



ARCUS

ACKRON WIND FARM

TECHNICAL APPENDIX 7.2:
PROTECTED SPECIES

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1 INTRODUCTION

This Technical Appendix (TA) describes the methods and results of the Protected Species Surveys undertaken to obtain baseline ecological information, to inform the Environmental/Ecological Impact Assessment (EIA/EcIA) of the proposed Ackron Wind Farm.

This TA will present the methods and results of Protected Species Surveys undertaken in 2019, and will support Environmental Impact Assessment (EIA) Report - Chapter 8: Ecology in addition to:

- TA 7.1: Habitats & Botany;
- TA 7.3: Bat Surveys; and
- TA 7.4: Fisheries Habitat Surveys.

The aim of the Protected Species Surveys was to obtain detailed information regarding the occurrence and distribution of protected species within the Protected Species Survey Area (PSSA) (Figure 2, Appendix A), to provide an accurate and robust baseline on which to base an EcIA.

The following terminology is used throughout this TA:

- The Development: the whole physical process involved in the development of the land at Ackron Wind Farm, including the wind farm construction and operation (not a piece of land);
- The Site: all land with the potential to support the Development (as shown in Figure 1 as Developable Area, Appendix A);
- Protected Species Survey Area (PSSA): the land within which the Protected Species Surveys were undertaken (shown as the purple-line boundary in Figure 2, Appendix A) including all land within the Site boundary and a 250 metre (m) buffer, where accessible.

1.1 Site Description

The Site lies within the Halladale River catchment with Gilligill Burn, Akran Burn and an unnamed watercourse flowing from south-east to north-west through the Site. Caol Loch, Loch Akran and Loch Earacha lie outwith the Site, located to the east, south-east, and south-west respectively.

No public roads are located within the Site. The A836 (part of the promoted North Coast 500 [NC500]) lies adjacent to the northern boundary of the Site with the A897 forming the western boundary. An overhead transmission line transects the south-east corner of the Site connecting Connagill Substation in the south-west to Dounreay in the north-east.

There are no residential properties within the Site. The closest residential properties are Ackron Farm and Golval (both financially involved), located 0.9 km west and 1 km south-west of the nearest turbine, respectively.

2 METHODS

2.1 Desk Study

To inform the scope of Protected Species Surveys and provide a wider local context for the results, existing biological records of protected and notable species (within 20 years) were sought within and up to a 5 km radius of the Protected Species Survey Area (PPSA). This

included European Protected Species (EPS)¹ Nationally Protected Species (NPS)² and species listed on national or local priority lists such as The Scottish Biodiversity List (SBL)³, or Local Biodiversity Action Plans (LBAP). Furthermore, records of invasive non-native species within 2 km of the Protected Species Area was recorded.

A data search was undertaken for non-statutory designated sites of nature conservation interest for EPS, within a radius of 2 km of the Protected Species Survey Area. This search distance was extended to 5 km for statutory designated sites. The search criteria applied for designated sites is provided in Table 2.1 with all statutory designated sites presented in Figure 2, Appendix A. Data was sought from publicly available data sources such as the NatureScot (NS) (Formerly Scottish Natural Heritage) Information Service SiteLink website⁴ and the National Biodiversity Network⁵ (NBN) database.

Table 2.1: Search criteria for designated sites

Level of Protection	Designation	Desk Study Search Area
Non-Statutory	Ancient Woodland Inventory (AWI) Scottish Wildlife Trust (SWT) Reserves Royal Society for the Protection of Birds (RSPB) Reserves	2 km
Statutory	Sites of Special Scientific Interest (SSSI) Ramsar Sites Special Area of Conservation (SAC) Special Protection Area (SPA) National Nature Reserves (NNR) Local Nature Reserves (LNR)	5 km

2.2 Field Survey Methods

Protected species surveys were carried out by Laura Spence (ACIEEM), Matt Rea (ACIEEM), James Allison and Sallie Turnbull; all of Arcus Consultancy Service Limited (Arcus) between May and September 2019. A Wildcat Walkover Survey was undertaken by James Allison in January 2019.

The protected species surveys included surveys for the following:

- Amphibians;
- Badger (*Meles meles*);
- Otter (*Lutra lutra*);
- Pine marten (*Martes martes*);
- Reptiles;
- Red squirrel (*Sciurus vulgaris*);
- Scottish wildcat (*Felis silvestris*); and
- Water vole (*Arvicola amphibious*).

¹ Habitats Regulations (1994) Available at: <http://www.legislation.gov.uk/uksi/1994/2716/contents/made> [Accessed December 2019]

² Wildlife and Countryside Act (1981) Available at: <https://www.legislation.gov.uk/ukpga/1981/69/contents> [Accessed December 2019]

³ Scottish Biodiversity List (2013) Available at: <https://www.webarchive.org.uk/wayback/archive/20160402063428/http://www.gov.scot/Topics/Environment/Wildlife-Habitats/16118/Biodiversitylist/SBL> [Accessed December 2019]

⁴ Scottish Natural Heritage. SiteLink <https://sitelink.nature.scot/map> [Accessed November 2020]

⁵ National Biodiversity Network (2016). Available at: <https://data.nbn.org.uk/> [Accessed December 2019]

