Scottish & Southern Electricity Networks

TRANSMISSION

Creag Dhubh to Inveraray 275 kV Connection Environmental Impact Assessment

Volume 4 | Appendix 8.2

Outline Habitat Management Plan

August 2022

Scottish & Southern Electricity Networks
TRANSMISSION

CONTENTS

LIST OF ABBREVIATIONS

BAP	Biodiversity Action Plan
BRP	Bat Roost Potential
CEMP	Construction Environmental Management Plan
EcIA	Ecological Impact Assessment
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPS	European Protected Species
FLS	Forestry and Land Scotland
GEMP	General Environmental Management Plan
GWDTE	Groundwater Dependent Terrestrial Ecosystem
INNS	Invasive Non-native Species
LOD	Limit Of Deviation
NNR	National Nature Reserve
NS	NatureScot
NVC	National Vegetation Classification
OHL	Overhead Line
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SBL	Scottish Biodiversity List
SEPA	Scottish Environment Protection Agency
SNH	Scottish Natural Heritage (now NatureScot)
SPP	Species Protection Plan
SSSI	Site of Special Scientific Interest
ZOI	Zone of Influence

1 INTRODUCTION

1.1 Introduction

1.1.1 This Outline Habitat Management Plan (OHMP) sets out the proposed measures for habitat restoration and enhancement within the field survey area and the Ecology Study Area as shown on **Figure 8.1: Ecology Constraints and Figure 8.2: Phase 1 Habitats (EIAR Volume 3a).**

1.1.2 The field survey area is dominated by coniferous woodland plantation, wet heath and blanket bog with sizable areas of broadleaved and mixed semi-natural woodland, as shown on **Figure 8.2: Phase 1 Habitats (EIAR Volume 3a).**

1.1.3 Significant effects are predicted on peatlands (particularly blanket bog and wet heath) and Ancient Woodland from habitat loss and degradation as part of the Proposed Development. Mitigation is required to restore poor quality and inactive areas of peatland habitat, as discussed in **Chapter 8: Ecology (EIAR Volume 2)**. Compensatory woodland planting would also be required to mitigate for the loss of woodland, particularly Ancient Woodland, as detailed in **Chapter 8: Ecology (EIAR Volume 2)** and **Chapter 14: Forestry (EIAR Volume 2)** and the associated Technical Appendices.

1.1.4 This OHMP has been devised with reference to the OHMP submitted as part of the neighbouring Blarghour Wind Farm development[1]. The Blarghour habitat management area is overlapped by the Proposed Development to the north of Creag a Chaibeil, as shown in **Figure 6.6a (EIAR Volume 3a**) therefore consideration has been made in terms of management continuity.

1.1.5 This OHMP will be considered and adapted in relation to Biodiversity Net Gain (BNG) calculations and requirements for the Proposed Development. The BNG Assessment is being completed as part of post submission of the s37 application. A final Habitat Management Plan (HMP), which would include specific prescriptions and confirmation of peatland restoration and compensatory woodland planting, would be agreed with the relevant local authority (Argyll and Bute Council), other relevant stakeholders and with landowners. Peatland restoration would be confirmed prior to the commencement of construction of the Proposed Development. Compensatory woodland planting would be addressed as part of the requirements detailed in **Technical Appendix 14.3: Compensatory Planting (EIAR Volume 4).**

1.2 Objectives of the OHMP

1.2.1 This OHMP has been completed following best practice guidance from NatureScot (NS)[2]. The outline proposal of the plan, which are subject to the necessary permission and licences being in place, are;

- To restore and enhance an agreed area of peatland habitat within the field survey area and/or suitable surrounding areas. This area would include the amount of wet heath being permanently lost and degraded as a result of the Proposed Development (25.36 ha) and also includes the amount of blanket bog being permanently lost and degraded as a result of the Proposed Development (23.27 ha). The restoration and enhancement of a comparable area is intended to offset both the permanent and temporary loss or degradation and, where possible, a larger area of peatland would be restored than the area lost or degraded. This would increase the quality and extent of an Annex I habitat[3] and compensate for habitat loss and modification incurred as a result

[1] Blarghour Wind Farm Outline Habitat Management Plan (2018).

[2] Scottish Natural Heritage (previously SNH, now NS) (2016), *Planning for Development: What to Consider and Include in Habitat Management Plans*. Available: https://www.nature.scot/sites/default/files/2019-01/Guidance%20-%20Planning%20for%20development%20%20-%20What%20to%20consider%20and%20include%20in%20Habitat%20Management%20Plans.pdf [Accessed June 2022]

[3] EC Directive on the Conservation of Natural Habitats and Wild Flora and Fauna (1992): http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm [Accessed June 2022]

of the Proposed Development.

- To compensate for woodland habitat loss through compensatory planting of a minimum of 17.33 ha of broadleaved woodland. This would compensate for the loss of semi-natural broadleaved woodland incurred as a result of the Proposed Development. This compensatory planting would also compensate for the area of Ancient Woodland lost as a result of the Proposed Development, though it would not replace it with a like-for-like habitat since Ancient Woodland is irreplaceable[4] .

1.2.2 The implementation of the final HMP would also take into account the existing land management practices undertaken on the site and would work in tandem with these practises.

