18 March 2025

Technical Report

Appendix 6.5 Outline Habitat Management Plan

Lochluichart East BESS

Boralex Ltd

your project our expertise

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1. Introduction

1.1 Terms of Reference:

Atmos Consulting Ltd (Atmos) were commissioned by Boralex Ltd to produce an Outline Habitat Management Plan (OHMP) in relation to a 36MW BESS project at Lochluichart in the Highlands; hereafter referred to as the 'Site'.

The Site (approximate central nation grid reference NH 34178 63847) is located to the north of Loch Luichart, 6km northwest of Garve. The habitats within the wider area consist of Loch Luichart to the south of the Site and forestry, semi-natural woodland, and various grasslands.

1.2 Aims and Objectives

The main objective of the OHMP is to reverse biodiversity loss and deliver positive effects to habitats on the Proposed Development Site for described ecological receptors. This will be achieved through an iterative programme of habitat management and enhancement with the aim of improving semi-natural habitats within the Proposed Development.

1.3 Scope of the Habitat Management Plan

The OHMP is an iterative document which will be revised, updated and re-issued throughout the construction and operational phases of the Proposed Development. In this way, the OHMP, through an agreed monitoring programme, will take account of the successes and failures of the proposed management measures and modifications to the management regime can then be proposed as necessary. The OHMP will be reported and updated in consultation with Boralex Ltd.

The OHMP considers the specific features of the Proposed Development, the local area, existing and future land use, and the Proposed Development Site in making recommendations based on best information currently available. If aspects relating to the Proposed Development are altered, or new ecological information emerges, then the OHMP will be required to be adapted accordingly.

The OHMP considers the management of the habitats and species to enhance biodiversity over the lifespan of the Proposed Development. The geographical scope of the OHMP is represented in Figure 6.1 (Appendix A).

The proposed enhancements within this Technical Report correspond to the proposals to maximise Biodiversity Net Gain as set out in the accompanying Technical Report Biodiversity Net Gain Report – Lochluichart East BESS.

2. Designated Sites and Position in the Landscape

Table 1: Designated Sites within 10km

Designated Site	Designated Feature	Distance from Site (km)
SPA		
Glen Affric to Strathconon	• Golden Eagle (*Aquila chrysaetos*), breeding	1.75
Achanalt Marshes	• Wood sandpiper (*Tringa glareola*), breeding	6
SAC		
Ben Wyvis	• Acidic scree • Alpine and subalpine heaths • Blanket bog • Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels • Dry heaths • Montane acid grasslands • Plants in crevices on acid rocks • Tall herb communities	8.5
Fannich Hills	• Acidic scree • Alpine and subalpine heaths • Blanket bog • Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels • Dry heaths • Montane acid grasslands • Plants in crevices on acid rocks • Wet heathland with cross-leaved heath	7.5
SSSI		
Achanalt Marshes	• Breeding bird assemblage • Flood-plain fen Mesotrophic loch	6
Ben Wyvis	• Blanket bog • Dotterel (*Charadrius mprinellus*), breeding • Dystrophic and oligotrophic lochs • Upland plant assemblage • Vascular plant assemblage	8.5
Fannich Hills	• Upland plant assemblage • Beetle diversity • Fly diversity	7.5

3. UK Hab Survey

A summary of the UK Hab survey findings is presented below and the habitats mapped in the associated Ecology Chapter Figure 6.3 UKHab Survey Results.Appendix 6.1 Protected Species and UKHab Survey Report provides full details of the survey findings.

3.1 UK Hab Descriptions

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.

3.2 Habitat Condition Assessment

Condition Assessment for Biodiversity Net Gain was undertaken for the habitats identified on Site, as briefly described above. Summarised results are shown in Table 2 below. BNG Net Gain calculations are presented in Appendix 6.4 Biodiversity Net Gain Report.

Table 2: Summary of On-Site Habitat Baseline

Habitat Code	Habitat	Condition Assessment Results
F1a6	Degraded blanket bog	Moderate condition
G1b	Upland acid grassland	Moderate condition
G3c	Other neutral grassland	Moderate condition
G4	Modified grassland	Good condition
H1b6	Wet heath with cross-leaved heath	Moderate condition
U1b5	Buildings	NA
U1c	Artificial unvegetated unsealed surface	NA
W1e	Upland birchwoods	Poor and moderate conditions
W1h5	Other woodland, mixed: broadleaved	Poor
W1h6	Other woodland; mixed: conifer	Poor
W2b	Other Scots pine woodland	Poor
W2c	Other coniferous woodland	Poor

4. Habitat Management Plan

4.1 OHMP Area

It is proposed that the OHMP area will be the same as the planning application boundary (the "Site"). Within this, certain areas will be identified for specific management measures depending on their particular characteristics.

Image 1 OHMP and BNG Habitat Enhancement Areas

Source: Atmos Consulting Ltd.