The Protected Species Surveys were undertaken within the PSSA (Figure 1, Annex A). The Developable Area, as provided to Arcus by the Client, was critical in establishing the PSSA. The PSSA encompassed all land within the Site, plus an additional buffer of up to 250 metres (m), informed by a review of SNH guidance. Although all Protected Species Surveys (including watching briefs) were undertaken within the PSSA, species specific surveys were undertaken to varying extents depending on survey guidelines and best practice, as outlined below:

- Badger: Suitable habitats within the Site and up to 100 m buffer outwith⁶;
- Otter: Suitable riparian habitats within the Protected Species Survey Area and up to 200 m up and downstream of watercourses potentially impacted by the Development⁷;
- Pine marten: Suitable habitats within the Site and up to 250 m buffer outwith⁸;
- Red squirrel: Suitable habitats within the Site and up to 50 m buffer outwith⁹;
- Scottish wildcat: suitable habitats such as woodland and felled forestry within the Developable Area and up to 200 m outwith¹⁰; and
- Water vole: Suitable riparian habitats within the Site and up to 50 m up and downstream of watercourses potentially impacted by the Development¹¹.

The location of field signs, habitats and notable features identified during the protected species surveys were recorded with a handheld Global Positioning System (GPS) or using the Esri Collector for ArcGIS mobile application. Where appropriate, photographs were taken to visually document evidence and habitat features to assist interpretation of results, and inform reporting and assessment (Appendix B: Photographs).

Various guidance texts were consulted to ensure accuracy of the identification of field signs and appropriate application of guidance. The key utilised texts, and indicators of presence are summarised in Table 2.2. In addition to the targeted protected species surveys, a watching brief was maintained by Arcus personnel whilst undertaking work within the PSSA and incidental records of protected species were maintained.

⁶ Scottish Natural Heritage (2001). *Scotland's Wildlife: Badgers & Development*. NS. ISBN 1 85397

⁷ Scottish Natural Heritage (SNH) (2016a), Protected Species Advice for Developers: Otter. Available at: [Protected Species Advice for Developers](#): [Accessed January 2020]

⁸ Scottish Natural Heritage (SNH) (2016b), Protected Species Advice for Developers: Pine Marten. Available at: <https://www.nature.scot/species-planning-advice-pine-marten>: [Accessed January 2020]

⁹ Scottish Natural Heritage (SNH) (2016c), Protected Species Advice for Developers: Red Squirrel. Available at: <https://www.nature.scot/species-planning-advice-red-squirrel> [Accessed January 2020]

¹⁰ Scottish Natural Heritage (SNH) (2016d), Protected Species Advice for Developers: Wildcat. Available at: <https://www.nature.scot/species-planning-advice-wildcat> [Accessed January 2020]

¹¹ Scottish Natural Heritage (SNH) (2016e), Protected Species Advice for Developers: Water Vole. Available at: <https://www.nature.scot/species-planning-advice-water-vole> [Accessed January 2020]

Table 2.2: Summary of Protected Species Indicators and Key Guidance Utilised.

Species	Indicators of presence	Key guidance documents utilised
Amphibians	Sightings, suitable habitats, spawn	Common Standards Monitoring Guidance for Reptiles and Amphibians ¹² Evaluating the suitability of habitat for the Great Crested Newt ¹³
Badger	Setts (groups of burrows), paths, snuffle holes, feeding remains, scratching posts, latrines (dung pits used as territorial markers), prints, hairs and suitable habitats	Surveying Badgers ¹⁴ How to Find and Identify Mammals ¹⁵ Animal Tracks and Signs ¹⁶ Mammals of the British Isles: Handbook, 4 th Edition ¹⁷ Scottish Wildlife: Badgers and Development ¹⁸
Otter	Sprainting sites, prints, resting sites, paths, slides, feeding remains and suitable habitat	Animal Tracks and Signs ¹¹ How to Find and Identify Mammals ¹⁰ Mammals of the British Isles: Handbook, 4 th Edition ¹²
Pine marten	Dens, scats, prints and suitable habitats	UK BAP (Biodiversity Action Plan) Mammals Interim Guidance for Survey Methodologies, Impact Assessment and Mitigations ¹⁹ Animal Tracks and Signs ¹¹ How to Find and Identify Mammals ¹⁰ Mammals of the British Isles: Handbook, 4 th Edition ¹²
Red squirrel	Watching brief maintained for sightings, feeding remains and dreys	Practical Techniques for Surveying and Monitoring Squirrels ²⁰ Animal Tracks and Signs ¹¹ How to Find and Identify Mammals ¹⁰ Mammals of the British Isles: Handbook, 4 th Edition ¹²
Reptiles	Sightings, suitable hibernacula	National Amphibian and Reptile Recording Scheme Reptile Habitat Guide ²¹ Common Standards and Monitoring Guidance for Reptiles and Amphibians ⁷

¹² Joint Nature Conservation Committee (2014) *Common Standards Monitoring Guidance for Reptiles and Amphibians*, Version February 2004. JNCC, Peterborough.

¹³ Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). *Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus)*. Herpetological Journal 10 (4), 143-155.

