atmos CONSULTING

Environmental Impact Assessment Report

Swarclett Wind Farm

Technical Appendix 6-3: Protected Mammal Surveys

Swarclett Wind Energy Limited

wind2

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1 Introduction

1.1 Terms of Reference

In September 2019, Atmos Consulting Ltd. (Atmos) was commissioned by Swarclett Wind Energy Limited to undertake Protected Mammal Surveys in relation to a proposed wind farm development and battery storage on land approximately 10km south-east of Thurso, Highland (hereafter referred to as the "Site").

This report describes the methods followed and the findings from the survey.

1.2 Site Location and Description

The Proposed Development lies approximately 10km to the south-east of Thurso, Caithness, Highland, centred on National Grid Reference (NGR) ND 20915 62900 (Figure 1-1 EIA Report Volume 4).

The site itself is a mix of semi-improved agricultural fields, felled / windblown forestry plantation, and an area of mire or fen in the valley bottom. Loch Scarmclate is situated 2.3km to the south-west.

1.3 Proposed Development

The Proposed Development will consist of two three-bladed horizontal axis wind turbines, each up to 149.9m above ground level (agl) maximum blade tip height and a rotor diameter of 133m. The final choice of turbine will be subject to a selection process which considers technical and commercial aspects of the turbines and would be based on the turbine models which are commercially available at the time of construction.

Associated infrastructure includes hard standing areas for erecting cranes at each turbine location, on-site access tracks and turning heads, an on-site substation compound with battery storage, and a temporary construction compound. The Proposed Development has been designed to have an operational life of 30 years.

1.4 Objectives

The objective of the study was to undertake surveys of the Site area including a buffer of 250m, where access allowed, to record any evidence indicating the presence of protected mammal species which could represent a constraint to development.

2 Legislation

Otter *Lutra lutra* and wildcat *Felis silvestris* are European Protected Species (EPS), listed in Annexe IV of the EC Habitats Directive and are fully protected in the UK under the Conservation (Natural Habitats, etc.) Regulations 1994 (the Habitats Regulations), as amended. The legislation specifies a number of offences which includes to deliberately or recklessly capture, kill, injure or disturb EPS (while using a resting place), or to damage or destroy breeding sites or resting places. It is also an offence to disturb EPS in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of the species or to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young.

Pine marten *Martes martes* are protected under Schedule 5 of the Wildlife and Countryside Act (1981), as amended (WCA). Under this legislation, it is an offence to intentionally or recklessly:

- Kill, injure or take a wild pine marten;
- Damage, destroy or obstruct access to any structure or place which such an animal uses for shelter or protection;
- Disturb such an animal when it is occupying a structure or place for that purpose; and
- Possess or control, sell, offer for sale or possess or transport for the purpose of sale any live or dead wild pine marten or any derivative of such an animal.

Water vole *Arvicola amphibius* are also afforded protection under Schedule 5 of the Wildlife and Countryside Act 1981, as amended. It is currently an offence to intentionally or recklessly:

- Damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection; and
- Disturb water voles while they are using such a place.

Badger *Meles meles* and their setts are fully protected by the Protection of Badgers Act 1992 (as amended by the Wildlife and Natural Environment Act 2011).

It is an offence to:

- Wilfully kill, injure, take or attempt to kill a badger;
- Possess a dead badger or any part of a dead badger;
- Cruelly ill-treat a badger, use badger tongs in the course of killing, taking or attempting to kill a badger, dig for a badger; and
- Possess, sell or offer for sale any live badger, or mark, tag or ring a badger.

It is also a crime to:

- Interfere with a badger sett by intentionally or recklessly causing or allowing damage to a sett or any part of it, destruction of a sett, obstruction of a sett access, or any entrance of it; and
- Allowing a dog to enter a sett, or disturb a badger when it is occupying a sett.

A badger sett is defined in law as any structure or place which displays signs of current use by a badger.