Image 1 shows habitat enhancement Area A which is located north of the access track, comprising other mixed broadleaved woodland and other mixed conifer woodland with approximately 2.25 ha proposed to be enhanced; habitat enhancement Area B, which is located south of the access track and comprises other mixed conifer woodland, approximately 4 ha proposed to be enhanced and habitat enhancement Area C, comprising degraded blanket bog of approximately 1.4 ha proposed to be enhanced. The following measures below will be undertaken to enhance each of the three areas.

4.2 Common Rhododendron Management/Removal

4.2.1 Aim

To plan and manage the control of invasive plant species Common Rhododendron *Rhododendron ponticum*. The plan and management confers several control techniques that can be used to carry out rhododendron management or destruction for any rhododendron infested zones on site.

4.2.2 Background and intervention measures

Common Rhododendron is a non-native evergreen shrub. It was introduced into the British Isles and was planted in gardens, parks and estates. Rhododendron produce their own shoots which can out-compete and replace other species.

Common Rhododendron Management/Removal

The following control techniques might be suitable for Rhododendron control on Site, however should be discussed further with appointed specialist undertaking the control to identify most viable option for the Site. More than one option might be suitable for this Site, given that it includes various stages from small and/or scattered Rhododendron to dense stands of established plants.

Options could include application of herbicide to Rhododendron stumps on the day of cutting, which is suitable for more mature bushes. For areas dominated by seedlings and small bushes prior to flower and seed production, hand-pulling might be considered. Operators walk in a line through the zone to be cleared and hand-pull all seedlings and remove from Site. If that is not viable, foliar spray application might need to be considered. Another method is to mechanically flail Rhododendron on Site using flail mounts on excavators or similar, where access is suitable (Forestry Commission, 2006).

Additionally, removal of invasive non-native species such as *Rhododendron ponticum*, found on the Site, should be carried out following NatureScot's 'Code of Practice on Non-Native Species' and any invasive plant material or contaminated soils disposed of appropriately. Invasive non-native plants invade habitats, spread quickly and outcompete native vegetation. Some can be destructive, causing riverbanks, built structures and surfaces to destabilise. A few can adversely affect human and animal health.

4.2.3 Monitoring

Please note that treatment will likely to be repeated to deal with stump regrowth. Foliar regrowth application can be suitable in this case to treat old cut stumps and stump regrowth of up to 1.3m (Forestry Commission, 2006).

4.3 Peatland Enhancement

4.3.1 Aim

To reduce peat erosion to the west of the Site, and restore areas of bare peat, so that carbon from the atmosphere can be absorbed and stored, benefitting the climate.

4.3.2 Background and intervention measures

Peatland habitats have been declining in recent decades through changes in land management. The restoration of peatland provides much needed habitat for a diverse array of plant and animal species, many of which are threatened by extinction. To maximise and maintain ecosystem services of the peatland habitat, it is crucial that management interventions are in place to reduce erosion which can lead to the release of carbon dioxide into the atmosphere.

Peatland Enhancement

A widely used method for revegetating bare peat is to spread heather brash, which is rich in mosses naturally found on wet heath or drier peat bogs. Moorland seed, lime, and fertilizer are added as

needed. The brash helps stabilize the peat surface and creates microclimates that support the establishment of bog vegetation (IUCN).

Exclusion of the eroded areas of peat to the west of the Site will also be essential to stop trampling by animals.

4.3.3 Monitoring

To ensure the enhancement intervention measures (4.3 and 4.4) are successfully meeting their desired outcomes.

Outline Prescriptions

To assess the effectiveness of the proposed enhancement techniques long-term vegetation / habitat monitoring will be undertaken from Year 1 onwards, with the aim being to monitor the long-term condition of the Site through a programme of fixed-point photography and quadrat monitoring in Years 1, 3 and 5. The quadrat monitoring will assess the abundance of both target and non-target species together with the proportion of bare ground. These surveys will be undertaken for the life of the project. Where the results do not meet expectations, current management regime should be reviewed and altered accordingly.

4.4 Enhancement of Sphagnum Mosses

4.4.1 Aim

To enhance the amount of sphagnum mosses on Site, leading to increased nutrient uptake, improving the pH balance of the soil, and allowing for increased plant growth in the surrounding area.

4.4.2 Background and Intervention Measures

Sphagnum mosses play a vital role in peat-bog creation. They store water which prevents the decay of dead plant material, eventually leading to the formation of peat. Sphagnum also stores large amounts of carbon from the atmosphere.

Enhancement of Sphagnum Mosses

Mosses may be enhanced throughout the Site using a method in which small plugs of different sphagnum species are taken from parts of the Site in which they are doing well and then transplanted into suitable areas where the mosses are absent (Gage *et al,* 2024).

4.4.3 Monitoring

Please refer to 4.3.3 above.

4.5 Trees & Shrubs

4.5.1 Aim

Trees take many years to establish and provide good habitat - retaining and enhancing existing trees, scrub and woodland wherever possible will be of greatest biodiversity value.