¹⁴ Harris, S., Cresswell, P. and Jefferies, D. (1991) *Surveying Badgers*, The Mammal Society, London

¹⁵ Sargent, G. and Morris, P. (1997) *How to Find and Identify Mammals*, The Mammal Society, London

¹⁶ Bang, P. and Dahlström, P. (2001). *Animal Tracks and Signs*. Oxford University Press, Oxford.

¹⁷ Harris et al. (2001) *Mammals of the British Isles: Handbook*, 4th Edition, The Mammal Society, London

¹⁸ *Scottish Wildlife: Badgers and Development* (2001) Scottish Natural Heritage

¹⁹ 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 Mitigations*. The Mammal Society, Southampton

²⁰ Gurnell, J. Lurz, P. and Pepper, H. (2009). *Practical Techniques for Surveying and Monitoring Squirrels*. Forestry Commission, Surrey.

²¹ The Herpetological Conservation Trust (2007). *National Amphibian and Reptile Recording Scheme, Habitat Recording Guide*

Species	Indicators of presence	Key guidance documents utilised
Wildcat	Recordings on camera traps, prints, scats and dens	Scottish Wildcats: Naturally Scottish ²² How to find and Identify Mammals ¹⁰ Animal Tracks and Signs ¹¹ UK BAP Mammals Interim Guidance for Survey Methodologies, Impact Assessment and Mitigations ²³ Mammals of the British Isles: Handbook, 4 th Edition ¹²
Water vole	Droppings, prints, burrows, feeding stations, runs, 'nests' , lawns of short vegetation around burrow entrances and suitable habitat.	The Water Vole Mitigation Handbook ²⁴ How to find and Identify Mammals ¹¹ Animal Tracks and Signs ¹⁰ Mammals of the British Isles: Handbook, 4 th Edition ¹³

2.3 Survey Constraints and Limitations

2.3.1 Otter and Water Vole Survey Limitations

Due to the nature of the terrain and the watercourses present, it was not possible to survey the full extent of all watercourses and wetland areas within the PSSA in detail, for health and safety reasons.

The dense nature of much of the plantation woodland (example of habitat shown in Photograph 1, Appendix B) significantly limited access to some areas of woodland, reducing the ability to survey in detail. Access to some areas, including areas of wind-blown trees and areas inundated with water, was not possible for health and safety reasons.

This affected the survey for those protected species more likely to be associated with woodland habitat such as badger, wildcat, red squirrel and pine marten. However, it is worth noting that dense and waterlogged stands of coniferous woodland generally provide less favourable resources to these species.

²² Kilshaw et al. (2011) *Scottish Wildcats: Naturally Scottish*. Scottish Natural Heritage, Perth.

²³ Cresswell et al. (2012) *UK BAP Mammals: Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation*. The Mammal Society, London.

²⁴ Dean, M., Strachan, R., Gow, D., and Andrew, R. (2016) *The Water Vole Mitigation Handbook* (The Mammal Society Mitigation Guidance Series). The Mammal Society, London.

3 RESULTS

3.1 Desk Study Results

Table 3.1 summarises the protected species data obtained from the National Biodiversity Network⁵ within approximately 5 km of the Protected Species Survey Area.

Table 3.1: Summary of Records of Protected Species within 5 km

Species	Proximity of Nearest Record to Site Boundary (Year)
Water vole	0.6 km N (2006)
Wildcat	Within 5 km*2013
Otter	At Loch Akran, SE adjacent to Site (2010 & 2011)
Badger	3.5 km S (2010)
Common lizard	1.8 km SW (2010)
* Due to sensitivity concerns location generalised	

No invasive non-native species were recorded within 2 km of the PSSA.

Figure 1, Appendix A presents the findings of a data search undertaken for nearby designated sites of conservation interest for protected species.

Nine statutory designated sites were located within 5 km of the PSSA; further detailed are presented in Table 3.2 below.

Table 3.2: Statutory Designated Sites within 5 km of the Site Boundary

Name of Site	Status	Qualifying Ecological Interests	Proximity to Development Area
European Designations			
Caithness and Sutherland Peatlands	SAC	Acid peat-stained lakes and ponds Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels Marsh saxifrage (<i>Saxifraga hirculus</i>) Otter (<i>Lutra lutra</i>) Very wet mires often identified by an unstable 'quaking' surface Wet heathland with cross-leaved heath Blanket bog	Adjacent to southeast
National Designations			
East Halladale	SSSI	<ul style="list-style-type: none"> Blanket bog 	Adjacent to southeast
Strathy Coast	SSSI	<ul style="list-style-type: none"> Machair Maritime cliff Saltmarsh Sand dunes 	950 m west

		<ul style="list-style-type: none"> • Vascular plant assemblage 	
Red Point Coast	SSSI	<ul style="list-style-type: none"> • Maritime cliff • Scottish primrose (<i>Primula scotica</i>) 	1.5 km north
West Halladale	SSSI	<ul style="list-style-type: none"> • Blanket bog 	2.7 km to southwest
Sandside Bay	SSSI	<ul style="list-style-type: none"> • Sand dunes 	3.25 km northeast

No non-statutory designated sites were found within the PSSA or surrounding 5 km.

