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10 March 2025

Lochluichart East BESS

Protected Species and UKHab Survey Report

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Version	Date	Reason
1.1	10/03/2025	Draft for internal review
1.2	02/04/2025	Client Issue
1.3	16/04/2025	Update from comments and issue
1.4	11/07/2025	Update and re-issue

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1. Introduction

1.1 Terms of Reference

In December 2024, Atmos Consulting Ltd. (Atmos) was commissioned to undertake a UK Habitat (UKHab) and Protected Species Survey, following an update to Preliminary Ecological Appraisal (PEA) report on behalf of Boralex Ltd, on land at Lochluichart Estate, west of Garve, Highlands (hereafter referred to as the "Site").

This report presents an update to survey work initially undertaken by Atmos on the same Site in October 2023, prior to Boralex taking on this project and updating the site boundary. Work undertaken previously and which is relevant to this report, includes a PEA and Phase 1 Habitat survey and report.

1.2 Site Location and Description

The proposed development site at Lochluichart Estate is located just north of the A832, west of Garve in the Highland region. The Site is located within an area of coniferous forestry plantation combined with natural woodland, which is in the process of being felled. The area proposed for development is centred on grid reference NH 34399 63640. The access track to the Site from the A832 begins at NH 33602 63480. Lochluichart lies to the south of the Site along with the Dingwall – Kyle of Lochalsh railway line. The surrounding landscape consists of both planted forestry and semi-natural woodland in addition to the remote upland landscape typical of the Highlands.

Close to the Site access track are two warehouse buildings used by the nearby shooting estate, and some of the land close by is used for game shooting, target practice and the rearing of pheasants.

1.3 Proposed Development

The proposed development on the Site consists of a battery storage facility, access track and a proposed underground cable between the battery storage facility and Corriemoillie substation.

1.4 Objectives

The objectives of the surveys were to update the Preliminary Ecological Appraisal (PEA), including a UKHab survey, including a habitat condition assessment for Biodiversity Net Gain (BNG), as opposed to Phase 1 habitat survey, in addition to a protected species walkover. The habitat survey records habitats present within the Site and appropriate buffers in order to evaluate their potential conservation interest. The protected species survey was undertaken to ascertain whether the Site boundary contains signs of protected or invasive species, and therefore if it would require further ecological surveys. Examples of protected mammal species searched for in the survey include (but are not limited to) badger *Meles meles*, otter *Lutra lutra*, pine marten *Martes martes*, wildcat *Felis sylvestris*, red squirrel *Sciurus vulgaris* and water vole *Arvicola amphibius*.

2. Relevant Legislation

2.1 Mammals

2.1.1 Bats

All bat species in the UK are protected by the Conservation (Natural Habitats, &c.) Regulations 1994 as amended in Scotland and are commonly referred to as European Protected Species (EPS). The Regulations transpose into Scottish law the European Community's Habitats Directive (92/43/EEC).

It is an offence to deliberately or recklessly:

- Capture, injure or kill a bat;
- Harass an individual or group of bats;
- Disturb a bat white it is occupying a structure or place used for shelter or protection;
- Disturb a bat while it is rearing or otherwise caring for its young;
- Obstruct access to a breeding site or resting place, or otherwise deny the animal use of the breeding site or resting place;
- Disturb a bat in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of the species to which it belongs;
- Disturb a bat in a manner that is, or in circumstances which are, likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young; and
- Disturb a bat while it is migrating or hibernating.

It is also an offence of strict liability to:

- Damage or destroy a breeding site or resting place of a bat even if they are not use at the time (i.e. a summer roost during the winter period).

Of the 18 UK bat species, ten occur in Scotland: common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P. pygmaeus*, Nathusius' pipistrelle *P. nathusii*, Natterer's *Myotis nattereri*, Daubenton's *M. daubentonii*, whiskered / Brandt's *M. mystacinus / M. brandtii*, noctule *Nyctalus noctula*, Leisler's *N. leisleri*, and brown long-eared bat *Plecotus auritus*.

In addition to the above a number of bat species are included within the Scottish Biodiversity List (SBL), including: Brandt's, Daubenton's, whiskered, Natterer's, noctule, Nathusius', common pipistrelle, soprano pipistrelle and brown long-eared.

Bats are also detailed within the UK Biodiversity Action Plan.

2.1.2 Badger

Both badgers and their setts are protected under the Protection of Badgers Act 1992 as amended by the Wildlife and Natural Environment (Scotland) Act 2011. Under the Act, it is an offence to:

- wilfully take, injure or kill a badger;
- impose cruelty on a badger;
- intentionally or recklessly interfere with a badger sett;
- sell or possess a badger;
- mark or ring a badger.

Interfering with a badger sett includes:

- damaging or destroying a sett or any part of it;
- obstructing access to a sett;
- disturbing a badger while it is in a sett;
- causing or allowing a dog to enter a badger sett.

2.1.3 Otter

The otter , is listed in Annexes II and IV of the EC Habitats Directive and is fully protected along with its habitat 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 otters (while using a resting place), or to damage or destroy a breeding site or resting place for otters. It is also an offence to disturb an otter 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.

Otters are listed as a priority species in the UK Biodiversity Action Plan (BAP) (JNCC, 1994) and are also listed on the Scottish Biodiversity List as a species of importance for the purpose of conservation of biodiversity in Scotland.

2.1.4 Pine Marten

Pine marten , are listed on Schedule 5 of the Wildlife and Countryside Act (WCA) 1981 (as amended) and protected under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). This makes it an offence to intentionally or recklessly:

- kill, injure or take a pine marten;
- damage, destroy or obstruct access to a nest or den – i.e. any structure or place which such an animal uses for shelter or protection;
- disturb such an animal when it is occupying a nest or den for shelter or protection (except when this is inside a dwelling house).

Possession, sale and transport offences are ones of strict liability (they don't require intention or recklessness). It is an offence to:

- possess or control, sell, offer for sale or possess or transport for the purpose of sale any living or dead pine marten or any derivative of such an animal.

It is also an offence to knowingly cause or permit any of the above acts to be carried out.

Pine marten are listed on the Scottish Biodiversity List as a species of importance for the purpose of conservation of biodiversity in Scotland.

2.1.5 Red Squirrel

Red squirrels and their dreys (resting places) receive full protection under Schedules 5 and 6 of the Wildlife and Countryside Act 1981 (as amended) making it an offence to intentionally or recklessly:

- kill, injure or take a red squirrel;
- damage, destroy or obstruct access to a drey or any other structure or place which a red squirrel uses for shelter or protection;
- disturb a red squirrel when it is occupying a structure or place for shelter or protection.

This protection does not apply to areas where red squirrels only feed.

It is also an offence to:

- possess or control, sell or offer for sale;
- possess or transport for the purpose of sale any living or dead red squirrel or any derivative of such an animal.

Knowingly causing or permitting any of the above acts to be carried out is also an offence.

Red squirrels are listed as a priority species in the UK Biodiversity Action Plan (BAP) (JNCC, 1994) and are also listed on the Scottish Biodiversity List as a species of importance for the purpose of conservation of biodiversity in Scotland.

2.1.6 Water Vole

Water voles, are listed on Schedule 5 of the Wildlife and Countryside Act (WCA) 1981 (as amended) and consequently are subject to the provisions of Section 9, which makes it an offence to:

- intentionally capture, kill or injure water voles;
- damage, destroy or block access to their places of shelter or protection (on purpose or by not taking enough care);
- disturb them in a place of shelter or protection (on purpose or by not taking enough care); and
- possess, sell, control or transport live or dead water voles or parts of them (not water voles bred in captivity).

Activities that can harm water voles include:

- destroying or disturbing their habitat;
- destroying or disturbing places used for shelter or protection; and
- changing water quality.

2.1.7 Wildcat

Wildcat is an European Protected Species (EPS), listed in Annexe IV of the EC Habitats Directive and is 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.

2.2 Birds

All wild birds in Scotland are given protection under the Wildlife and Countryside Act 1981 (as amended). Some more rare, threatened or vulnerable species are given extra protection, for instance against disturbance during the breeding season.

For any wild bird species, it is an offence to intentionally or recklessly:

- kill, injure or take a bird;

- take, damage, destroy or interfere with a nest of any bird while it is in use or being built;
- obstruct or prevent any bird from using its nest;
- take or destroy an egg of any bird.