4.5.2 Background and Intervention Measures

Native tree species support a large number of other native species, providing leaves for invertebrates to feed on, floral resources especially for early season pollinators, berries and seeds for birds (particularly important for winter migratory species). They also provide shelter, roost and nest sites,

and can connect habitats within and around the development. Biodiversity generally increases as trees mature and woodland develops a diverse understorey and ground cover, including deadwood, which supports significant populations of invertebrates.

A mix of native woodland and scrub, in keeping with the surrounding habitat, is recommended to enhance the biodiversity value of the development. All trees should be of local provenance – from provenance area 105 if possible and in line with Forestry Commission Practise Note 8: Using Local Stock for Planting Native Trees and Shrubs.

Trees should be 20-40 cm transplants or whips (or larger specimen trees). Protection from grazing should be put in place in the form of a suitable sized tree guard. Planting should preferably be undertaken during the period of 1st November to 31st March, with maintenance over a 5-year period. Trees should be notch planted, irregularly spaced at 1-2m intervals and planted in same species groups of 5-15. The key principles are to:

- vary the number of species in clumps or groups of trees using one to three species
- vary the area of clumps or groups of trees
- vary the space between clumps or groups of trees
- vary the space between trees within clumps or groups of trees.

The following trees could be planted, considering provenance area number 105, suitable for wet as well as acid sites:

- Downy birch *Betula pubescens*
- Common oak *Quercus robur*
- Alder buckthorn *Frangula alnus*
- Eared willow *Salix aurita*
- Grey willow *Salix cinerea*

4.6 Homes for Bats

4.6.1 Aim

Bats require suitable cavities for shelter, providing day roosts, maternity roosts and for overwintering. Some species will use small cavities and under roofing material, while others prefer a much larger roof void. These can be found within older large trees, buildings and structures, but many have been lost to development or following a building's conversion. New structures rarely provide suitable spaces. A broad range of bat species can benefit when boxes are used although there is no guarantee that they will be utilised.

4.6.2 Measures

Different species of bat require access to different types of roost sites. Bat boxes can provide these when added externally to a building, structure or tree.

The most common type of box is similar to a wooden bird box but with the front panel sloping in towards a longer back panel that includes a landing area at the bottom, with a narrow gap at the box's base for entry.

Boxes should be positioned where they are sheltered from the wind but unshaded for most of the day. It is considered best practice to provide several different options for bats so that they can choose the most appropriate temperature based on their needs. This is achieved by grouping a number of

bat boxes each with a different aspect – two to four boxes should be arranged around the trunk of larger trees within the development site.

In terms of placement:

- Boxes should be at least 3 m above the ground with an open route to its entrance,
- Boxes should avoid overhangs or perches where predators could attack,
- Accessible foraging habitat and transit corridors should be in the local area.

It is recommended that two to four Schwegler 2F (or nearest available equivalent) bat boxes are installed externally on existing trees. These are relatively long lasting durable general purpose boxes. The box is pictured below along with the manufacturer's specification.

Specification

* Height: 33cm

* Diameter: 16cm

* Weight: 4kg

* Material: Schwegler Woodcrete

* Colour: Black with grey front panel

4.6.3 Monitoring

Bat boxes require minimal management, external wooden boxes requiring most maintenance. If any repair, replacement or maintenance work requires opening or disturbing a box this must be done by a licenced bat worker. Bat boxes should be marked on all landscape plans and maintenance staff made aware so that they are not disturbed during any works undertaken.

Periodic removal of droppings is likely to be required and needs to be done by a licensed bat worker. External bat boxes mounted on trees or buildings should be visually inspected at a distance to make sure they are still secure and functional.

4.7 Summary of Outline Prescriptions

Table 3: Summary of Outline Prescriptions

Prescription	Biodiversity / Environmental Benefit
Rhododendron Management	Reduce negative effects of spreading invasive plants and allow native plants to re-establish
Peatland Enhancement	Reduce peat erosion and aid carbon storage
Enhancement of Sphagnum Mosses	Enhancing plant growth
Tree planting	Enhancing woodland on Site to increase diversity
Homes for Bats	A broad range of bat species can benefit when a number of boxes are provided

4.8 Management and Implementation

In accordance with good land management practice, a register of management works undertaken on Site will be maintained to ensure that works are consistent with the agreed objectives of the OHMP.

Implementation of the OHMP should ensure the overall increase in quality ecological enhancements on Site as well as guaranteeing the measures set out within the Biodiversity Net Gain report are sufficiently met.

5. References

Forestry Commission (2006). *Managing and Controlling Invasive Rhododendron*. Forestry Commission Practice Guide, available online at https://assets.publishing.service.gov.uk/media/5acc9fd240f0b64ff0e694c4/managing_and_controlling_rhododendron.pdf (accessed March 2025).

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