

Technical Appendix 8.3

Kirkton Energy Park

Protected Mammal Surveys

Kirkton Wind Farm Ltd.

wind2

November 2022



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1 Introduction

1.1 Terms of Reference

In August 2020, Atmos Consulting Ltd. (Atmos) was commissioned by Kirkton Wind Farm Ltd. to undertake Protected Mammals Surveys for the proposed Kirkton Energy Park located approximately 2.1km south of Melvich, Sutherland (hereafter referred to as the "site").

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

1.2 Site Location and Description

The site is situated approximately 2.1km south of the village of Melvich, in the Scottish Highlands with an approximate grid reference of NC 87999 59788 (Appendix A, Figure 8.3.1 refers).

The site is located in an area of grazing land, planted native woodland and blanket bog ranging in altitude from 20 to 160m Above Ordnance Datum (AOD). The highest area to the south comprises of large, nearly flat expanses of blanket bog.

The north of the site is roughly split into east and west sectors by the burn Allt na h-Eaglaise and its tributaries. The slopes to the west of this rise to a large block of commercial conifer plantation, and those to the east rise to a long hill at an altitude of approximately 100m AOD. An access track runs south from Kirkton Farm and along the eastern hill.

The south of the site is split by the burns Allt nan Gall and Allt an Tigh-choinneimh that drain east into the Halladale River.

The site is used mainly for sheep and cattle grazing, although there is also some planted and semi-natural woodland. There is some evidence of grazing pressure from deer. The survey area contains a variety of plant communities including blanket bog, wet heath, dry heath, acid grassland, acid flush, areas of continuous bracken, broad-leaved woodland, acid grassland, improved grassland and marshy grassland.

There are two fields located immediately adjacent to the A836 that have been identified as suitable for the creation of abnormal load turning areas: turning area A is located to the north west of the main site, adjacent to the building at Strathroy; and turning area B is located at the western edge of Melvich, adjacent to the road junction between the A836 and the road to Portskerra. Turning area A supports an improved grassland habitat and turning area B supports an improved grassland / marshy grassland mosaic.

1.3 Proposed Development

The proposed development will consist of up to eleven 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 and control building, and a temporary construction compound. The proposed development would be time limited to 30 years from the date of final commission.

1.4 Objectives

The objective of the study was to undertake survey of the site and 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 European Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the 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 Desktop 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 8 – 10 September 2020, 29 September – 1 October 2020, 5 October 2020, 19 – 22 July 2021, and 11 – 12 November 2021. 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 8.2.

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:

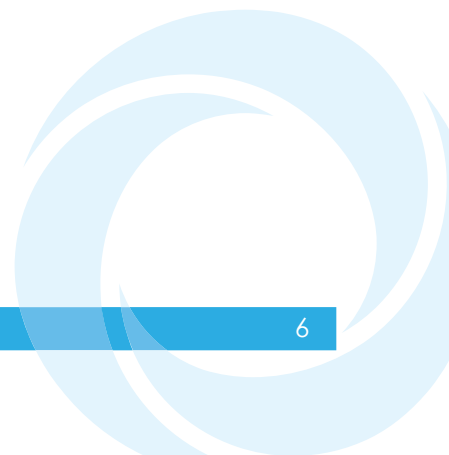
- Faeces – badgers usually deposit faeces in characteristic excavated pits, so-called latrines, concentrations of which are typically found at home range boundaries;
- Setts – entrances comprising either single isolated holes or a series of holes, likely to be interconnected underground;
- Paths – tracks 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 in the vicinity (< 10km) of the site (Table 1 and Appendix A, Figure 8.3.2 refers).

Table 1: Designated Sites

| Designated Site | Designated Feature | Distance from Site Boundary |
|---|---|--|
| SACs | | |
| Caithness and Sutherland Peatlands (SNH, undated b) | Blanket bogs Depressions on peat substrates Otter <i>Lutra lutra</i> Acid peat-stained lakes and ponds Wet heathland with cross-leaved heath <i>Erica tetralix</i> Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels Marsh saxifrage <i>Saxifraga hirculus</i> Transition mires and quaking bogs | Immediately adjacent to the western site boundary ¹ |

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) NC 87999 59788) for the past 15 years (Table 2 refers).