Annex 1 of the European Birds Directive (2009/147/EC) details those bird species which are protected due to being vulnerable to changes in their habitat, and in danger of extinction. Birds considered rare due to small populations or restricted local distribution also quality under this.

Birds listed on **Schedule 1** of the Act are afforded even greater protection. This includes an offence of intentionally or recklessly disturbing Schedule 1 species whilst they are displaying for a potential mate, building a nest or are in, on or near a nest containing eggs or young. It is also an offence to intentionally or recklessly disturb the dependent young of such a bird.

Some birds in Scotland are listed as **Birds of Conservation Concern** (BoCC 5) (Stanbury et al., 2021). The BoCC assessment is based on the most up-to-date evidence available and includes conservation status at global and European levels. Within the UK, criteria include historical decline, localised distribution, trends in population and range, rarity, and international importance. Birds that breed or overwinter in the UK are assessed and listed as either Green, Amber, or Red; those on the Green List are of least conservation concern and those on the Red List are of greatest conservation concern.

Birds included on **The Scottish Biodiversity List** are what Scottish Ministers consider to be of principal importance for biodiversity conservation in Scotland.

2.3 Amphibians

Great crested newts, *Triturus cristatus*, are European protected species. They have full protection under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended).

All other amphibian species found naturally in Scotland are given limited protection under the Wildlife and Countryside Act 1981 (as amended).

These are the:

- Common frog *Rana temporaria*
- Common toad *Bufo bufo*
- Palmate newt *Lissotriton helveticus*
- Smooth newt *Lissotriton vulgaris*

For great crested newts, it is an offence to deliberately or recklessly:

- capture, injure or kill a wild animal;
- disturb an animal while using any structure or place it uses for shelter or protection – e.g. breeding pond, hibernation site;
- obstruct access to a breeding site or resting place of an animal, or otherwise deny the animal use of that site;
- disturb an animal in a manner or in circumstances likely to significantly affect the local distribution or abundance of the species;
- disturb an animal in a manner or in circumstances likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young.

It is also an offence to:

- damage or destroy a breeding site or resting place of any such animal (whether or not deliberately or recklessly);
- keep, transport, sell or exchange, or offer for sale or exchange any such animal (or any part or derivative of one) obtained after May 1994.

Smooth and palmate newts, common frog and common toad are also protected under the Wildlife and Countryside Act 1981 (as amended), but only against:

- trade (i.e. sale, barter, exchange, transport for sale, or advertise for sale or to buy).

It is not an offence to collect or possess these species.

Amphibian species listed on the Scottish Biodiversity List as a species of importance for the purpose of conservation of biodiversity in Scotland include:

- Common toad
- Natterjack toad *Epidalea calamita*
- Great crested newt

3. Methodology

3.1 Desktop Study

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

The desk study identified statutory designations such as Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs) within 2km of the Site. In addition, Local Nature Reserves (LNRs) and relevant non-statutory designations within a 2km radius of the Site were searched for. A search for protected mammal records was carried out within 2km of the Site utilising datasets freely available for commercial use held on the National Biodiversity Network (NBN) Atlas website.

3.2 UK Hab Survey

A habitat survey following UKHab was undertaken on the 6th and 7th of March 2025.

The UKHab habitat survey is a standardised method of recording habitat types and characteristic vegetation, as set out in the *UK Habitat Classification Version 2.0 (UKHab Ltd (2023)).* The habitat survey area covered the site boundary as shown on Figure 1 (Appendix A) and consideration was given to ecological features of interest within 50m of the site. Species nomenclature follows *New Flora of the British Isles* 3rd ed., C. Stace 2010, and *Mosses and Liverworts of Britain and Ireland: a field guide*, I. Atherton, S. Bosanquet, M. Lawley 2010.

Habitats were mapped and 'target notes' made to describe characteristic habitats, features of ecological interest, or any other features which require ecologically sensitive design or mitigation.

The survey method was 'extended' through the additional recording of specific features indicating the presence, or likely presence, of protected species or other species of nature conservation significance and any habitats which would be suitable for them. Overall, the main features of the survey were to:

- describe and map the habitats within the Survey Area;
- target note (TN) flora, evidence of protected species and other ecologically significant features;
- assess the potential of the habitats as suitable for protected species; and,
- collate Target Notes (TNs) describing the above.

Any incidental observations of bird species and any other notable species were made.

3.3 Protected Species

A protected mammal species survey was conducted during 6th and 7th of March 2025. This involved a walkover the Site and species specific survey buffers of up to 200m (where accessible) to look for and record any signs of protected species. Any evidence of protected species was recorded and geo-referenced using a handheld GPS with the feature of interest photographed.

Badger

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.

Otter

The otter survey followed standard methodologies (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.

Bats

Inspection of Potential Roost Features (PRFs) were carried out on the trees on Site via a Ground Level Tree Assessment (GLTA) in accordance with methods described by the Bat Conservation Trust (BCT) (Collins, 2023). The survey was undertaken via a ground-based daytime inspection. The survey focused on identifying a range of characteristic signs which can indicate current/recent use of a potential roost site by bats such as droppings and staining. The optimum time for a GLTA is winter, due to a lack of leaves on the trees making the identification of PRFs easier. The survey included trees and structures within the Site, and within a 30m buffer around the Site.

PRFs were categorised according to their suitability for bats, following the categorisation as described in the Bat Survey Guidelines by the Bat Conservation Trust, displayed in Table 1 below (Collins 2023).

Table 1: Guidelines for categorising the potential suitability of PRFs on a proposed development site for bats

Suitability	Description
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

Pine Marten

The pine marten *Martes martes* 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 50m of the proposed development.

The pine marten survey consisted of a search for:

- Scats and footprints
- Dens
- Habitat suitability and quality
- Animal sightings across suitable woodland habitat.

Red Squirrel

The red squirrel survey consisted of a search for:

- Dreys;
- Feeding remains; and
- Animal sightings across suitable woodland habitat.

It is worth noting that it is not always possible to identify the absence of red squirrels from non-invasive field surveys and the species can occur at low densities of less than 1 individual per 10ha of forest (Gurnell 2009) resulting in field signs being difficult to identify.

Water Vole

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

- Faeces – these are 8 -12 mm long and 4 - 5 mm 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 – 8 cm, 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 - 34 mm;
- 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.

Wild Cat

The wild cat survey consisted of a search for 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 NatureScot walkover survey methodology for Scottish wildcat NatureScot (undated). In addition, any evidence of use by wildcats such as scat, scratch marks, hair or prey remains were searched for and noted where present.

3.4 Limitations

3.4.1 UKHab Survey

The survey was conducted in good weather conditions. However, the survey was undertaken in what is considered to be a sub-optimal time of year for Scotland (early March), when majority of plant species have died back and new shoots are not out yet. This should be considered a minor limitation to the assessment, as especially herbaceous plants (graminoids, forbs, ferns) are difficult to identify and can also be easily overlooked, leading to skewed botanical lists and causing difficulty categorising the habitat following UKHab methodology. Further, certain questions of condition assessment for Biodiversity Net Gain rely on habitats being assessed during botanical season, e.g. with plants showing fruits and/or flowers and variations in sward height. For the majority of habitats found within the Site boundary (excluding blanket bog), these limitations are of lesser concern due to their management interventions and habitats being of generally lower habitat value, compared to habitats in the 50m buffer zone.

3.4.2 Protected Species Survey

Surveys were conducted in good weather conditions, with no recent heavy rain fall that could have washed protected species signs away. Access to some parts of the Site and buffer zone was restricted, mainly where fenced off for farming pheasants. These areas constitute a small part of the overall Site including the buffer zone only, and are not considered to be a significant limitation to the assessment as those areas were not considered to provide suitable habitat while active pheasant management is ongoing.

4. Results

4.1 Desktop Study

4.1.1 Designated Sites

The Site lies approximately 1.7km away from the Glen Affric to Strathconon Special Protection Area (SPA). The SPA is described as a predominantly upland area of Scotland which contains a diverse range of montane habitats and species including acid grasslands, wet and dry heath, nutrient poor lochs, Blanket bog and bog woodlands, and Caledonian forests (NatureScot, 2010). This SPA supports a breeding population of Annex 1 species Golden eagle *Aquila chrysaetos*.

There are no other statutory designated sites within 2km of the proposed development site.

