

# TECHNICAL APPENDIX 8.3: PROTECTED MAMMAL SURVEY REPORT

**Balmeanach Wind Farm**  
Prepared for: **Balmeanach Wind Farm Limited**

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## 1.0 Introduction

### 1.1 Overview

Balmeanach Wind Farm Limited (the Applicant) is applying to The Highland Council (THC) for planning permission to develop a wind farm on land approximately 3km to the south of the settlement of Edinbane, approximately 8km to the east of Dunvegan and approximately 7km to the north of Struan on the Isle of Skye. The Applicant has appointed SLR Consulting Limited (SLR) to undertake a range of environmental studies on the site to inform an Environmental Impact Assessment (EIA) for the Proposed Development. This report provides the results of surveys for protected mammals, carried out in May 2021 and August 2022.

### 1.2 Site Location

The site, which measures approximately 476ha, centred on NGR 133900, 846750 is located on moorland approximately 3km to the south of the settlement of Edinbane, approximately 8km to the east of Dunvegan and approximately 7km to the north of Struan on the north west of the Isle of Skye (**Figure 1**). The proposed turbines would be located across two landownerships – primarily on the Bracadale Estate, on ground which forms part of the Balmeanach and Caroy Common Grazings, and partly on the Coishletter Estate. Access to the site would be via the existing Ben Aketil Wind Farm access track from the A850, and then south east via the consented Ben Sca Wind Farm site access track onto the hillside.

For the main development area of the site, topography slopes to the south east from 283m AOD at the summit of Ben Sca down to the lower slopes at approximately 160m AOD adjacent to the Allt Ruairidh burn, which is part of the River Ose Catchment which flows south west discharging into Loch Bracadale. The other main watercourses which drain the site are: the Abhainn Coishleader to the north east of the site generally flowing northwards towards Coishletter before discharging into Loch Greshornish; the Abhainn Bhaile Mheadhonaich which drains to the south and the Aketil Burn to the south west which drains into the Caroy River catchment.

This report focuses on the main development area as the 'site' and does not refer to the wider application site boundary which includes the access route to the site.

### 1.3 Scope of Study

The site was assessed for the presence of protected and otherwise notable mammals, focussing on species that are likely to occur in the area, ascertained from known species distribution and habitat suitability. The survey focussed on Eurasian otter (*Lutra lutra*).

The aims of the survey were to:

- provide baseline data to inform the wind farm planning process, and identify the need for any avoidance, mitigation, enhancement and compensation measures (if required);
- confirm the presence or absence of protected or otherwise notable mammals within areas which could be affected by the development of the wind farm; and
- record the location of field signs indicative of their activity should they be present.

This report presents the findings of the surveys carried out in May 2021 and August 2022.

## 1.4 Relevant Legislation

### 1.4.1 Conservation (Natural Habitats, &c.) Regulations 1994

The conservation (Natural Habitats, &c.) Regulations 1994 (The Habitats Regulations) (as amended in Scotland) transpose the operation of Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) in Scotland. Under the Habitats Regulations it is an offence to deliberately capture, kill or disturb wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time). Otter, wildcat and all bat species are listed under Schedule 2 of the Habitat Regulations.

### 1.4.2 Wildlife and Countryside Act 1981

The Wildlife and Countryside Act 1981 (as amended in Scotland) transposes the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive) into Scottish law. Under the Act it is an offence to:

- Intentionally or recklessly kill, injure or take any wild animal listed under Schedule 5 to the Act; intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act; and intentionally or recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection.

Otter, water vole, pine marten, red squirrel, wildcat and all bat species are listed under Schedule 5 of the Act. Water vole receive partial protection of their places of shelter only; this has long since been expected to change with water vole receiving full protection in future to align with their steep populations declines and increasing risk of extinction on mainland Great Britain.

### 1.4.3 Nature Conservation (Scotland) Act 2004

The Nature Conservation (Scotland) Act 2004 places duties on public bodies in relation to the conservation of biodiversity, increases protection of Sites of Special Scientific Interest (SSSI), amends legislation on Nature Conservation Orders, provides for Land Management Orders for SSSIs and associated land, strengthens wildlife enforcement legislation, and requires the preparation of a Scottish Fossil Code and a Scottish Marine Wildlife Watching Code. It also amends the legislation for protected species, introducing new conditions to the 'incidental results of a lawful operation' defence for all wild birds and certain species of animal and plant.

The Act places a duty on every public body to further the conservation of biodiversity consistent with the proper exercise of their functions.