Table 2: Protected Species Historical Records

| Species | Summary of Records |
|-----------------------------------|--|
| European otter <i>Lutra lutra</i> | 15 records (12 from 2011, 1 from 2008, and 2 from 2006) with none located within the site boundary, the nearest being recorded approximately 0.86km to the east in the vicinity of Achimore Pool |
| Wildcat <i>Felis silvestris</i> | 1 record from 2010 recorded beyond the site boundary, approximately 0.86km to the east in the vicinity of Achimore Pool |
| Badger <i>Meles meles</i> | 1 record from 2010 recorded beyond the site boundary, approximately 3.01km to the east south east, south of Loch na Seilge |

¹ Includes a small overlap in the north west of the proposed development site to incorporate the entirety of the coniferous plantation there as part of the proposed Habitat Management Plan (Technical Appendix (TA) 8.5: Draft Habitat Management Plan refers).

4.2 Field Survey

4.2.1 Otter

Otter sprainting and feeding signs of predated fish were identified at points along the lower reaches of the Allt na h-Eaglaise watercourse within the Study Area (Figure 8.3.3, Appendix A, and Appendix B refers). No resting places were discovered within the Study Area. Although no direct evidence of otters was found within the site, only the survey buffer, it is possible that otters could forage along the length of all tributaries which connect the site to the Halladale River.

4.2.2 Wildcat

No evidence of this species was found during the field survey. The species is in significant decline and this is not recognised as a priority area for wildcat. It is considered highly unlikely that they are present on site.

4.2.3 Pine Marten

No evidence of this species was found during the field survey.

4.2.4 Water Vole

Although suitable habitat was present on site (especially along the Allt na h-Eaglaise and Allt nan Gall watercourses and supporting tributaries), no evidence was recorded during the survey.

4.2.5 Badger

The site offered sub-optimal foraging habitat for badger (mainly heath / marsh) and no evidence of this species was found.

4.2.6 Other Notable Species

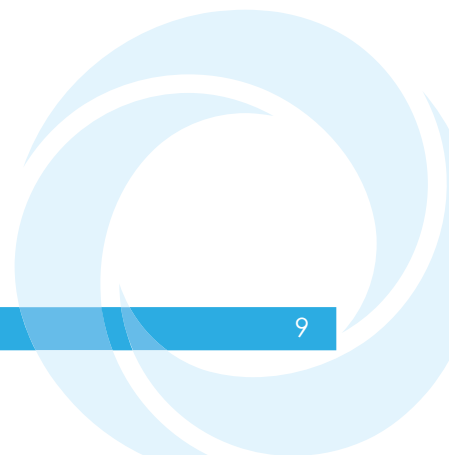
No reptile species were recorded during surveys. While recognising that reptiles are not mammals, it is worth highlighting that the presence of dry stone walls at the proposed abnormal load turning areas offer potential refugia for species such as adder *Vipera berus* and common lizard *Zootoca vivipara* (Figure 8.3.3, Appendix A, and Appendix B refers). Depending on whether any stone walling is to be removed as part of the proposed development at the abnormal load turning areas, further survey work may be required. (Adder and common lizard are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), and as such are protected against intentional or reckless killing and injury, and trade (i.e. sale, barter, exchange, transport for sale, or advertisement for sale or to buy) under part of sub-section 9(1) and all of sub-section 9(5). It is not an offence to possess these species.)

Buildings immediately adjacent to the location of the proposed turning areas offer potential roost features for use by bats (Figure 8.3.3, Appendix A, and Appendix B refers).

5 Mitigation

The following measures are recommended in order to minimise the potential impact on otters.

