey some areas of forestry due to their dense nature (see **Constraints and Limitations**).

Pine Marten

1.45 Habitats within the ESA were considered to provide some suitability to support breeding populations of pine marten. The ESA has areas dominated by coniferous plantation forestry in the east, and therefore it is likely to provide some suitable refuge opportunities. Additionally, the forest habitat has the potential to support suitable prey species (such as small birds and mammals)¹². However, the conifer forest generally lacked suitably mature trees which are more likely to offer cavities in which pine marten tend to den.

1.46 The more open, predominantly boggy landscapes of the central and western areas of the ESA provide very limited suitable habitat for foraging, commuting or dens.

1.47 Two pine marten scats were recorded within the ESA (**Figure 8.6**). The scats were located in plantation forestry in the east of the ESA (NN 07183 10167), within the 250m buffer of the proposed access route.

1.48 Surveys conducted outwith the ESA recorded two further pine marten scats (NN 04234 07103), within plantation forestry to the south of the ESA.

1.49 In addition, an incidental sighting of a pine marten was noted by ecological surveyors in May 2021, when an individual pine marten was seen crossing the B840 road along Loch Awe, outwith the west of the ESA.

1.50 It was not possible to survey some areas of forestry within the ESA due to its dense nature (see **Constraints and Limitations**). The forest habitat is not considered a high-value resource for pine marten as it lacks the structural complexity favoured by this species. However, commercial forestry is extensive and well-connected in the east of the ESA where pine marten scats were recorded. In addition to the sighting of the species to the west, the presence of pine marten in the area and within the ESA itself is confirmed, albeit the species is likely to be at a low density.

Water Vole

1.51 The ESA contains optimal habitat for water vole, with many of the watercourses providing abundant foraging resources and opportunities for concealment and protection. Peaty, sloped banks suitable for burrow excavation were present across the ESA. Particularly favourable habitat was recorded along stretches of slow-moving watercourses in the centre and north-western areas of the ESA, notably along the Eas an Amair. The locations of water vole evidence are illustrated in **Figure 8.6** and listed below in **Table 8.3.6**.

¹² The Mammal Society (2022). Species – Pine Marten [Online]. Available at: <https://www.mammal.org.uk/species-hub/full-species-hub/discover-mammals/species-pine-marten/> [Accessed June 2022].

Table 8.3.6: Water Vole Evidence Recorded within the ESA

Water Vole Evidence ID	Location	National Grid Reference (NGR)	Watercourse Description	Details
1	Eas an Amair	NN 01479 11456	Optimal habitat was noted at this watercourse, which is approximately 3-4m wide, and 1-1.5m deep. Food resources were abundant, with large volumes of macrophytes within the water, and rushes lining the banks. Peaty banksides provide optimal conditions for burrow excavation, with slow-moving clean water.	Evidence of the species was recorded along a stretch of ~300m in the west of the ESA. Nine burrows and one latrine were recorded, with abundant feeding remains, droppings, and a network of runs through dense bankside vegetation. Images 3-5, Annex A
2	Allt Blarghour	NN 02400 13015	Suitable habitat was recorded at this watercourse which is approximately 4-10m wide. Food resources were scarce, as there was no macrophyte cover. However, rushes were noted in small, scattered pockets along the banks. Small stretches of peaty banksides provide suitable conditions for burrow excavation. Nevertheless, the majority of the watercourse is rocky, which is unsuitable for excavation.	Along a stretch of ~250m outwith the ESA, one burrow and four piles of feeding remains were recorded.
3	Unnamed Tributary	NN 02299 12590	Sub-optimal habitat was noted along this watercourse which is approximately 2-4m wide, and 1-1.5m deep. Food resources were abundant, with rushes regularly present along the banks. However, macrophyte cover was notably irregular. Peaty banksides provided optimal conditions for burrow excavation, with slow moving water in some areas. However, some stretches of the watercourse were rocky, providing less opportunities for concealment and protection.	Evidence of water vole was recorded close to Loch an Eilein Dhuibh in the north-west of the ESA. Along a stretch of ~270m, piles of feeding remains and one burrow were recorded.
4	Alltan Airigh Mhic Choinnich watercourse	NN 03828 11469	Optimal habitat was present at this watercourse which was approximately 3-4m wide, and 1-1.5m deep. Food resources were abundant, with large volumes of macrophytes within the water, and rushes lining the banks. Peaty banksides provided optimal conditions for burrow excavation, with slow moving clean water.	This watercourse flows through the centre of the ESA. Feeding remains were present along its length. No burrows were recorded.

Incidental Sightings

1.52 Four common lizards were recorded within blanket bog and acid grassland habitats within the north of the ESA (see **Figure 8.6**).

Discussion and Conclusion

1.53 The ESA provides sheltering habitat and extensive foraging and commuting habitat for otter and water vole.

1.54 Otter signs were recorded in the north-west and east of the ESA, in the form of footprints and spraints of varying ages. Recent spraint was recorded on two occasions to the north-west of the ESA, along the Eas an Amair and Loch Sionnaich. No resting sites were located within the ESA, which suggests that the lochans and watercourses were being used on a sporadic basis by otter for foraging and commuting routes. As such, the ESA in the vicinity of Loch Sionnaich and the Eas an Amair likely forms part of a larger territory, the core of which is further west associated with Loch Awe.

1.55 Given the distance between the majority of signs in the north-west, and the single old spraint on the Steallaire Bàn Loch in the east, it is likely that this represents two separate territories. The core of the eastern territory is considered to be outwith the ESA associated with Loch Fyne.

1.56 An active water vole colony was recorded along the Eas an Amair watercourse to the west of the ESA, with recent evidence of water vole recorded regularly along a stretch of approximately 300m. Further water vole activity was recorded along the Allt Blarghour watercourse to the north of the ESA, and along an unnamed tributary of the Allt Blarghour within the ESA. Water vole are utilising these habitats as the vegetation present along the banks provide opportunities for foraging, concealment and protection.

1.57 Water voles in the uplands exist as metapopulations¹³, and while territories are generally maintained, the structure and location of burrows within those territories are dynamic. There is potential for the resident water vole population to expand and colonise other parts of the ESA, dependent on factors such as breeding success, weather events, and the availability of foraging and burrow resources.

1.58 The coniferous woodland plantation within the east of the ESA is considered to be of limited ecological value. Pine marten and red squirrel are present and likely to exploit habitats within the Site periodically, although both species rely on a wide range of mature woodland habitats throughout the year (e.g. for foraging and breeding), and therefore the population density for both species is likely to be low within the Site. Red squirrel will be restricted to the wooded habitats in the east of the ESA, while pine marten may occasionally utilise the more open habitats of the higher ground. Badger is also likely to be present in the wider area, and may pass occasionally through both the woodland and open habitats of the ESA. However, the exposed habitats of the higher ground, and the age and dense structure of the monoculture coniferous forestry, do not offer optimal habitat for any of these species.

¹³ Capreolus Wildlife Consultancy (2005). The ecology and conservation of water voles in upland habitats. Scottish Natural Heritage Commissioned Report No. 099 (ROAME No. F99AC320).

Annex A Images

Image 1 – Two otter prints within mud, on the banks of the Eas an Amair



Image 2 – Recent otter spraint, Eas an Amair



Image 3 – Water vole feeding remains and burrow, Eas an Amair



Image 4 – Water vole feeding remains, Eas an Amair



Image 5 – Optimal water vole habitat, Eas an Amair