Table 2: Glen Affric to Strathconon SPA Qualifying Species

Species	Scientific Name	Criteria for Inclusion	Population Estimate	Current Condition Overview
Golden Eagle	*Aquila chrysaetos*	EU Directive 2009/147/EC Article 4.1	10 active territories in 2003, 2.2% of the GB population.	Favourable

4.1.2 Species Records

A search of the NBN Atlas for the last 10 years within a 2km radius of the proposed development site showed records for one species listed under Annex IV of the EC Habitats Directive (92/43/EEC), and / or Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (undertaken under licence CC-BY and CCO) (Table 3 refers).

Table 3: Recorded Protected Species (Data from NBN Atlas)

Species Common Name	Scientific Name	Listing
Red squirrel[1]	*Sciurus vulgaris*	Schedules 5 and 6 of the Wildlife and Countryside Act 1981 (as amended)

[1]Data provided by The Scottish Squirrel Database.

4.2 UKHab Survey

The habitats identified during the UKHab survey are presented in Appendix A, Figure 1. Target notes and photographs are presented in Appendix B, and Botanical Species Lists are included in Appendix C.

Where woodland areas are located fully or partially within the Site boundary, a number referring to the BNG report (in preparation) are provided, allowing to reference between habitat descriptions and condition assessment.

4.2.1 Overview

The majority of the Site consists of conifer plantations of various age classes and with different management interventions, leading to a contrast between dense plantations dominated by spruce and more open woodland structures. Some of the thinned plantations are broadleaved dominated, mainly by silver birch *Betula pendula*, and others are conifer dominated. Habitats on Site are frequently mixed with INNS Rhododendron. Habitats within the site boundary also include degraded blanket bog and wet heathland with cross-leaved heath.

Within the 50m survey buffer, there are areas of conifer plantation, Scots pine *Pinus sylvestris* woodland, upland birch woodland, and other broadleaved woodland. The grassland along the access track are heavily grazed and predominantly classed as other neutral grassland with areas of modified grassland and acid grassland.

4.2.2 Habitat Descriptions

Other Scots pine woodland – w2b

Semi-mature to mature Scots pine trees grow to the south of the access track and extend far beyond the 50m buffer. This woodland appeared to be of plantation origin and has been thinned out. Deadwood is present. (BNG ref 9)

Other coniferous woodland – w2c

A conifer plantation of young and semi-mature spruce trees *Picea sp.* with a few Scots pine is located adjacent to the Site boundary in the eastern area towards the substation. The plantation is fairly dense and fenced off (BNG ref 2).

A small area of a somewhat recently felled, young conifer plantation is located within the Site. Tree stumps are present in rows, with vegetation suggesting a bog habitat. Purple moor grass *Molinia caerulea* is dominant at the edges of adjacent woodlands, with cotton grass *Eriophorum sp.*and cross-leaved heath *Erica tetralix* dominating the open area. Other species recorded include sphagnums, reindeer lichen *Cladonia portentosa*, deer grass *Trichophorum germanicum*, springy turf moss *Rhytidiadelphus squarrosus*, and rhododendron. A few remaining trees and some self-seeded trees are present, including Scots pine and spruce sp. . (BNG ref 5)

Two very dense plantations of rather small size are present within the Site boundary. One is also managed for rearing pheasants and therefore fenced off. A few Scot's pine and silver birch trees are mixed in at the edges, however the plantation is dominated by semi-mature to mature spruce trees, with no light reaching the ground which is covered in needles (BNG ref 6). The other small plantation is dominated by younger spruce trees, also very densely planted, and a small stream running through (BNG ref 4).

This plantation woodland extents up the slope from the access track and is dominated by fairly dense semi-mature spruce and larch trees *Larix decidua*, mixed with pockets of Scots pine and silver birch. The ground cover varied from the denser areas which are covered in needles or glittering wood moss *Hylocomium splendens*, and slightly more open areas where purple moor grass is dominant The plantation was offset by a few meters from the access track, with an open belt dominated by rushes. (BNG ref 7)

Another dense coniferous plantation is present to the south of the access track, with semi-mature to mature spruce trees mixed with a few Scots pine and silver birch trees. Similar to the above, this woodland is also offset from the track, with a belt including species such as cross-leaved heath, purple moor grass and soft rush *Juncus effusus*. (BNG ref 8)

Other woodland mixed (mainly broadleaved) – w1h5

Two areas on site are dominated by broadleaved silver birch trees, mixed with Scots pine, with the trees being semi-mature and mature and overall less dense than surrounding plantation areas. The ground flora comprises species such as heather *Calluna vulgaris*, cross-leaved heath, cotton grass sp., sphagnum sp., reindeer lichen, purple moor grass and spruce saplings. Rhododendron is present, including scattered small plants and larger dense stands. (BNG ref 11)

Other woodland mixed (mainly conifer) – w1h6

A large proportion of the Site has been classified as mixed woodland, which is dominated by coniferous trees of plantation origin including Scots pine, silver birch and spruce. The majority of trees are semi-mature to mature, with a few young trees present. The area includes small patches of clear fell, however, the majority seems thinned with self-seeded trees in more open areas and scattered Rhododendron. A forestry track partially covered with brash starts at the access track running south. Ground flora is dominated by purple moor grass, also including species such as cross-leaved heath, heather, glittering wood moss, sphagnum sp., deer grass, cotton grass sp., lichen, and localised foxglove *Digitalis purpurea* and rosebay willowherb *Prunus laurocerasus*. Wetter areas include abundant soft rush, sphagnums sp. and common haircap moss *Polytrichum commune* (BNG ref 10).

Another large area in the centre of the site is dominated by various age classes of spruce sp., Scots pine and silver birch, including felled trees and overall appearing thinned out. The plantation also includes self-seeded tree saplings and scattered Rhododendron The ground vegetation includes mainly heather and purple moor grass, or glittering wood moss where trees were denser (BNG ref 12).

A smaller area of plantation woodland dominated by even-aged spruce and Scots pine trees was noted to the south of the Site. Silver birch is locally present and purple moor grass dominates the ground cover alongside areas of glittering wood moss, common haircap moss, sphagnums. The area is fairly dense, lacking regrowth and some forest brash is present. A ditch runs into this habitat and Rhododendron is present. (BNG ref 19)

Other woodland broadleaved – w1g

A fenced-off woodland is located to the northeast of the ponds in the 50m buffer zone, which is dominated by semi-mature native tree species, including for example silver birch, oak sp *Quercus sp*, willow sp *Salix sp.*. The ground flora includes a mix of areas dominated by either bracken *Pteridium aquilinum*, soft rush or bog myrtle *Myrica gale*. (BNG ref 14).

A small area of oak trees is located in an inaccessible area to the northwest of the warehouse, west of the access track. The trees are large and mature, however, the ground is bare and no regeneration visible from the distance.

Upland birchwoods – w1e

A silver birch plantation with even-aged semi-mature trees is present in the buffer to the north of the Site. Scattered Scots pine trees are present along the woodland edge as is one Rhododendron. The ground vegetation is dominated by purple moor grass and localised areas of bracken and rushes.

A woodland dominated by mature and semi-mature silver birch trees with little regeneration is present to the west of the track entrance. The understory changes from a grass and rush dominated area to scattered rhododendron and bracken at the fence line to the property located beyond the 50m buffer. This area overlaps with an area included in the Ancient Woodland Inventory, classed as ancient of semi-natural origin (BNG ref 17). No ancient trees were recorded on Site.

Another birch woodland extends as a wider roadside belt from the east of the site entrance, with predominantly semi-mature and young birch trees and some small brash piles. At the site entrance itself grows a patch of larch, rhododendron, Scots pine and spruce sp. A small area also overlaps with an area included in the Ancient Woodland Inventory, classed as ancient of semi-natural origin (BNG ref 18).

A birch woodland with predominantly young birch trees is part of the pheasant pen located north of the warehouse and adjacent to the access track. The understory is dominated by bare ground or bracken. This area overlaps with an area included in the Ancient Woodland Inventory, classed as ancient of semi-natural origin (BNG ref 15).

Degraded blanket bog – f1a6

An open area is present to the eastern area of the site, which is vegetated by cross-leaved heath, heather, cotton grass sp., sphagnum sp., and on its edges dominated by purple moor grass. The habitat includes multiple artificial drainage channels, areas of bare peaty ground, and scattered saplings of Scots pine and spruce. Rhododendron is present from sapling size to larger shrubs all over this habitat.