3 Methodology

3.1 Desk Study

A desk study was undertaken in order to establish baseline information for the site and to gather information about the presence of species of conservation interest. Various data sources were utilised including the website of the statutory agency, NatureScot via the 'Site Link Portal', publicly available datasets available for commercial use held on the National Biodiversity Network (NBN) website and aerial photography for the site.

Desk study identified statutory designations with non-avian, mammal species as a qualifying interest, such as Special Areas of Conservation (SACs), Ramsar wetlands, Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs) within 10km of the site. In addition, Local Nature Reserves (LNRs) and relevant non-statutory designations within a 5km radius of the site were searched for.

3.2 Field Survey

Field surveys were undertaken on the 17th September 2020 and repeated on the 25th July 2023. Surveys followed (but were not limited to) the methodologies described for the main target species below and were carried out across an area comprising the site and a 250m buffer (the Study Area). Please note that bat surveys were undertaken separately with results presented in Technical Appendix 6-2.

3.2.1 Otter

The otter survey followed standard methodologies (Purseglove, 1995; Chanin, 2003; Bang and Dahlstrøm, 2006; Muir and Morris, 2013). As actual otter sightings are unlikely, the survey concentrated on locating field signs indicating otter presence or use. Such field signs include:

- Spraints;
- Footprints;
- Feeding remains – such as partially eaten fish or frogs;
- Slides / haul-outs – routes into and out of the water, which are usually associated with terrestrial routes, such as short cuts around meanders or along traditionally used otter paths / routes;
- Couches – resting place usually associated with cover, such as dense scrub, rushes or reed, flood debris or fallen trees;
- Holts – resting site with one or more chamber; and
- Natal holts – used for breeding.

3.2.2 Wildcat

A walkover survey for wildcat *Felis silvestris* was carried out within 250m of site infrastructure. Features such as buildings, rocky outcrops, woodpiles, thick areas of scrub vegetation and hollow trees were targeted, along with any other potential features of interest, taking account of the SNH walkover survey methodology for Scottish wildcat SNH (undated a). In addition, any evidence of use by wildcats such as scat, scratch marks, hair or prey remains were searched for and noted where present.

Evidence of wildcat signs/activity recorded during the survey was geo-referenced using a handheld GPS with the feature of interest photographed.

It is preferential to carry out surveys during the autumn or winter when vegetation is less likely to obscure den sites therefore no significant limitations were identified.

3.2.3 Pine Marten

The pine marten survey followed the methods described in Birks (2012). Pine marten are active all year round with the period between June - August being optimal as scats are most abundant.

The survey included a systematic search for signs of pine marten presence and potential den sites within 250m of the Proposed Development.

3.2.4 Water Vole

The water vole surveys were undertaken in accordance with the methodologies described in the *Water Vole Conservation Handbook* (Strachan *et al*., 2011). As with otter, water vole sightings during survey were unlikely and, although such sightings would be recorded, water vole survey therefore relied on field signs, such as:

- Faeces – these are 8 -12mm long and 4-5mm wide, varying in colour from green to black, and odourless with a putty-like texture;
- Latrines – found throughout the territory, often comprising a pile of flattened droppings, with fresh droppings on top;
- Feeding stations – comprise a neat pile of chewed feeding remains;
- Burrows – these are typically wider than they are high, with a diameter of 4 – 8cm, and are usually located along the water's edge;
- Lawns – around burrows there is often an area of grazed vegetation, surrounded by taller vegetation, these are most often produced when the female is nursing young;
- Nests – these comprise a large ball of shredded material, often woven into the bases of rushes and reeds, and are normally found in areas where the water table is high, such as wetlands;
- Footprints – as with other rodents, the footprints of the fore foot, show four toes in a star arrangement, with the hind foot showing 5 toes. The size of footprints for the hind foot is 26-34mm;
- Runways – these are low tunnels within the vegetation; and
- Sounds – the characteristic 'plop' of the water vole entering the water that acts as a warning to other voles.

3.2.5 Badger

The Badger survey was carried out in accordance with the methodology described in SNH (2003) and Harris *et al*. (1989).