- Works will be overseen by an Ecological Clerk of Works (ECoW) and their role and responsibilities will be detailed in a Construction Environmental Management Plan (CEMP);
- Otter: A pre-construction survey for otter will be undertaken, covering suitable habitat within 250m from proposed development infrastructure. This survey will be undertaken by a suitably qualified ecologist. The survey will aim to identify if these species activity levels continue as present and the results of the pre-construction survey will inform the need to amend the CEMP to include further mitigation with regards to protected species in respect of working practices or to consult with NatureScot if required;
- Excavations will be covered at the end of each working day or a means of ingress / egress placed inside to allow faunal species to escape, should they enter the excavation. Any temporarily exposed open pipe system would be capped in such a way as to prevent wildlife gaining access; and
- In the event that a protected species is discovered on site all work in that area would stop immediately and the ECoW would be contacted. Increased buffer areas may be required in these locations. Details of the local police Wildlife Crime Officer, NatureScot Area Officer and Scottish Society for the Prevention of Cruelty to Animals (SSPCA) relevant Officer would be held in the site emergency procedure documents.



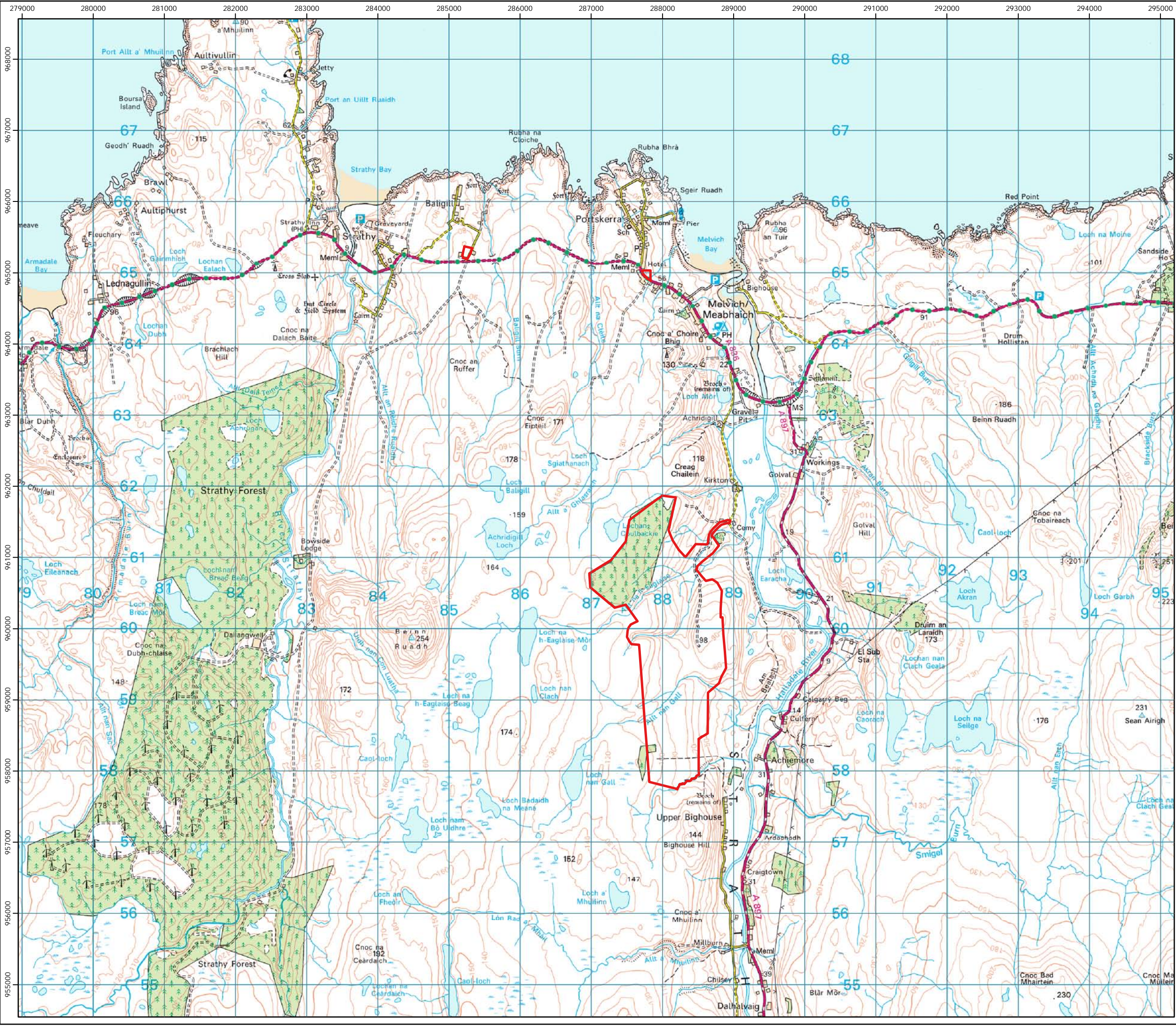
6 References

- Bang, P. & Dahlstrøm, P. (2006). *Animal Tracks and Signs*. Oxford University Press, Abingdon.
- Birks, J. (2012). In: 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.
- Chanin, P. (2003). *Monitoring the Otter Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No. 10, English Nature, Peterborough.