It also requires Scottish Ministers to designate one or more strategies for the conservation of biodiversity as the Scottish Biodiversity Strategy, and to publish lists of species of flora, fauna and habitats of principal importance.

### 1.4.4 The Wildlife and Natural Environment (Scotland) Act 2011

The Wildlife and Natural Environment (WANE) (Scotland) Act 2011 makes changes to existing legislation covering deer management, game management, protection of badger, species licensing, muirburn, snaring, otters, invasive non-native species and protected areas.

## 2.0 Methodology

SLR Consulting undertook a previous desk study in 2019 for the consented Ben Sca Wind Farm site and these data also cover the Proposed Development site<sup>1</sup>. This included a review of publicly available online resources to identify the presence of designated sites within 10km of the site and recent records of legally protected or otherwise notable species within 5km of the site.

The desk study found that otter, hedgehog (*Erinaceus europaeus*), brown hare (*Lepus europaeus*), red deer (*Cervus elaphus*), roe deer (*Capreolus capreolus*), common lizard (*Zootoca vivipara*), common toad (*Bufo bufo*), common frog (*Rana temporaria*), palmate newt (*Lissotriton helveticus*) and several species of bats have been recorded within 5km of the site. It was noted that there are no records of water vole (*Arvicola amphibius*), red squirrel (*Sciurus vulgaris*) or wildcat (*Felis sylvestrus*) on Skye and only sporadic records of badger (*Meles meles*), with no records within 5km of the site. Pine marten (*Martes martes*) was considered absent from the Isle of Skye until the opening of the Skye Bridge which has allowed the species to spread onto the island. Although there are no existing records of pine marten within 5km of the site, the presence of this species cannot be ruled out at this stage.

The habitat within the site is open upland moorland with no forestry/woodland blocks present. Due to the habitats present and the results of the desk study, red squirrel and badger were not surveyed for since no suitable habitat was present on site or in the buffer. Pine marten was included due to the presence of a forestry block within 1km to the south of the site.

Signs of protected mammals were searched within the site: during May 2021 this consisted of the proposed site boundary (at that time) plus a 500m buffer. At Scoping, the site boundary extended south to the settlement of Balmeanach as shown on **Figure 8.3.1** and the August 2022 the surveys took place within this boundary. Subsequently during design evolution (see **Chapter 2**), the site boundary was refined. The application site boundary no longer includes this southern area and no infrastructure is proposed in this area however as this was the site boundary at the time, the full results of the August 2022 survey, including within the southern part of the scoping boundary are included here for completeness.

Any evidence of protected mammals presence was recorded onto 1:10,000 scale survey maps in the field. The location of all signs was also recorded via the use of a handheld GPS and photographs were taken to visually catalogue each record.

### 2.1 Otter

Otter surveys were undertaken in areas of suitable habitat within the survey area by an experienced surveyor in suitable weather conditions. Otter field signs that were searched for, as described in Bang & Dahlstrøm (2001)<sup>2</sup>, Sargent & Morris (2003)<sup>3</sup> and Chanin (2003a & b)<sup>4,5</sup>, included:

- holts – these are underground features where otters live. They can be tunnels within bank sides, underneath root plates or boulder piles, and even man-made structures such as disused drains. Holts are used by otters to rest during the day, and may be used as natal or breeding sites. Otters may use holts permanently or temporarily;
- couches/hovers – these are above ground resting-up sites. They may be partially sheltered or fully exposed. Couches may be regularly used, especially in reed beds and on in-stream islands. They may be

<sup>1</sup> SLR Consulting (2019) Ben Sca Desk Study Report, SLR Consulting

<sup>2</sup> Bang, P. & Dahlstrøm, P. (2001). *Animal Tracks and Signs*. Oxford University Press, Oxford.

<sup>3</sup> Sargent, G. & Morris, P. (2003) *How to find & Identify Mammals*. The Mammal Society, London.

<sup>4</sup> Chanin P (2003a) Ecology of the European Otter. Conserving Natura 2000 Rivers, Ecology Series No. 10. English Nature, Peterborough

<sup>5</sup> Chanin P (2003b) Monitoring the Otter *Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No 10. English Nature, Peterborough

used as natal and breeding sites. Couches can be very difficult to identify and may comprise an area of flattened grass or earth. Where rocks or rock armour are used as couches, these can be almost impossible to identify without observing the otter in situ;

- prints – otters have characteristic footprints that can be found in soft ground and muddy areas;
- spraints – otter faeces are often used to mark territories, usually deposited on in-stream boulders or similarly prominent features. They can also be present within or outside the entrances of holts and couches. Spraints have a characteristic smell and often contain fish remains;
- feeding signs – the remains of prey items may be found at preferred feeding stations. Remains of fish, crabs or skinned amphibians can indicate the presence of otter;
- paths – these are terrestrial routes that otters take when moving between resting-up sites and watercourses, or during high flow conditions when otters travel along bank sides in preference to swimming; and
- slides and play areas – slides are typically worn areas on steep slopes where otters slide on their bellies; slides are often found between holts/couches and watercourses. Play areas are used by juvenile otters in play and are usually evident as trampled vegetation and the presence of slides. These are often positioned in sheltered areas adjacent to the natal holt.