Within the survey area all fence lines, woodland and scrub habitats were systematically surveyed for evidence of badgers in the form of:

- Faeces – badgers usually deposit faeces in characteristic excavated pits, so-called latrines, concentrations of which are typically found at home range boundaries;

- Setts – entrances comprising either single isolated holes or a series of holes, likely to be interconnected underground;
- Paths – tracks between setts or leading to feeding areas;
- Scratching posts – evidence of scratching at the base of tree trunks;
- Snuffle holes – small scrapes where badgers have searched for insects, earthworms and plant tubers;
- Day nests – bundles of grass and other vegetation where badgers may sleep above ground;
- Hair traces – notably the distinct badger guard hairs; and
- Footprints.

When a sett is located the level of use and how active the sett is can be assessed using the following criteria:

- Number of well-used holes with one or more of the following: well-worn entrance, freshly excavated soil, bedding material);
- Number of partially used holes as indicated by leaves or twigs in the entrance and / or mosses and other plants growing in or around the entrance; and
- Number of disused holes that are partially or completely blocked, with considerable amounts of excavation being required for reoccupation.

3.3 Limitations

The surveys were undertaken during summer to late autumn under suitable weather conditions with all appropriate species being active during these times. No significant limitations were identified.

4 Results

4.1 Desk Study

4.1.1 Designated Sites

Statutory Designations

There is one site designated for protected mammal species interest within 10km of the Site (Table 6-3-1 below and Figure 6-3-1).

Table 6-3-1: Designated Sites

Designated Site	Distance from Site Boundary	Designated Features
SACs		
Caithness and Sutherland Peatlands	c. 8.00km east of Site	Blanket bogs Depressions on peat substrates Otter *Lutra lutra* Acid peat-stained lakes and ponds Wet heathland with cross-leaved heath *Erica tetralix* Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels Marsh saxifrage *Saxifraga hirculus* Transition mires and quaking bogs

4.1.2 Species Records

The desk study also collated protected or otherwise notable species records publicly available for commercial use held on the National Biodiversity Network (NBN) Atlas website from within 5km of the approximate centre of the site (National Grid Reference (NGR) ND 21349 62895) for the past 15 years (Table 6-3-2 refers).

Table 6-3-2: Protected Species Historical Records

Species	Summary of Records
Pipistrelle *Pipistrellus* sp.[1]	1 record from 2015, recorded beyond the Site boundary to the south
Common Pipistrelle *Pipistrellus pipistrellus*[1]	13 records all from 2012, recorded in and around the Site
European Otter *Lutra lutra*[1]	2 records (1 record from 2019, 1 record from 2013), recorded beyond the Site boundary to the north
Pine Marten *Martes martes*[2]	1 record from 2017, recorded beyond the Site boundary to the south-west, near Loch Scarmclate

[1] Data sourced from HBRG Vertebrates (Not Badger) Dataset

[2] Data sourced from Non-Avian Taxa (BTO/JNCC/RSPB Partnership)

4.2 Field Survey

4.2.1 Otter

No otter signs were recorded during the survey. The Site contains poor habitat for otter. Watercourses within the survey area consist of agricultural and forestry drainage ditches which were found to have little or no waterflow.

4.2.2 Wildcat

The Site offered optimal foraging habitat for wildcat being mainly agricultural grassland but no evidence of this species was found. With the nearest previous record over 5km distant, this species is considered unlikely to be present on Site.

4.2.3 Pine Marten

No signs of pine marten were recorded during the survey. While it may have been suitable in the past when the conifer plantation was intact, the Site at present contains poor habitat for pine marten. Only a few small patches of mixed woodland exist in the clear fell area and there is little opportunity for connectivity from nearby woodlands.

4.2.4 Water Vole

The Site contains suitable habitat for water vole. Some mammal holes, possibly relating to water vole, were found in clear fell drainage ditches; however no further signs were found.

4.2.5 Badger

The Site offered optimal foraging habitat for badger being mainly agricultural grassland but no evidence of this species was found. With no previous records for the immediate area, this species is considered unlikely to be present on Site.

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