TN4: The stretch towards the substation to the east of the Site is changing from degraded blanket bog into a mix of habitats which cannot easily be classified at this time of the year. It includes heavily grazed areas similar to acid grasslands with species noted including matt grass, deer grass and tormentil *Potentilla erecta*, as well as areas of bare ground and localised wet areas with water at the surface, dominated by sphagnum sp. and soft rush.

A smaller area of degraded blanket bog is located south of the above mentioned area, and also includes eroded areas with showing bare peaty soil. Species recorded include heather, cross-leaved heath, sphagnum sp., bog asphodel *Narthecium ossifragum*, soft rush, cotton grass sp., reindeer lichen, saplings of spruce and small rhododendron.

Wet heathland with cross-leaved heath - h1b6

An area of dwarf shrub heath is covering the majority of the eastern area within the Site boundary, near the substation. The wet heath is dominated by heather with abundant cross-leaved heath, both species show little evidence of grazing. Purple moor grass, tormentil, reindeer lichen, marsh thistle *Cirsium palustre*, hard fern *Blechnum spicant*, common haircap moss and other moss species were also recorded. Scots pine saplings are scattered across the habitat and broadleaved tree saplings are planted in tubes adjacent to the west of the substation, potentially some compensatory planting (**TN5**). The habitat is separated by a fence, with soft rush being abundant in the southern part.

Upland acid grassland – g1b

One area on a slope, in the north west of the Site, was classed as acid grassland, with abundant matt grass and purple moor grass, along with frequent heather and occasional heath bedstraw, heath rush *Juncus squarrosus*, common haircap moss and other unidentified moss species. The majority of the habitat is affected by abundant bracken and grazing.

TN1: Closer to the access track, where the area is flat and wet with some standing water, the species assemblage varies from the larger area up the slope and could not clearly be identified with a UKHab code, however resembling more a degraded bog than acid grassland. Species include devil's bit scabious *Succisa pratensis*, marsh thistle, purple moor grass, common bent *Agrostis capillaris*, soft rush, bracken, haircap moss, sphagnum species, and localised also heath rush, cotton grass sp, hard fern and cross-leaved heath.

Other neutral grassland – g3c

Other neutral grassland dominates the 50m buffer area along the drive up to the BESS locations. The grassland is heavily grazed to a sward hight of a few cm, except for areas dominated by soft rush. The majority of the area appears similar in species composition, dominated by annual meadow grass *Poa annua* with abundant white clover *Trifolium repens* and crested dog's tail *Cynosurus*

cristatus with other species noted including buttercup sp. *Ranunculus sp.*, field woodrush *Luzula campestris*, bedstraw sp., common bent, ragwort *Senecio jacobea*, foxglove. Localised the habitat appears less lush with patches of acid grassland to small to map out. Bracken is locally dominant.

TN2: This area is wetter than its surrounding, likely caused by some water running down the slope and slowing down in this flatter area, which is still heavily grazed and similar in species composition to the neutral grassland described above.

TN3: This is also a wetter area, but different from the above with being dominated by soft rush with a longer sward height and a minor watercourse running through.

Modified grassland – g4

Modified grassland is present along the access track margins and surrounding both areas of warehouse buildings. The grassland is heavily grazed down to a few centimeters and most likely dominated by annual meadow grass with frequent white clover. Other species include soft rush, field woodrush, hawkbit sp, selfheal *Prunella vulgaris* and localised broadleaved dock *Rumex obtusifolius*.

Other standing water – r1g

Two ponds, possibly man-made, are located within the 50m survey buffer to the west of the Site. The ponds have vegetated edges and are surrounded by rushes. Numerous mallards were recorded using the ponds during the visits.

Buildings – u1b5

Two warehouse type buildings are located near the Site entrance and connected to the access track through areas of gravel.

Artificial unvegetated unsealed surface – u1c

The access track is an unvegetated single track leading from the Site entrance up to the main area of the Site.

The substation area to the east of the Site and mainly located in the buffer area also appeared unsealed and unvegetated from the distance.

4.3 Protected Species Survey Results

Protected Species survey results map is included in Appendix A Figure 2, and Target Notes with photographs are presented in Appendix D.

4.3.1 Amphibians

Common frogs were noted on Site, including one sighting in a roadside ditch and sighting of two frogs in an artificial drainage feature within the wet heath habitat to the east of the Site. Both water bodies appeared almost stagnant, potentially with a slow flow and may be suitable for foraging as well as spawning.

4.3.2 Bats

One mature birch tree was noted west of the access track near the main road, with a large cavity on the main trunk. This feature was classified as Potential Roost Feature (PRF) suitable for numerous bats, a PRF-M, following the latest guidance from Bat Conservation Trust 2023.

4.3.3 Birds

No bird nests or nesting behaviour were recorded during the visit. However, as the survey was undertaken very early in the nesting bird season and habitat is suitable for a variety of birds, it is considered likely that birds are nesting on site.

Numerous buzzards *Buteo buteo* were heard on Site and seen flying across and circling over the Site on both survey days. Woodpeckers, likely to be Greater spotted woodpecker *Dendrocopos major*, were heard within the Scots pine woodland. Approximately 10 male and female mallards *Anas platyrhynchos* used the ponds in the survey buffer and songbirds such as robin *Erithacus rubecula*, chafffinch *Fringilla coelebs* and coal tit *Periparus ater* were seen on Site.

One pellet was noted below a wooden post between the two ponds on Site, which is possibly a barn own *Tyto alba* pellet.

4.3.4 Pine Marten

Two pine marten scats were recorded in the stretch between the proposed BESS area and the existing substation. The habitat is considered suitable for pine marten with a variety of plantations and semi-natural woodlands and more open areas following felling which are considered to provide foraging grounds for small mammals like voles.

4.3.5 Red Squirrel

No signs of Red Squirrel were noted during the survey. The habitat on Site and within the survey buffer however, is suitable for red squirrel, especially the more mature Scots pine woodland, which may contain red squirrel dreys, as well as areas of fruit producing trees and shrubs providing a foraging resource in addition to pine cones.

4.3.6 Wildcat

No signs of wildcat were found. The habitat is suitable for wildcat, providing a combination of areas suitable for shelter such as areas of windblow and denser areas with a good cover, as well as more open habitat which is likely used by voles and as such can provide a food source alongside birds and other small mammals. The Site is located just outside of the Strathpeffer wildcat priority area as per NatureScot Commissioned Report 768: Survey and scoping of wildcat priority areas (2014).

4.3.7 Other protected mammal species

No signs of other protected mammal species were recorded.

The habitats on Site have some suitability for badger, mainly where grasslands are located next to more open woodlands.

The Site has limited potential for otter, lacking suitable watercourses. The wider area with Loch Luichart to the south is likely to provide habitat of higher suitability where otter (if present) might stray from onto the Site while foraging.

The Site has limited suitability for water vole with a small number of drainage ditches and small watercourses present. No signs of water vole were noted.

5. Discussion

The Site (within the redline boundary) comprises predominantly a mix of conifer and broadleaved woodland plantations with small areas of degraded blanket bog and wet heath in the eastern corner. The area of the proposed access track comprises mostly bare ground, other neutral grassland and modified grassland. Other habitats noted within the 50m survey buffer include broadleaved woodlands, acid grassland, standing water and buildings.

The proposed development of a battery storage unit is to take place predominantly in a habitat which is already considered to be heavily managed i.e. forestry plantation; this would not constitute a significant loss in terms of woodland as the majority of these trees are projected to be felled in any case. The proposed development may impact upon the more ecologically valuable habitat within the Site, namely wet heath and degraded blanket bog, depending upon the final design of the project. It is considered unlikely that ecologically valuable habitats, such as upland birchwoods, broadleaved woodlands, Scots pine woodlands, ponds and acid grasslands will be impacted by the development, as they are located within the buffer zone only. However, this also depends on the final layout. In addition, the following habitats considered as ecologically valuable are also included on the Scottish Biodiversity List: Upland birchwoods, blanket bog, upland heathland and ponds.

A small area of the Site near the site entrance overlaps with an area classed under the Ancient Woodland Inventory as ancient (of semi-natural origin). The habitats identified on Site include neutral grassland and modified grassland as well as upland birch woodland of semi-natural and plantation origin. It is unlikely that the development will negatively affect the AWI classification, as any areas within the site boundary are either the already existing access track or grassland.