3.2 Protected Species Survey Results

3.2.1 Amphibians

3.2.1.1 Habitat Suitability for Amphibians

Prevailing wet underfoot conditions throughout the Protected Species Survey Area provides ample aquatic habitat for breeding amphibians including both common frog (*Rana temporaria*) and common toad (*Bufo bufo*).

3.2.1.2 Survey Results

A single common frog was recorded during the Protected Species Surveys (Photograph 2, Appendix B and shown on Figure 1)

3.2.2 Badger

3.2.2.1 Habitat Suitability for Badger

Coniferous plantation forestry can provide suitable habitats in which badgers can excavate setts; however, it is typically considered suboptimal compared to broadleaved woodland or more natural coniferous woodland, and can be entirely unsuitable if are stands are too dense and inaccessible. Due to the density of the stands recorded, the coniferous plantation within the PSSA was considered to be of low suitability to support badger setts. Furthermore, the majority of these areas were surrounded by blanket/wet modified bog areas, which limits accessibility for badgers to these habitats. Badgers are most commonly associated with deciduous woodland, arable farmland and intensive grassland²⁵; therefore, it is considered that the habitats within the PSSA offer low potential to support badgers.

3.2.2.2 Survey Results

No evidence or sightings of badger were recorded during the Protected Species Surveys; however, as some habitats of limited suitability to the species exist within the PSSA and the surrounding environment, their presence in low densities cannot be ruled out.

3.2.3 Otter

3.2.3.1 Habitat Suitability for Otter

Akran burn flows across Site from Loch Akran, at the south-eastern boundary of the Protected Species Survey Area, to the Halladale River, running parallel to the western boundary. The Akran burn has particular suitability for otter foraging and commuting due

²⁵ Rainey, E., Butler, A., Bierman, S., and Roberts, A.M.I. (2009) Scottish Badger Distribution Survey 2006 – 2009: estimating the distribution and density of badger main setts in Scotland. Scottish Badgers and Biomathematics and Statistics Scotland

to the size and flow rate, coupled with the suitability of this watercourse to support fish, the main source of prey for otter²⁶.

The locations of the physical attributes for each survey point along the watercourse are shown on Figure 3, Appendix A and detailed in Table 3.3 below.

*Table 3.3: Watercourse Assessment for Otter and Water Vole at Akran Burn
(Reference numbers refer to locations shown in Figure 3, Appendix A)*

Reference and Grid Reference	Avg. Width (m)	Avg. Depth (m)	Flow Rate	Substrate Type	Bankside Vegetation	Habitat Suitability*	Additional Notes
1 NC 91169 61645	0.4	0.45	Fast	Cobble and boulder	Grassy/bracken mosaic	Otter (sub-optimal) Water vole (partly suitable)	Fast flowing although likely in spate due to recent heavy rainfall
2 NC 91164 61492	1	No record	Fast	Cobble and boulder	Grassy/bracken mosaic	Otter (partly suitable) Water vole (unsuitable)	Increased flow velocity and gradient
3 NC 91200 61432	0.5	0.5	Very fast	Cobble and boulder	Grassy with bracken/heather mosaic	Otter (sub-optimal) Water vole (unsuitable)	High flow with river in spate, frequent flats flowing riffles and falls
4 NC 91235 61235	0.4	0.3	Fast	Cobble	Grassy	Otter (sub-optimal) Water vole (partly suitable)	Flow reduced but still high with reduced gradient
5 NC 91444 61123	0.4	No record	Moderate	Cobble	Grasses/rushes	Water vole (partly suitable)	Flow reduced, reduced gradient
6 NC 91899 60908	0.3	0.3	Fast	Cobble	Grassy	Otter (sub-optimal) Water vole (partly suitable)	Narrow channel, vegetation growing over channel in some places

²⁶ Harris, S. & Yalden, D. W. eds. (2008). Mammals of the British Isles: Handbook, 4th Edition.

Reference and Grid Reference	Avg. Width (m)	Avg. Depth (m)	Flow Rate	Substrate Type	Bankside Vegetation	Habitat Suitability*	Additional Notes
7 NC 90221 62630	2.5	No record	Fast	Rocky base vegetated banks	Vegetation, grasses, heather	Otter (sub-optimal) Water vole (unsuitable)	Flow reduced
8 NC 90710 62264	0.5	No record	Fast	Rocky base vegetated banks	Grasses/rushes/bracken mosaic	Otter (partly suitable) Water vole (unsuitable)	Fast flowing with gradient, narrow
9 NC 91010 61955	No record	No record	Fast	Rocky base vegetated banks	Grasses/rushes/bracken mosaic	Otter (partly suitable) Water vole (unsuitable)	Fast flowing with gradient, narrow
10 NC 91227 61691	No record	No record	Fast	Rocky base vegetated banks	Grasses/rushes/bracken mosaic	Otter (partly suitable) Water vole (unsuitable)	Fast flowing, in spate and overflowing in some parts
11 NC 91516 61565	No record	No record	Slow	No record	Grasses/rushes	Otter (unsuitable) Water vole (unsuitable)	Very narrow, almost covered by vegetation, difficult to see watercourse
12 NC 92008 60639	No record	No record	n/a	Rocky base vegetated/exposed soil banks	Grasses/rushes/bracken mosaic	Otter (sub-optimal) Water vole (unsuitable)	Loch Akran
13 NC 92346 60665	No record	No record	n/a	Rocky base vegetated/exposed soil banks	Grasses/rushes/bracken mosaic	Otter (sub-optimal) Water vole (unsuitable)	Loch Akran
14 NC 90081 62532	No record	No record	Moderate	Rocky base	Grassy/exposed soil/rock banks with trees	Otter (partly suitable) Water vole (unsuitable)	Transverse through wooded area, wider than other watercourses
* Hierarchy: optimal > sub-optimal > partly-suitable > unsuitable.							