Any of the above signs are diagnostic evidence of the presence of otter; however, it is often not possible to identify couches with confidence unless other field signs are also present. Spraint is the most reliable identifiable evidence of the presence of this species.

## 2.2 Pine marten

All suitable habitat, within the survey area, was surveyed to determine the presence of pine marten.

The field signs searched for, as described in Bang & Dahlstrøm (2001)<sup>2</sup>, Velander (1983)<sup>6</sup> and Balharry et al (2008)<sup>7</sup>, included:

- scats – these are typically dark in colour and 4-12 cm long x 0.8-1.8 cm in diameter. They often have a coiled twisted appearance, typical of many mustelid scats. Scats will often contain food remains including fur, feathers, bone, plant content and seeds. Scats vary tremendously in size, shape and colour, and establishing a positive identification can be challenging. Where scat identification is in doubt, DNA analysis may be used to confirm pine marten. Scats are placed in latrines at well-used dens (e.g. on lids of den boxes), as well as at sites elsewhere in an individual's home range, where they probably fulfil a social communication role;
- footprints – the five-toed but slightly cat-like forefoot imprints measure approximately 40 x 45 mm for females and 55 x 65 mm for males; fur on the underside of feet in winter may blur prints and make them look larger, especially in soft snow. Indistinct trails of bounding martens (stride length 60-100 cm) may resemble those of hares, with prints in groups of two or three where one or both hind feet have registered over prints of forefeet; and
- den sites – dens are usually not distinctive unless revealed by visible concentration of scats. Elevated den sites are preferred to keep martens safe from predators and provide insulation and shelter from the elements, and so hollow trees, owl boxes and the roofs of dwelling houses are often used, as well as

<sup>6</sup> Velander, KA (1983) *Pine Marten Survey of Scotland, England and Wales 1982 - 1983*. The Vincent Wildlife Trust, London.

<sup>7</sup> Balharry E, Jefferies DJ and Birks JDS (2008) *Pine marten in: Mammals of the British Isles: Handbook 4th Edition*, 447-455. The Mammal Society, Southampton.

purpose-built pine marten den boxes. Where such elevated dens are absent, they may den on the ground in rabbit burrows, rocky outcrops or under tree root plates.

Any of the above signs are diagnostic evidence of the presence of pine marten; however, it is often not possible to identify den sites with confidence unless other field signs are also present. Scats are the most reliable identifiable evidence of the presence of this species.

Where a potential den site is suspected, camera traps may be utilised to confirm the presence of pine martens (although camera traps were not used as part of this survey).

## 2.3 Other Protected/Notable Mammals and Reptiles

The survey also searched for signs of other mammal presence; including but not limited to, European brown hare and European hedgehog. In addition, signs of reptile presence were also recorded.

## 2.4 Survey Dates

The surveys were undertaken from 11 to 13 May 2021 during a period of stable weather with rain on the 11 May.

A follow up survey was undertaken from 22 to 26 August 2022 due to an expansion of the Scoping site boundary and possible movement of proposed infrastructure northwards. The surveys were conducted during a period of stable weather with heavy rain showers on the 22 August. The showers were not enough to raise the water levels too high.

## 2.5 Survey Personnel

### May 2021

Kirstie Hazelwood conducted the mammal survey in May 2021. Kirstie (Bmus (hons), MSc, PHD, ACIEEM) is a senior ecologist with seven years' experience in ecology, within consultancy, NGOs and research. She has worked on over 20 upland sites in Scotland including numerous large development sites. She has expertise of a range of ecological and ornithology surveys and technical report writing.

### August 2022

Helen Allinson conducted the protected mammal survey in August 2022. Helen (BSc, QCIEEM) is a senior field ecologist with over seven years' experience in ecology and conservation within consultancy and NGOs. During her time in consultancy, she has worked on a range of projects and her expertise covers ecological and ornithological field skills and technical report writing.

## 2.6 Limitations

Very heavy and persistent rain in the week before the May 2021 surveys were carried out led to unusually high-water levels with the rivers being beyond bank full during the survey. There is a possibility that field signs of protected species had been washed away.