In terms of protected species, whilst there is suitable habitat within the 200m buffer, no evidence of protected species resting places was made. Scat which is likely from pine marten, has been noted and the majority of habitat on site and within 50m buffer are suitable for pine marten, red squirrel and wildcat. Due to the proposed loss of suitable habitat for the above mentioned protected species, it is recommended that specific pre-commencement surveys are undertaken immediately prior to construction. The results from these surveys can subsequently be incorporated into the Construction Environmental Management Plan (CEMP) for the Site, and any Species Protection Plans (SPP) updated accordingly.

Regarding bats, one tree was recorded as having potential suitability for numerous bats. However, as this tree was located west of the access track near the main road, it is unlikely to be affected by the works. It is recommended that an ECoW is present should the felling of any trees take place.

Further, it is recommended that habitats will be checked within 48h prior to the start of works for evidence of nesting birds, should any tree felling or vegetation removal take place within the breeding bird season (March-August inclusive).

Construction methods should also consider the risk of spreading INNS Rhododendron off-site and appropriate biosecurity measures included to prevent this.

In conclusion, considering the nature of the habitats proposed to be lost (predominantly forestry plantation) and the above precautionary pre-commencement species specific surveys, it is considered that there is no reasonable barrier to the proposed works being brought forward in a sensitive manner.

6. References

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Appendices

Appendix A. Figures

Lochluichart East

BORALEX

UKHab Survey Results

Key

- Site boundary
- Survey Area - 50m site buffer
- Target Note

UKHAB Habitat

- f1a6 - degraded blanket bog
- g1b - upland acid grassland
- g3c - other neutral grassland
- g4 - modified grassland
- h1b6 - wet heathland with cross-leaved heath
- r1g - other standing water
- u1b5 - buildings
- u1c - artificial unvegetated unsealed surface
- w1e - upland birchwoods
- w1g - other woodland, broadleaved
- w1h5 - other woodland, mixed; broadleaved
- w1h6 - other woodland; mixed; conifer
- w2b - other scots pine woodland
- w2c - other coniferous woodland
- r2b - other rivers and streams

atmos CONSULTING

0 50 100 200

Meters

N

Scale @ A3:

1:5,000

27/03/2025 90150/HB/004a

Drawn by: LB Checked by: TH Approved by: LP

Lochluichart East

BORALEX

Protected Species Survey Results

Key

- Site boundary
- Survey area - 200m buffer

Protected Mammal Species

- Barn owl - Pellets (suspected)
- Bat - Potential roost
- Common frog - Sighting
- Pine marten - Scat (suspected)

234000

235000

864000

863000

A832

Glac na Caillich

Coille Ceann Loch Luichairt

Corriemoillie Croft

atmos CONSULTING

0 50 100 200

Meters

N

Scale @ A3:

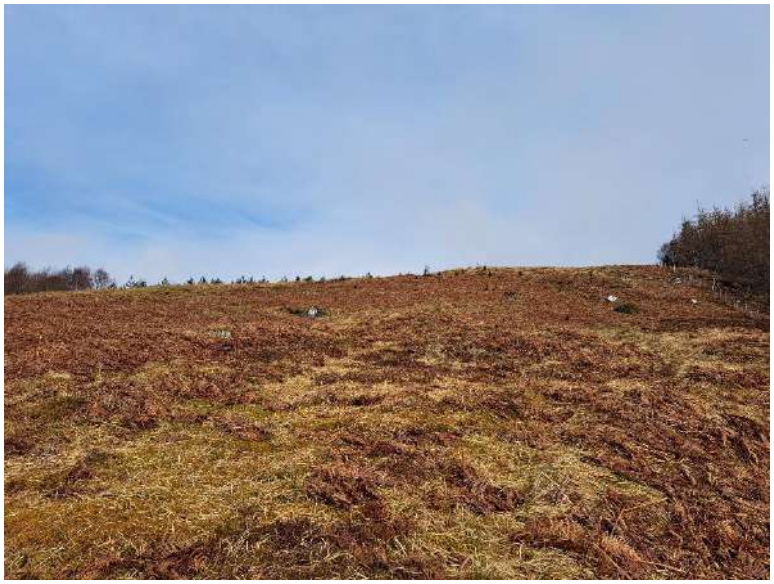
1:6,000

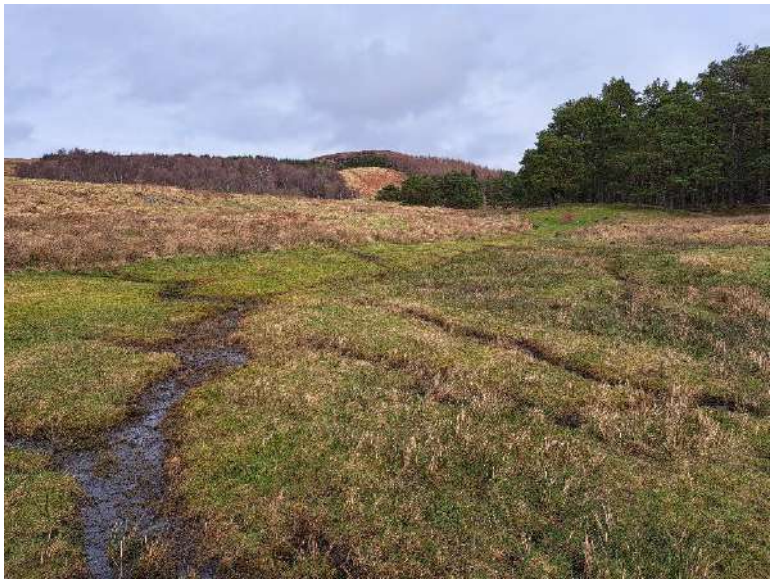
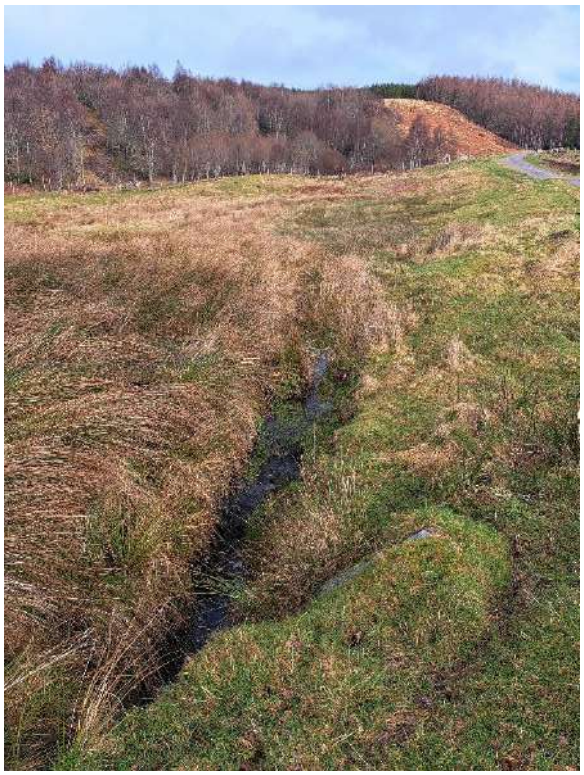
25/03/2025 90150/EC/003a