3.2.3.2 Survey Results

Presence of otter was established along the length of Akran Burn and at Loch Akran. Table 3.4 provides a summary of the evidence recorded within and immediately adjacent to the PSSA. The watercourse within the PSSA displayed evidence of otter usage in the form of spraints (example in Photograph 3, Appendix B), anal jelly (Photograph 4, Appendix B) and a couch (above ground resting place) (Photograph 5, Appendix B). Spraint was also found outside of the PSSA at Loch Akran, along with a possible holt (Photograph 6, Appendix B).

Table 3.4: Otter Field Signs Recorded

Watercourse /Waterbody	Grid Reference	Field Signs Recorded	Additional Notes
Within Protected Species Survey Area			
Akran Burn (onsite)	NC 90953 62022	Spraint	Old, dry intact spraint on a rock, on left bank.
	NC 90952 62021	Couch (above ground resting place)	couch on left bank, vegetation flattened, spraint on rock 1 m down from bank. No other signs.
	NC 91095 61854	Spraint	Fragmented spraint.
	NC 91162 61491	Spraint	Old remains.
	NC 91162 61491	Anal jelly	Old remains.
	NC 91162 61491	Spraint	
Loch Akran	NC 92056 60694	Possible Holt (beneath ground resting place)	Mammal hole big enough for use by otter, no evidence.
Outwith Protected Species Survey Area			
Loch Akran	NC 92238 60733	Spraint	

3.2.4 Pine Marten

3.2.4.1 Habitat Suitability for Pine Marten

The large areas of coniferous plantation forestry within the Protected Species Survey Area provide potential den habitat for pine marten. Wind-blown trees, particularly their root plates can provide features (for example cavities), which pine martens could use for dens or refuge²⁷. Non-forest habitats (such as forest rides) within the Protected Species Survey Area offer suitable foraging habitat for pine marten.

3.2.4.2 Survey Results

No evidence or sightings of pine marten were recorded during the protected species surveys; however, as suitable habitat for the species exists within the Protected Species Survey Area and the surrounding environment, their presence in low densities cannot be ruled out.

²⁷ Hanniffy, R. (2016). *A native enigma: the pine marten*. Vincent Wildlife Trust

3.2.5 Red Squirrel

3.2.5.1 Habitat Suitability for Red Squirrel

Coniferous plantation provides suitable drey habitat and foraging opportunities where adequate cone crop is available; however red squirrel generally favour woodland habitats with a mixture of tree species, providing a more reliable food source¹⁵. Additionally, areas of the coniferous plantation are dominated by dense Sitka spruce (*Picea sitchensis*) which is less favourable to this species compared to woodland dominated by pine species (*Pinus sp.*)¹⁵.

3.2.5.2 Survey Results

No dreys or field evidence of red squirrel was recorded.

3.2.6 Reptiles

3.2.6.1 Habitat Suitability for Reptiles

Blanket bog, scrub, felled plantation and forest rides are present throughout the Protected Species Survey Area, all of which offer foraging, refuge and hibernation resources for reptiles²¹ including adder (*Vipera berus*) and common lizard (*Zootoca vivipara*).

3.2.6.2 Survey Results

Multiple sightings of common lizard were recorded throughout the Protected Species Survey Area whilst deploying static detectors during bat surveys (example shown in Photograph 7, Appendix B and locations shown on Figure 1).

3.2.7 Scottish Wildcat

3.2.7.1 Habitat Suitability for Wildcat

Habitats recorded during the Wildcat Walkover Survey were assessed to be largely of low value to wildcats, primarily due to the exposed and waterlogged nature of the majority of the Site, and the absence of suitable woodland and linear features. The plantation woodland presence on site was deemed unsuitable for the species, due to the dense, inaccessible and wet conditions within. Additionally, the relatively isolated nature of the woodland itself within an extensively peatland landscape.

3.2.7.2 Survey Results

No confirmed dens or dens with the potential to be used or accessed by wildcats were recorded within the Wildcat Survey Area.

3.2.8 Water vole

3.2.8.1 Habitat Suitability for Water Vole

Akran Burn varied in its ability to support water vole due to variation in bankside vegetation and substrate (Table 6, cross-referenced with Figure 3, Appendix A). Lengths of the watercourse alternated between sub-optimal to unsuitable, having stony or rocky substrate and banksides with limited opportunity for water vole burrow construction and fast to very fast flowing water (example of unsuitable watercourse shown in Photograph 8, Appendix B).

3.2.8.2 Survey Results

No water vole burrows or latrines were found within the PSSA and therefore the presence of the species cannot be confirmed. Despite a water vole record 2.2 km from the PSSA the majority of the watercourses within the Site were determined unsuitable for water vole.