- Harris, S., Cresswell, P., and Jefferies, D. (1989). *Surveying Badgers*. Mammal Society, London.
- Muir, G. & Morris, P. (2013). *How to find and identify mammals (2nd edition)*. The Mammal Society, Southampton.
- Purseglove, J. (1995). *The New Rivers and Wildlife Handbook*. RSPB, NRA and RSNC, the Royal Society for the Protection Of Birds, Sandy.
- Scottish Natural Heritage (undated a). *Wildcat Survey Methods*. Available online from: <https://www.nature.scot/Sites/default/files/2018-04/Guidance-Wildcat-Survey-Methods.pdf> (accessed October 2020).
- Scottish Natural Heritage (undated b). Caithness and Sutherland Peatlands SAC Qualifying Interests <https://sitelink.nature.scot/site/8218> accessed 05 November 2021.
- Scottish Natural Heritage (2003). *Best Practice Guidance - Badger Surveys*. Inverness Badger Survey 2003. Commissioned Report No. 096.
- Strachan, R., Moorhouse, T., and Gelling, M. (2011). *Water Vole Conservation Handbook (3rd edition)*. Wildlife Conservation Unit, University of Oxford, Abingdon.

Appendices

Appendix A. Figures

- Figure 8.3.1 - Site Location
- Figure 8.3.2 - Environmental Designations
- Figure 8.3.3 - Survey Results



Kirkton
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Figure 8.3.1 Site Location

Key

Site boundary





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Kilometres

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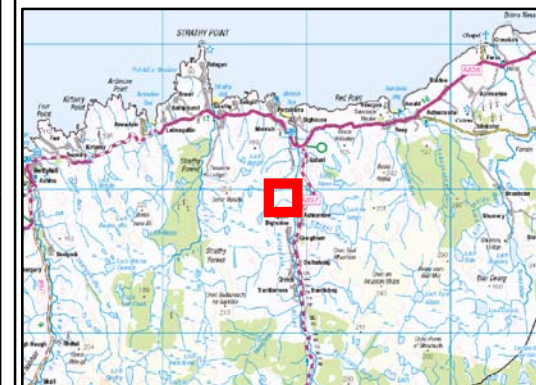
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Figure 8.3.2
Environmental Designations

- Key**
- Site boundary
 - 5km buffers to 20km
 - Special Area of Conservation
 - Ancient Woodland Inventory
 - Special Protection Area
 - National Nature Reserve
 - Site of Special Scientific Interest
 - RSPB Reserve
 - RAMSAR wetland
 - RSPB Important Bird Areas