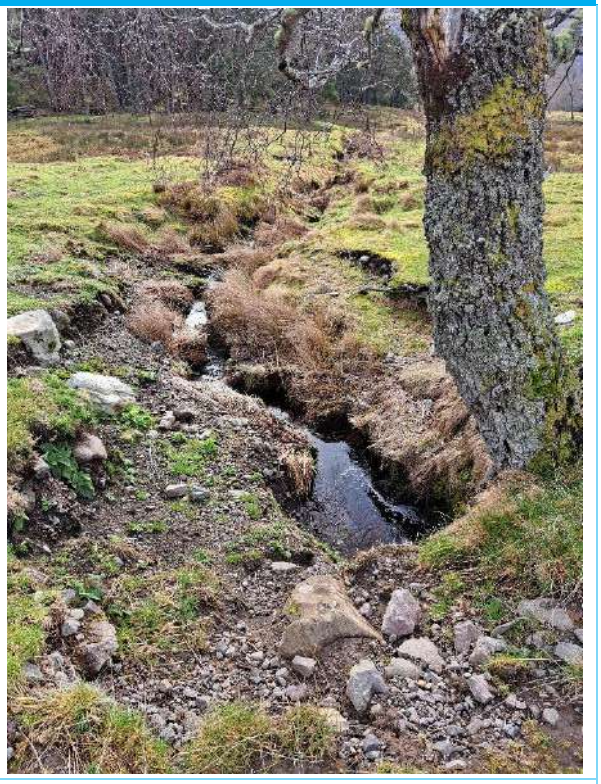
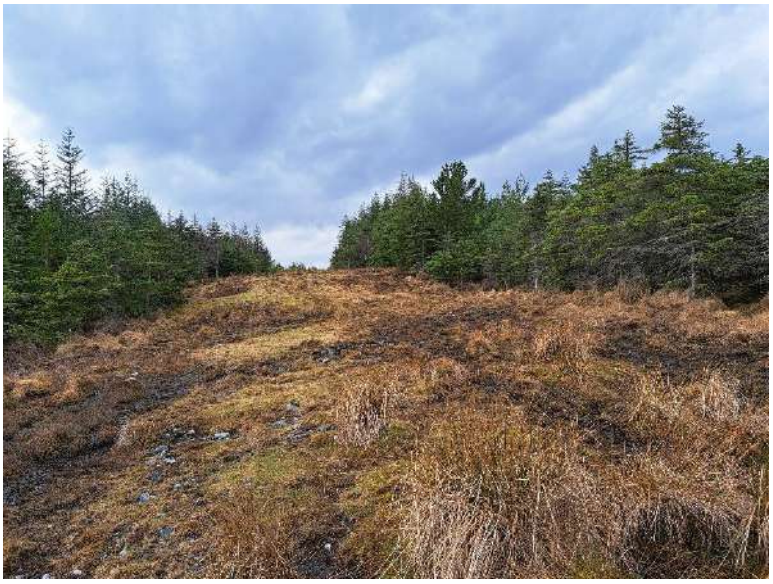
Drawn by: ET Checked by: TH Approved by: LP

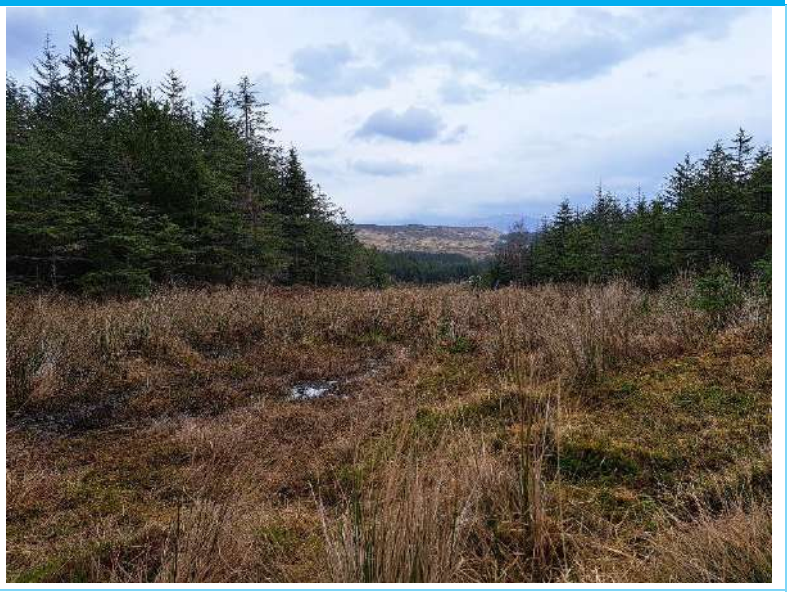
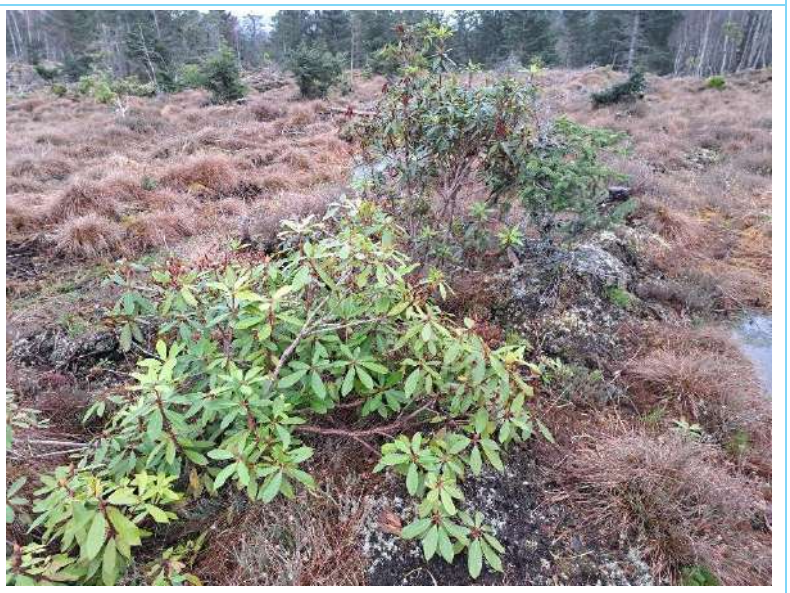
Appendix B. UKHab Target Notes and Additional Photos

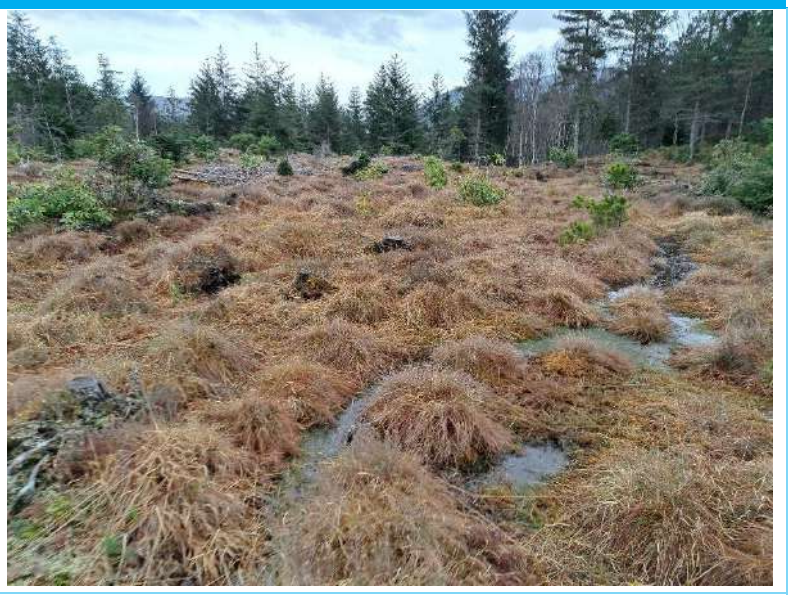
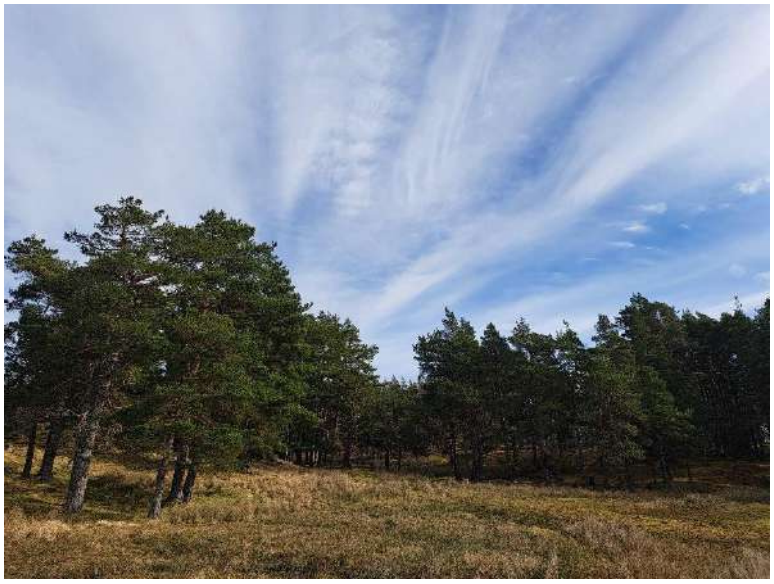
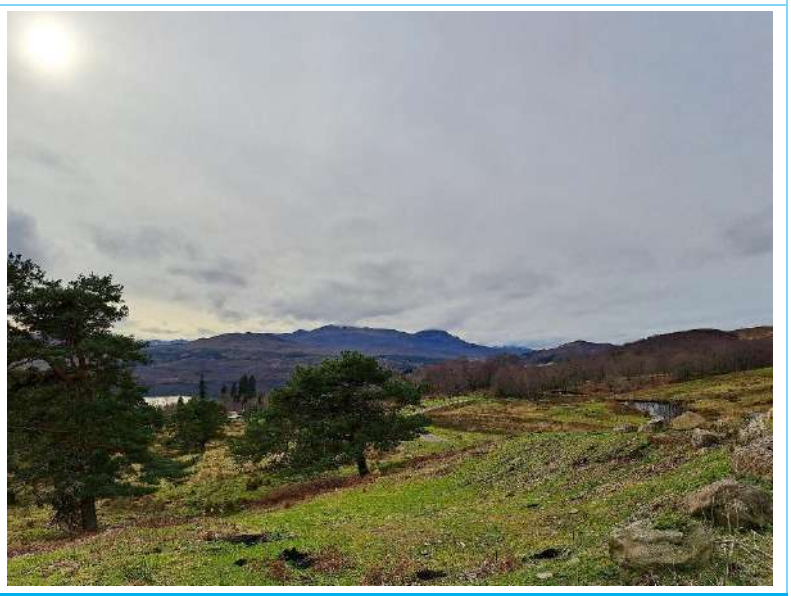
Table 4: UKHab Target Notes and Photos