4 SUMMARY

Terrestrial and aquatic habitats within the PSSA have potential to support the protected species discussed in this report, albeit varying degrees.

Akran Burn and Loch Akran, both provide suitable commuting and foraging opportunities for otter due to the size and availability of foraging opportunities. A number of signs were identified, including spraints, anal jelly, and a couch and possible holt, during the Protected Species Surveys. This evidence confirms otter presence along the entire stretch of the Akran burn, as well as along the shore of Loch Akran.

No evidence of badger, pine marten or red squirrel was discovered during the Protected Species Surveys. However, areas of mature coniferous plantation across the PSSA provide suitable habitat for these species and historical records of badger were identified during the desk study. Connectivity exists with other plantations in the wider landscape, thus providing a large, connected area which could be potentially utilised by the species. Therefore, their presence within the PSSA cannot be ruled out.

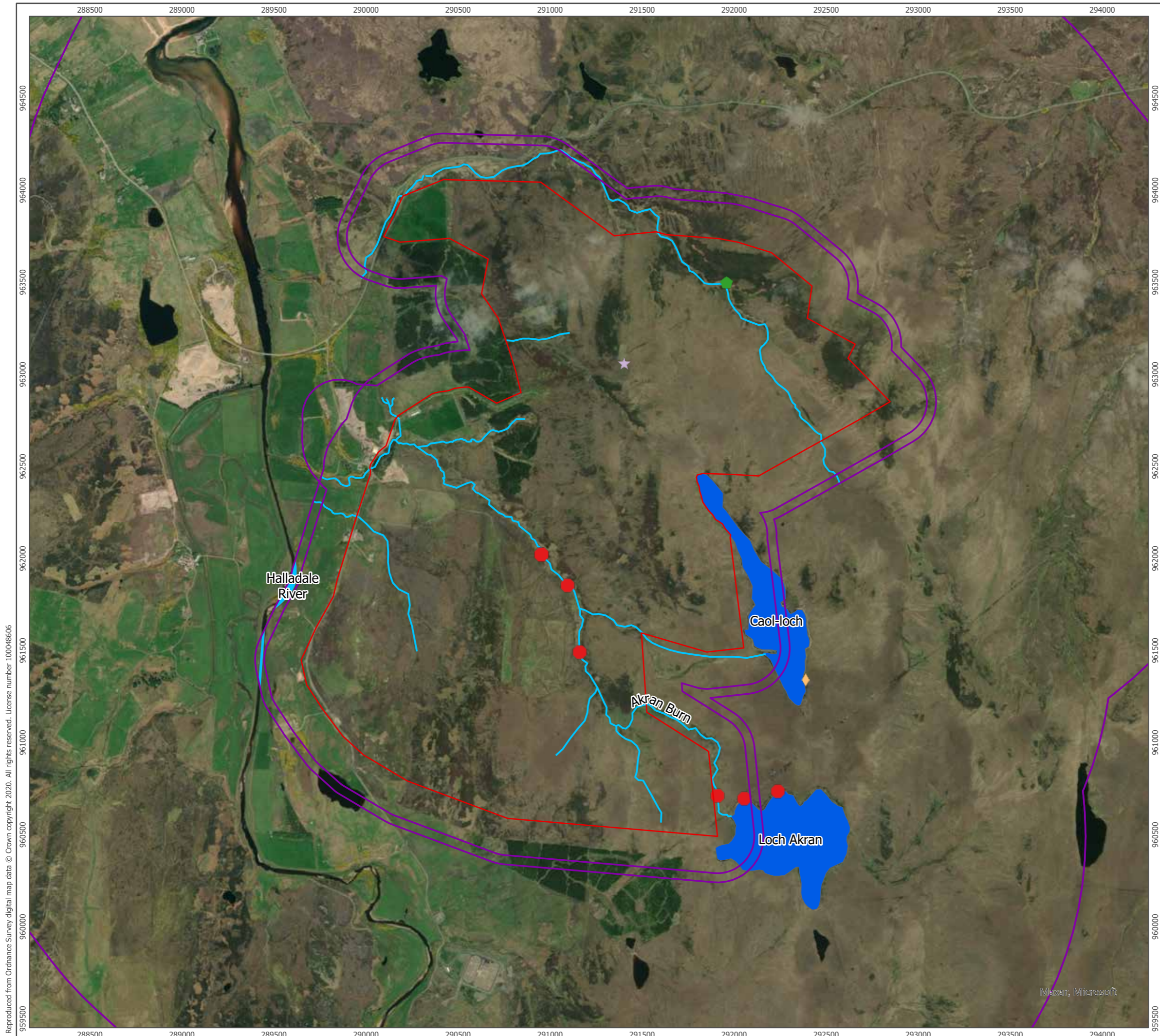
Numerous sightings of common lizard were made within the PSSA. A single observation of a common frog (*Rana temporaria*) was also made. Suitable habitats for amphibians and reptiles were widespread throughout the Site and the wider area; it is therefore concluded that both are present throughout.