During the August 2022 surveys, heavy rainfall on the first survey date resulted in medium water levels although there were some signs that it had recently overtopped some of the narrower bank sections. This is not believed to have had a significant effect on the survey results.

An ecological study provides only a 'snapshot' of the conditions prevailing at the time of survey. Lack of evidence of any one protected species does not necessarily preclude them from being present on site at a later date. Whilst it is considered unlikely that any significant evidence of protected or otherwise notable mammal species has been overlooked, due to the nature of the subjects of ecological surveys it is feasible that species that use the site may not have been recorded by virtue of their seasonality, cryptic behaviour, habit or random chance. It



is considered unlikely however that additional surveys of the site at this time would materially alter the conclusions of this report.

## 3.0 Results

A summary of the target notes listed on the site are listed in **Table 3-1** and discussed in the Sections below. Locations are shown on **Figure 8.3.1**.

**Table 3-1 Summary of protected/notable species target notes**

Target Note	Grid Reference	Species	Detail
1	NG 32544 45360	Otter	Otter spraint containing fish scales on rock to the side of the burn.
2	NG 34595 46292	Common frog	Live sighting.
3	NG 34538 46233	Common lizard	Live sighting.
4	NG 33129 45532	Common lizard	Live sighting.

### 3.1 Otter

#### Original Survey – May 2021

No signs of otter activity were recorded in the survey area.

#### Survey Update – August 2022

One otter spraint was found on the Aketil Burn (Target Note 1) containing fish scales. The spraint was on a rock to the side of Aketil Burn and was partially washed away.

Three main burns are present onsite: Aketil Burn, Allt Bhaile Mheadhonaich and Allt Ruairidh. The larger watercourses on the north eastern border (Allt Ruairidh) and in the lower section of Aketil Burn in the western corner of the survey area provided suitable commuting and foraging habitat with limited opportunity for shelter creation. The Allt Bhaile Mheadhonaich provided suitable commuting and foraging habitat with limited shelter creation opportunities, the upper reaches of the burn narrows and disappears into flushes/underground. However, further into site the burns themselves became narrower with open moorland habitat surround them and limited suitable banks for shelter. At the higher altitude the burns narrowed further and eventually went underground or into marshy flushes. These areas where the burns narrowed and became less suitable for fish are likely to be of limited value to otters (i.e. commuting primarily) however foraging may also take place as amphibians are likely to be found in the wider habitat.

### 3.2 Pine Marten

No signs of pine marten were recorded in the survey area during May 2021 and August 2022 and a previous desk study search showed no pine marten records within 5km of the site.

Habitat on site was poor for pine marten<sup>8</sup>, as the habitat is very open and there are few places of potential shelter on site such as rocky outcrops and no woodland.

<sup>8</sup> NatureScot (2022). *Pine Marten*. Available at: <https://www.nature.scot/plants-animals-and-fungi/mammals/land-mammals/pine-marten>

### 3.3 Other Notable Species

No other notable species were recorded during the survey. However, the open moorland habitat onsite is suitable for common lizard and also for adders. There are suitable areas onsite for foraging, basking and potentially hibernating.

#### Survey Update – August 2022

During the surveys a common frog was seen on the Allt Ruairidh boundary burn (Target Note 2) as well as two live sightings of common lizards on the Allt Ruiridh Burn and Aketil Burn (Target Notes 3 and 4, respectively).

Incidental sightings of red deer were reported by the habitat surveyor on site, the location of these sightings is unknown.