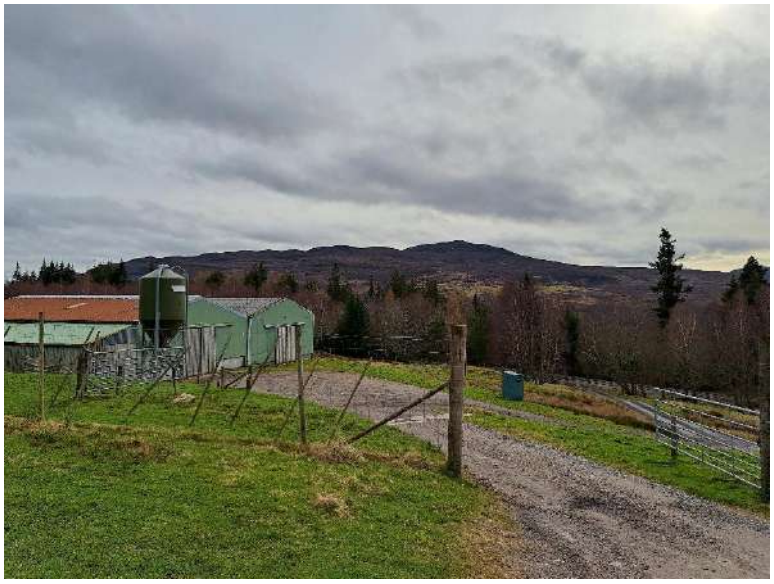
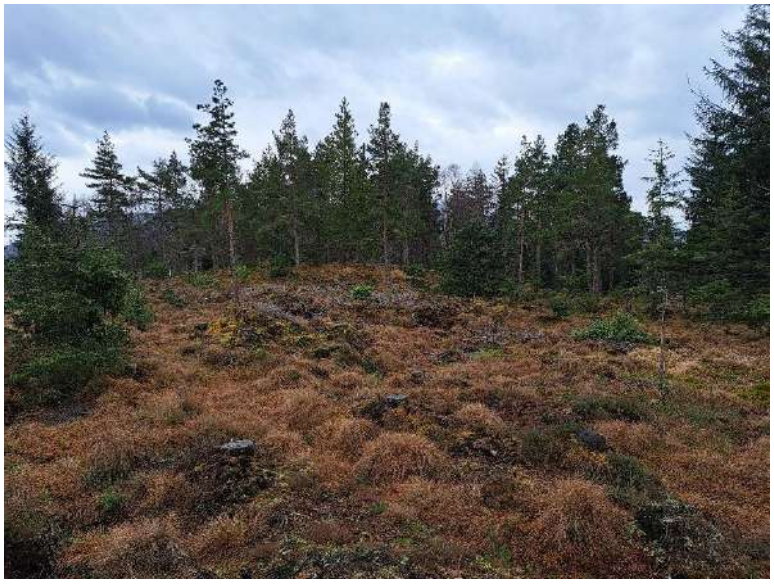
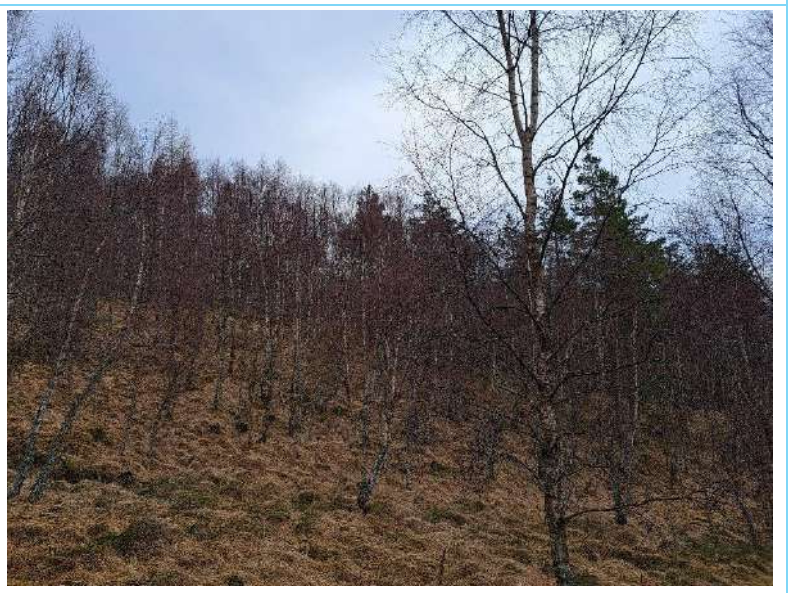
Target Note and Description	Photo
TN1 Area varying from the upland acid grassland located up the slope	
Upland acid grassland with bracken	

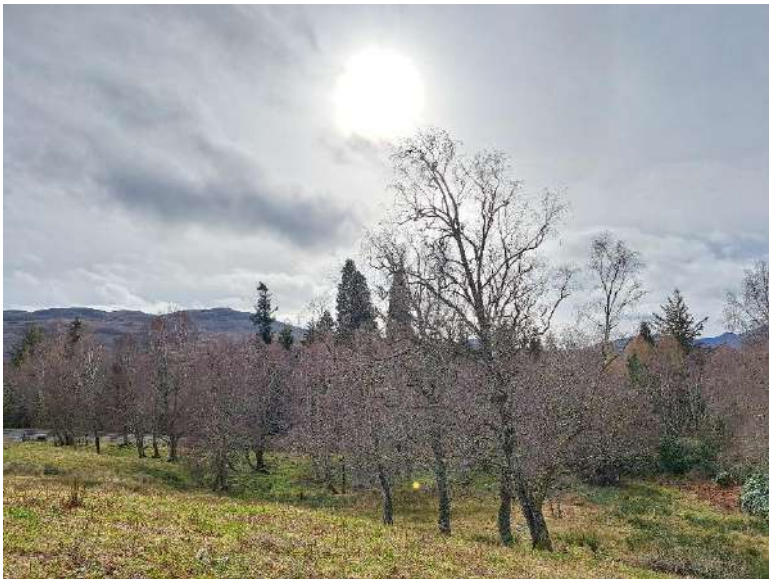
Target Note and Description	Photo
TN2 Wet ground with some rushes, overall grazed to a short sward hight	
TN3 Area of not grazed rushes surrounding a small watercourse, which is more visible downstream of the track (see second photo)	

Target Note and Description	Photo
	
TN4 Habitat changing from degraded blanket bog into patches of bare ground, wet ground and grazed grass patches	

Target Note and Description	Photo
	
TN5 Suspected compensatory planting, with broadleaved trees in planting tubes	No photo
Examples of INNS Rhododendron (close up and scattered in the background)	