APPENDIX A: FIGURES

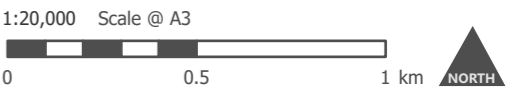
FIGURE 1 - Statutory Designated Sites within 5 km

FIGURE 2 – Protected Species Survey Area and Protected Species Survey Results

FIGURE 3 – Location of Otter and Water Vole Suitability Measurements and Otter Signs



- Developable Area
- Protected Species Survey Area
- ◆ Bird
- Otter
- ◆ Amphibian
- ☆ Reptile
- Running water
- Running water
- Standing water

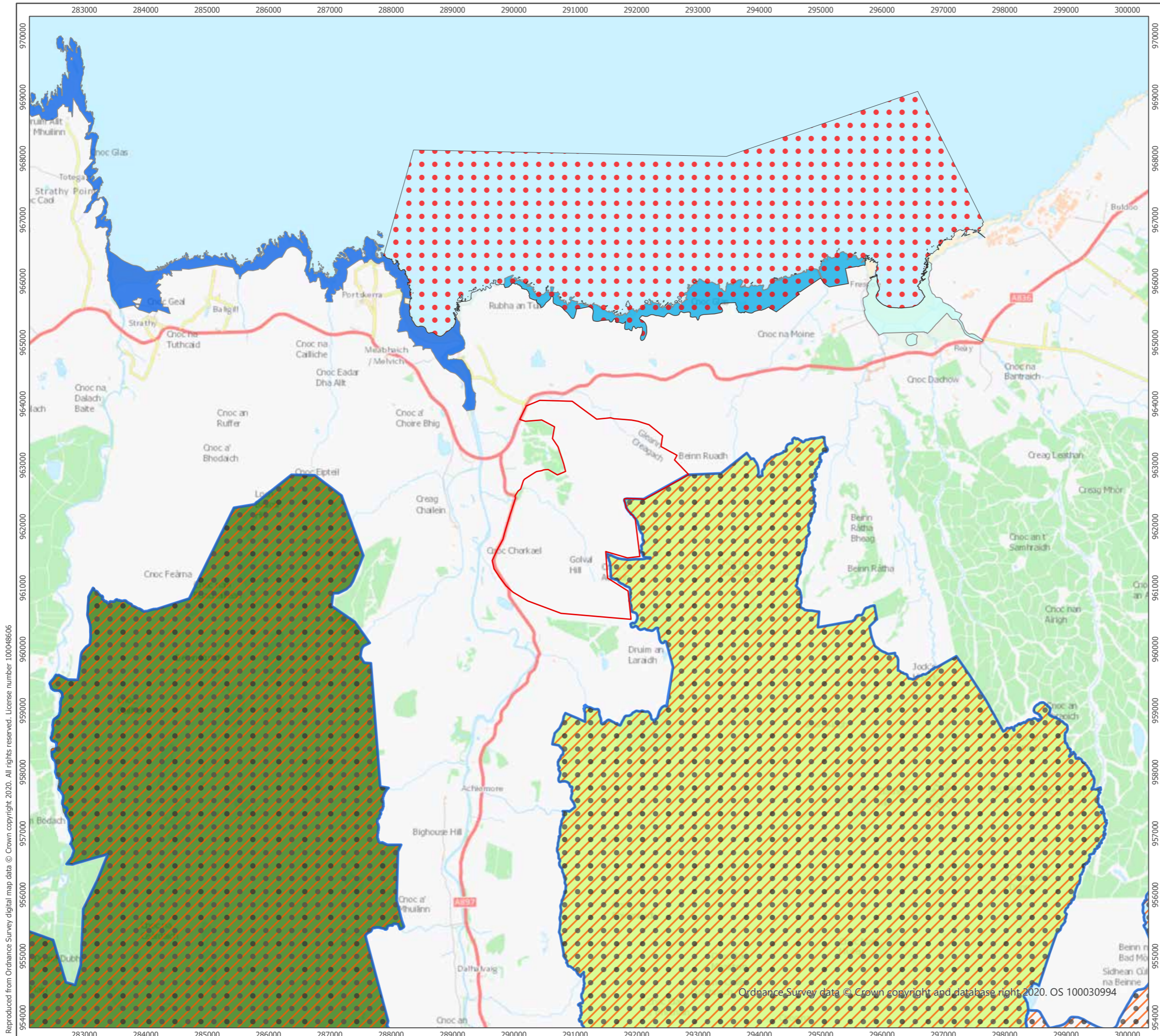


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**Protected Species
Survey Results**
Figure 1

**Ackron Wind Farm
Protected Species
Technical Appendix 7.2**

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- Developable Area
- Special Protection Area (SPA)**
- Caithness and Sutherland Peatlands
- North Caithness Cliffs
- Ramsar Site**
- Caithness and Sutherland Peatlands
- Special Area of Conservation (SAC)**
- Caithness and Sutherland Peatlands
- Site of Special Scientific Interest (SSSI)**
- East Halladale
- Red Point Coast
- Sandside Bay
- Strathy Coast
- West Halladale