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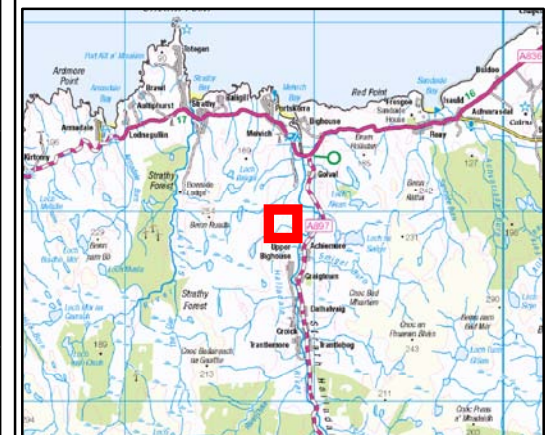
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Figure 8.3.3
Protected Species Survey Results
Overview

Key

-  Site boundary
-  Survey - 250m buffers
-  Target Note



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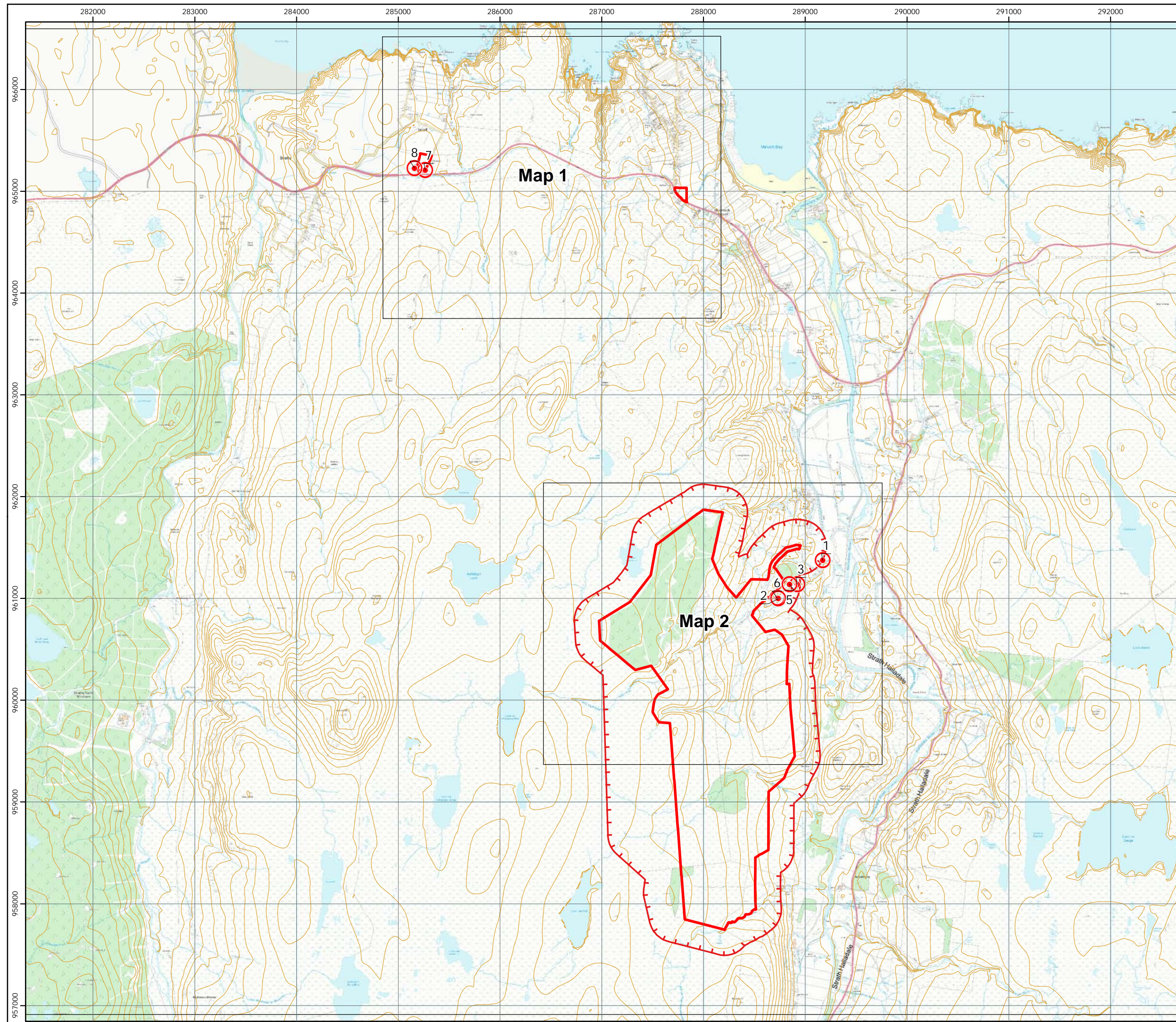