Target Note and Description	Photo
	
Scots pine woodland	
Heavily grazed other neutral grassland areas and pond in the background	

Target Note and Description	Photo
Modified grassland areas along the access track	
Felled plantation	
Birchwood plantation	

Target Note and Description	Photo
More mature birch trees near the Site entrance	

Appendix C. UKHab Botanical Species Lists

Table 5: Botanical Species List for g4 modified and g3c other neutral grassland

Common Name	Scientific Name
White clover	*Trifolium repens*
Buttercup sp	*Ranunculus sp.*
Crested dog's-tail	*Cynosurus cristatus*
Marsh thistle	*Cirsium palustre*
Field wood-rush	*Luzula campestris*
Annual meadow-grass	*Poa annua*
Soft rush	*Juncus effusus*
Bracken	*Pteridium aquilinum*
Bedstraw sp.	*Galium sp*
Common bent	*Agrostis capillaris*
Foxglove	*Digitalis purpurea*
Common ragwort	*Senecio jacobea*
Selfheal	*Prunella vulgaris*
Broad-leaved dock	*Rumex obtusifolius*

Table 6: Botanical Species List for acid grassland

Common Name	Scientific Name
Matt grass	*Nadus stricta*
Purple moor grass	*Molinia caerulea*
Heather	*Calluna vulgaris*
Heath bedstraw	*Galium saxatile*
Red-stemmed feather moss	*Pleurozium schreberi*
Bracken	*Pteridium aquilinum*
Common haircap moss	*Polytrichum commune*
Heath rush	*Juncus squarrosus*

Common Name	Scientific Name
Devil's-bit scabious	*Succisa pratensis*
Soft rush	*Juncus effusus*
Bog asphodel	*Narthecium ossifragum*
Bog moss sp.	*Sphagnum* sp.
Acute leaved bogmoss	*Sphagnum capillifolium*
Papillose bogmoss	*Sphagnum papillosum*
Hard fern	*Blechnum spicant*
Cotton-grass	*Eriophorum sp.*
Marsh thistle	*Cirsium palustre*

Table 7: Botanical Species List for h1b6 Wet heathland with cross-leaved heath (upland) and f1a6 degraded blanket bog

Common Name	Scientific Name
Heather	*Calluna vulgaris*
Cross-leaved heath	*Erica tetralix*
Purple moor grass	*Molinia caerulea*
Tormentil	*Potentilla erecta*
Matt-grass	*Nadus stricta*
Deer grass	*Trichophorum germanicum*
Common bent	*Agrostis capillaris*
Scots pine (saplings)	*Pinus sylvestris*
Soft rush	*Juncus effusus*
Common haircap moss	*Polytrichum commune*
Hard fern	*Blechnum spicant*
Red-stemmed feather moss	*Pleurozium schreberi*
Reindeer lichen	*Cladonia portentosa*
Marsh thistle	*Cirsium palustre*
Cottongrass sp.	*Eriophorum sp.*
Rhododendron	*Rhododendron ponticum*
Sitka Spruce	*Picea sitchensis*

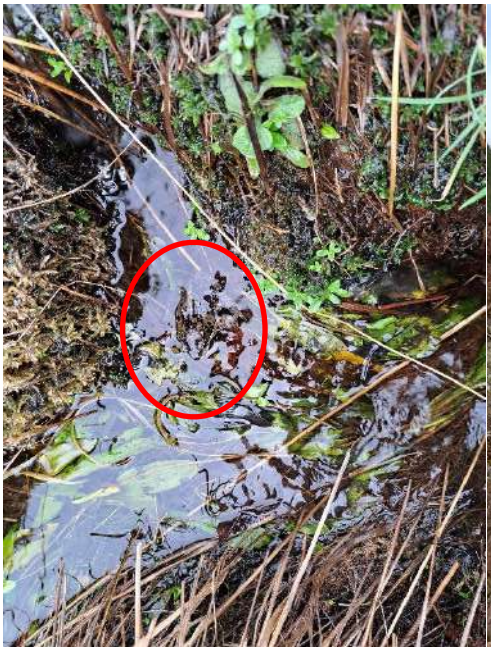
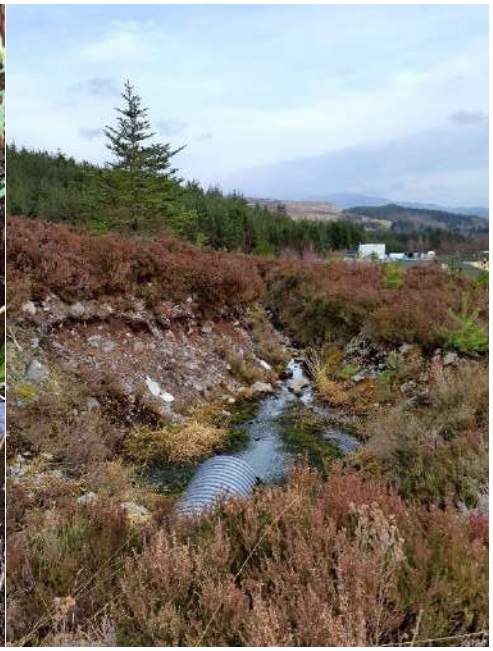
Table 8: Botanical Species List for w1&w2 conifer/broadleaved/mixed woodlands and w1e upland birchwoods

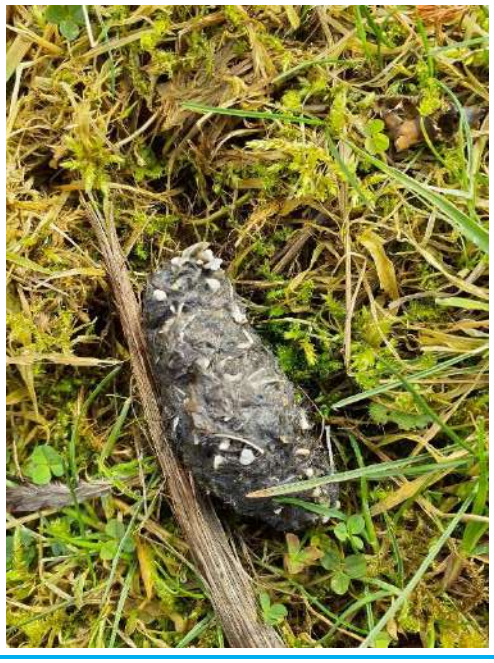
Common Name	Scientific Name
Sitka spruce	*Picea sitchensis*
Norway Spruce	*Picea abies*
Spruce sp	*Picea sp*
Larch	*Larix decidua*
Scots pine	*Pinus sylvestris*
Silver birch	*Betula pendula*
Birch sp	*Betula sp*
Cotton grass	*Eriophorum sp.*
Cross-leaved heath	*Erica tetralix*
Reindeer lichen	*Cladonia portentosa*
Red-stemmed feather moss	*Pleurozium schreberi*
Glittering wood moss	*Hylocomium splendens*
Sphagnum sp	*Sphagnum sp*

Common Name	Scientific Name
Acute-leaved sphagnum	*Sphagnum capillifolium*
Deer grass	*Trichophorum germanicum*
Purple moorgrass	*Molinia caerulea*
Soft rush	*Juncus effusus*
Rhododendron	*Rhododendron ponticum*
Bracken	*Pteridium aquilinum*
Springy turf-moss	*Rhytidiadelphus squarrosus*
Common haircap moss	*Polytrichum commune*
Foxglove	*Digitalis purpurea*
Rosebay willowherb	*Chamerion angustifolium*
Cherry laurel	*Prunus laurocerasus*
Willow sp.	*Salix sp.*
Oak sp.	*Quercus sp.*
Bog myrtle	*Myrica gale*
Broad-leaved dock	*Rumex obtusifolius*

Appendix D. Protected Species Survey Target Notes

Table 9: Protected Species Target Notes

Description	Photo
Frog in the roadside ditch and photo of the drainage feature where frogs were seen. Grid ref.: NH3468363937 and NH3391063952	 

Description	Photo
Mature birch tree with suitable gap in the trunk, classed as PRF-M Grid ref.: NH3354163580	 
Bird pellet (suspected barn owl) Grid ref.: NH3363163833	

Description	Photo
Atypical shape of mammal scat, most likely pine marten scat Grid ref.: NH3448263890 and NH3460163916