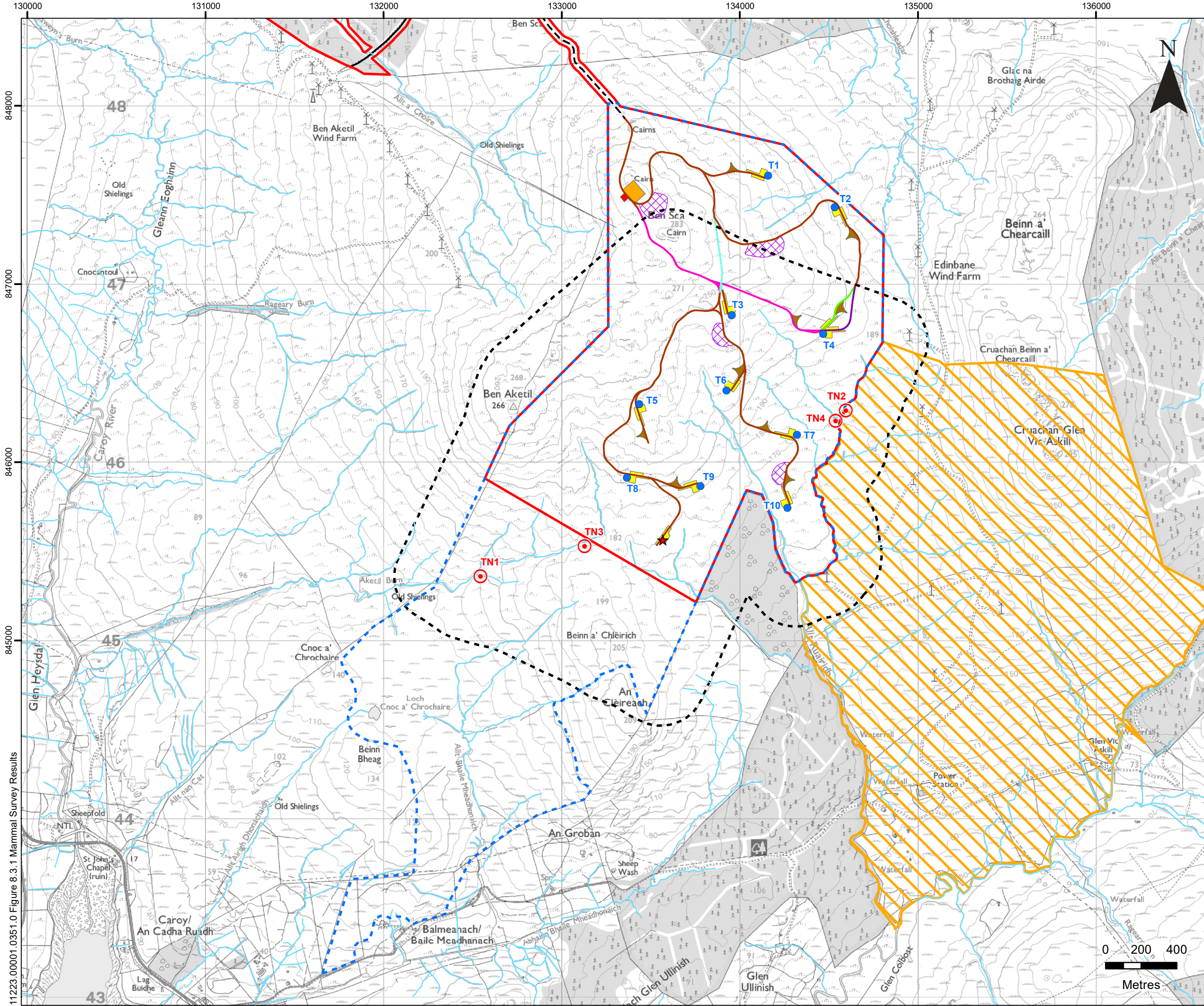
## 4.0 Discussion and Conclusions

No signs of protected species were observed during the May 2021 field surveys.

One otter spraint was observed during the August 2022 field surveys. There is suitable habitat for otter especially along the lower sections of the larger watercourses (Allt Ruairidh and Aketil Burn), with the upper reaches, Allt Bhaile Mheadhonaich burn and smaller burns providing foraging and commuting habitat. No other signs of protected species were observed during these surveys.

The wider site has suitable habitat for reptiles including lizard and adders. There were two live sightings of common lizard recorded and common frog during the August 2022 survey period and reptiles are considered likely to be resident on site in low numbers and otter are likely to visit the site on occasion. Pine marten are considered unlikely to use the site on a regular basis due to lack of habitat suitability but may pass through infrequently.





**LEGEND**

- Application Site Boundary
- Proposed Turbine Location
- ★ Proposed Permanent Met Mast
- Proposed Crane Hardstanding
- Proposed Construction Compound
- Proposed Substation
- Proposed Turning Head
- Potential Borrow Pit
- Existing Access Track
- Consented Access Track

**Proposed Track Alignment**

- Proposed
- Proposed Option A
- Proposed Option A1
- Proposed Option A2
- Proposed Option B

- August 2022 Survey Area
- May 2021 Survey Area
- No Access Permission for Survey
- Watercourse
- ⊙ Target Note

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BALMEANACH WIND FARM - EIA  
 TA 8.3 - MAMMAL SURVEYS  
 MAMMAL SURVEY RESULTS  
**FIGURE 8.3.1**

Scale: 1:20,000 @ A3      Date: JULY 2023

11223.00001.0351.0 Figure 8.3.1 Mammal Survey Results



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