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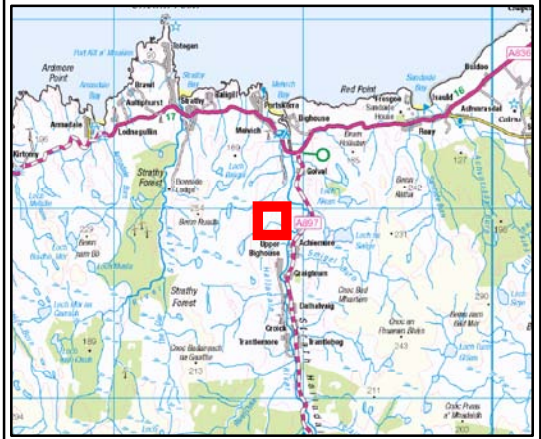


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Figure 8.3.3
Protected Species Survey Results
Map 1

- Key**
- Site boundary
 - Survey - 250m buffers
 - Target Note



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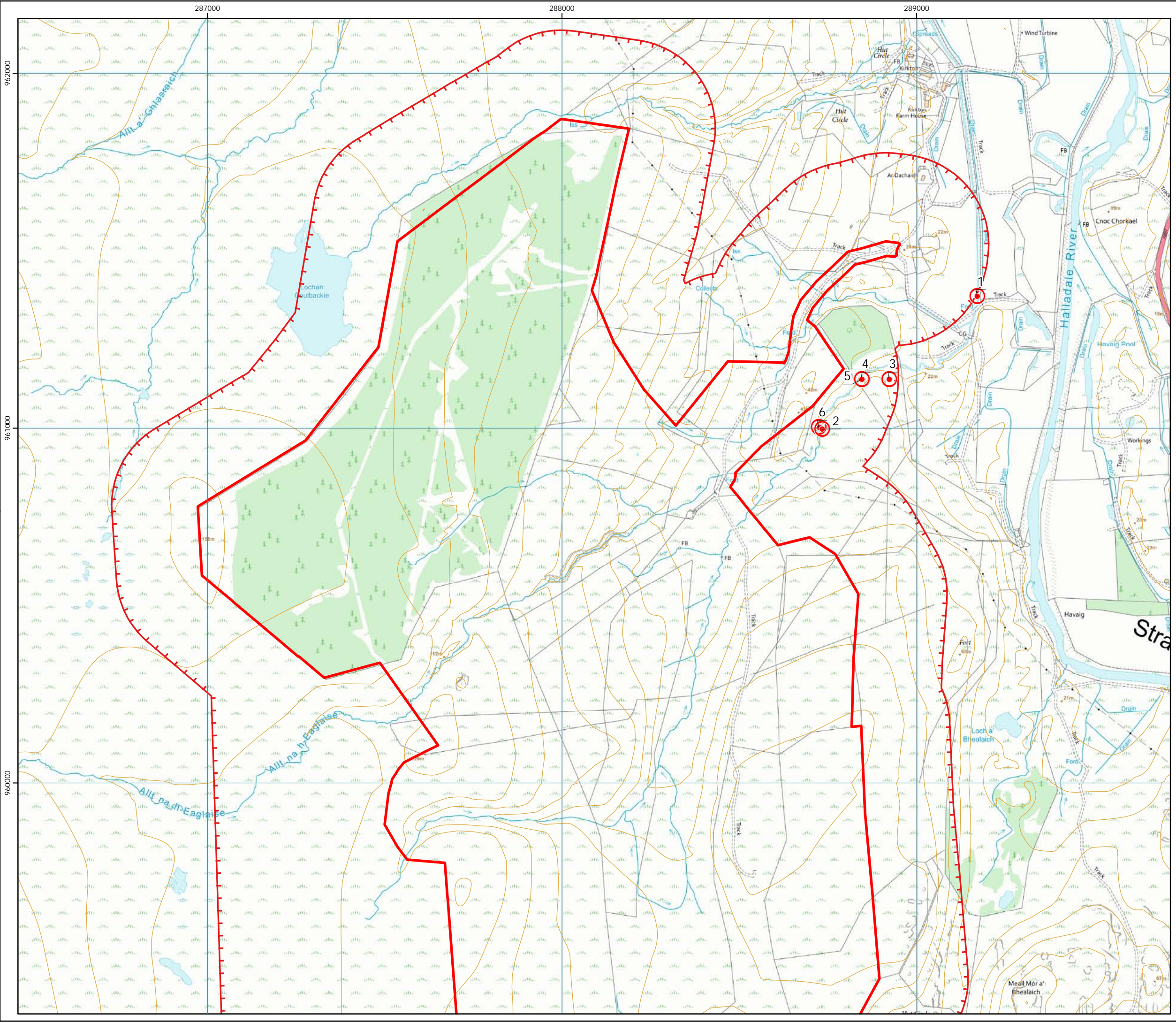
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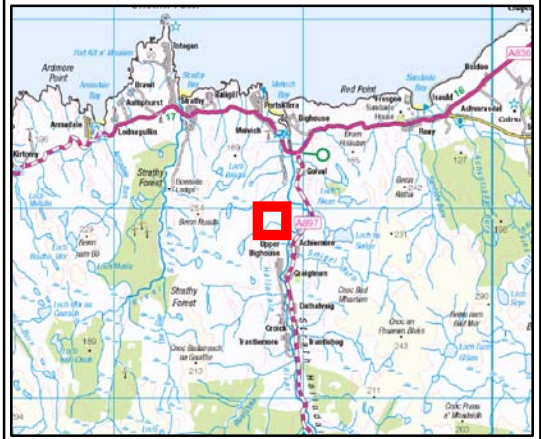