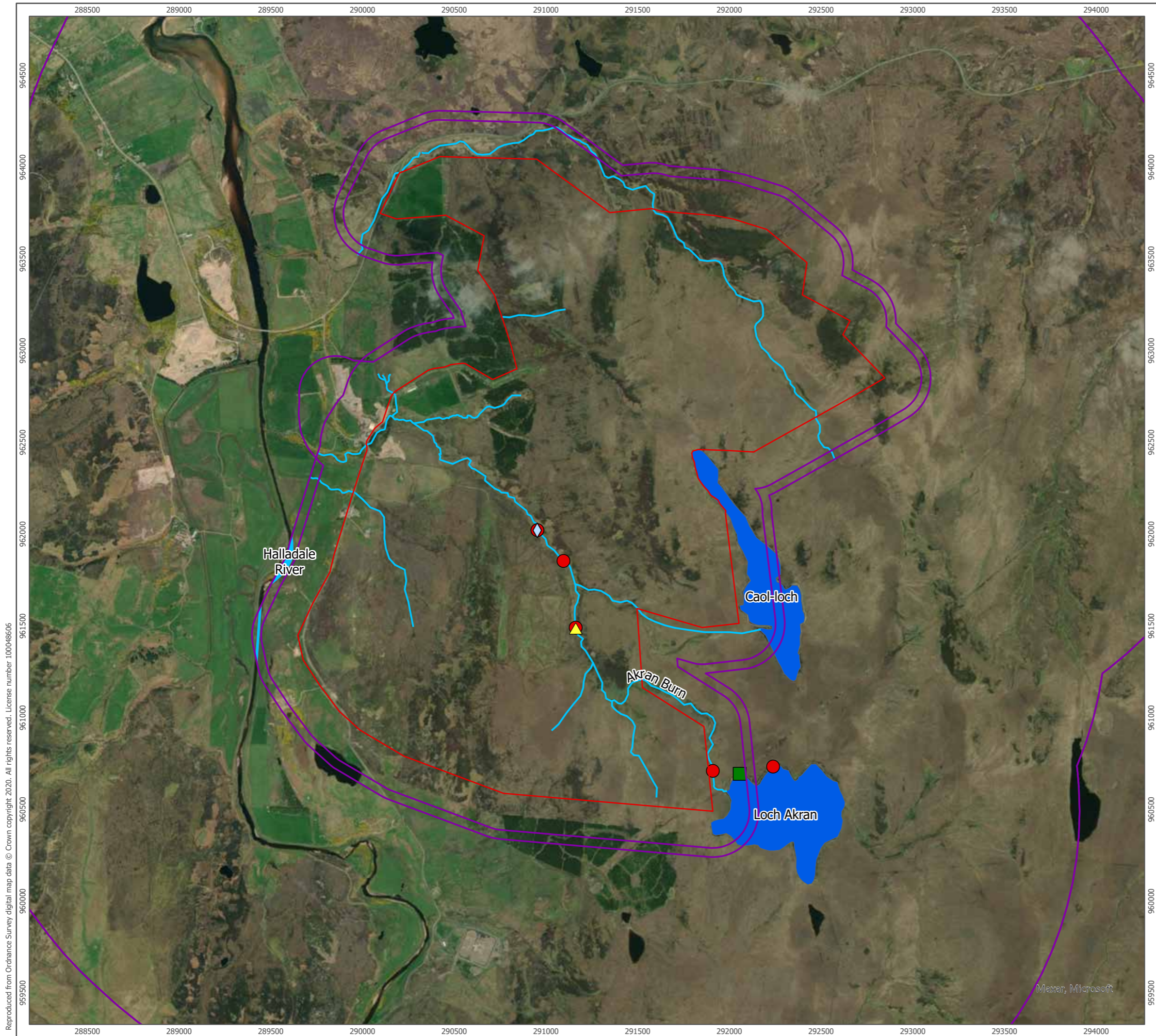
Produced By: NE	Ref: 3138-REP-032
Checked By: SC	Date: 12/11/2020

**Statutory Designated Sites
within 5 km
Figure 2**

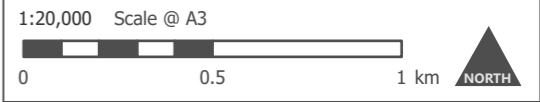
**Ackron Wind Farm
Protected Species
Technical Appendix 7.2**

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- Developable Area
- Protected Species Survey Area
- Signs**
- ▲ Anal Jelly
- ◆ Couch (Possible)
- Holt (Possible)
- Spraint
- Running water
- Running water
- Standing water



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Location of Otter Signs
Figure 3

**Ackron Wind Farm
Protected Species
Technical Appendix 7.2**

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APPENDIX B: FIELD SURVEY PHOTOGRAPHS

	
<p>Photograph 1: Example of conifer plantation woodland habitat</p>	<p>Photograph 2: Common frog found within the Site</p>
	
<p>Photograph 3: Example of otter spraint found along the watercourse, Akran Burn</p>	<p>Photograph 4: Otter anal jelly found along the watercourse, Akran Burn</p>
	
<p>Photograph 5: Otter couch found along the watercourse, Akran Burn</p>	<p>Photograph 6: Possible otter holt found along the bank of waterbody, Loch Akran</p>



Photograph 5: Example of common lizard found within the Site



Photograph 6: Example of unsuitable watercourse for water vole