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Figure 8.3.3
Protected Species Survey Results
Map 2

- Key**
- Site boundary
 - Survey - 250m buffers
 - Target Note



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0 0.25 0.5
Kilometres







Scale @ A3:
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Appendix B. Target Notes

| Target Note (TN), description and grid reference | Photograph |
|--|--|
| <p>Target Note 1</p> <p>Grid Reference NC 89171 61371</p> <p>Otter spraint on rock</p> |  |
| <p>Target Note 2</p> <p>Grid Reference NC 88734 60997</p> <p>Otter spraint on rock</p> |  |

| Target Note (TN), description and grid reference | Photograph |
|---|--|
| <p>Target Note 3</p> <p>Grid Reference NC 88923 61169</p> <p>Two washed away otter spraints on rock</p> |  |
| <p>Target Note 4</p> <p>Grid Reference NC 88846 61138</p> <p>Otter spraint on grassy rock</p> |  |

| Target Note (TN), description and grid reference | Photograph |
|---|--|
| <p>Target Note 5</p> <p>Grid Reference NC 88846 61138</p> <p>Otter spraint on grassy rock</p> |  |
| <p>Target Note 6</p> <p>Grid Reference NC 88724 61002</p> <p>Remains of predated fish</p> |  |

| Target Note (TN), description and grid reference | Photograph |
|---|---|
| <p>Target Note 7</p> <p>Grid Reference NC 85265 65204</p> <p>Potential reptile refugia in dry stone wall</p> |  |
| <p>Target Note 8</p> <p>Grid Reference NC 85161 65226</p> <p>Adjacent buildings offer potential roost features for bats</p> |  |