1.2.3 The design and implementation of the final HMP would be managed by the Applicant in consultation and agreement with landowners and statutory consultees. Detailed method statements would be developed for the specific measures of the final HMP.

1.3 Peatland Restoration

1.3.1 The following measures are required as mitigation to compensate for and reduce the significant effects of the Proposed Development on peatland habitats. Peatland habitats (including blanket bog and wet heath) are included in Annex 1 of the EC Habitats Directive and are area sensitive to environmental change, such as changes to hydrology, carbon function, species composition and nutrient status. Much of the peatland habitat in the UK is in poor condition due to damage from anthropogenic activities such as drainage, grazing and peat extraction. Blanket bog covers 87.35 ha and wet heath covers 171.38 ha of the field survey area respectively. The areas affected by temporary works during construction include is likely to be approximately2.02 ha of blanket bog and 3.25 ha of wet heath. The permanent loss of blanket bog is 23.27 ha and 25.36 ha of wet heath.

1.3.2 Suitable areas for peatland restoration comprise modified habitat containing eroded channels suitable for damming, infilling and reprofiling. Potential habitat restoration areas have been identified within the wayleave of the Proposed Development that could be used for peatland habitat restoration, as shown in **Technical Appendix 10.2: Outline Peat Management Plan (EIAR Volume 4)**. The extent of the peatland restoration areas would be subject to refinement prior to completion of the final HMP but the area identified for restoration would aim to restore an area of at least the same size as the area lost and degraded as a result of the Proposed Development. If feasible, there would be an overall increase of improved peatland habitat in the field survey area.

1.3.3 Peat management and reinstatement during and following construction are detailed in the outline Construction Environmental Plan (CEMP) **Technical Appendix 2.2: Outline Construction and Environmental Management Plan (EIAR Volume 4).**

Management Prescriptions

1.3.4 The Applicant would intend to follow the approach and principles implemented in NS's Peatland Action Project[5] to deliver peatland restoration. Site specific measures will need to be considered and incorporated to work with landowners in developing and delivering successful restoration actions. The following measures are likely to form part of a peatland restoration project to encourage the active regeneration of degraded and damaged peatland, with reference to **Technical Appendix 10.2:**

[4] The complex biodiversity of ancient woods has accumulated over hundreds of years, and therefore cannot be replaced. Many species that thrive in Ancient Woodland are slow to colonise new areas. All Ancient Woodlands are unique, and are distinctive of their locality.

[5] NS (2022), *Peatland ACTION – Project Resources.* Available at: https://www.nature.scot/climate-change/nature-based-solutions/peatland-action/peatland-action-project-resources [Accessed June 2022]

Outline Peatland Management Plan (EIAR Volume 4) for peat and mineral soil handling methods and the CEMP **Technical Appendix 2.2: Outline Construction and Environmental Management Plan (EIAR Volume 4):**

- Raise the water table by blocking channels and gullies to prevent the drainage of water from bog areas. Peat excavated as a result of the Proposed Development could potentially be used where it is not required for reinstatement. Peat for restoration would need to be removed in such a way as to ensure that catotelmic (lower level, non-living layers of peat) and acrotelmic (surface living layer of peat) are removed and stored separately. A survey would be carried out prior to blocking to confirm the number, location and spacing of artificial dams required. Peatland restoration measures would be subject to refinement in consideration with current best practice techniques[6] and expert knowledge gathered from other projects. Restoration work would be undertaken in line with SSEN Transmission Species Protection Plans (SPPs) and General Environmental Management Plans (GEMPs), according to agreed methodologies and with guidance and supervision from a suitably experienced Environmental Clerk of Works (ECoW).
- Increase the abundance and distribution of bog-moss *Sphagnum sp*. and other bog species. If suitable habitat conditions are recreated, this should occur through natural regeneration. However, active measures would be considered in the unlikely event that natural regeneration is unsuccessful.
- Increase the abundance and distribution of other bog species, such as cottongrass *Eriophorum sp.* and cross-leaved heath *Erica tetralix*. If suitable habitat conditions are recreated, this should occur through natural regeneration. However, active measures would be considered in the unlikely event that natural regeneration is unsuccessful.
- Manage grazing pressure in restored areas through fencing and/or a reduction in deer or sheep/cattle numbers, as agreed with the landowners.

1.4 Compensatory Woodland Planting

1.4.1 All compensatory woodland planting would be undertaken as detailed in **Chapter 14: Forestry (EIAR Volume 2)**. The extent of these planting areas would be subject to refinement prior to completion of the final HMP. Planting would aim to restore an area of at least the same size as the area lost as a result of the Proposed Development. Ideally, there would be an overall gain of improved woodland habitat in the Ecology Study Area.

Management Prescriptions

1.4.2 The following measures would be undertaken to compensate for the woodland lost as a result of the Proposed Development in order the provide woodland that is of a higher ecological value than the woodland removed from the survey area:

- Where possible, replanting areas would incorporate semi-natural broadleaved woodland and mixed woodland, instead of coniferous woodland plantation. Broadleaved woodland would include species such as sessile oak *Quercus petraea*, silver birch *Betula pendula*, downy birch *B. pubescens* and alder *Alnus glutinosa*, which were recorded in the field survey area. Where possible, mixed areas would be planted and include these broadleaved species plus native deciduous species such as Scots pine *Pinus sylvestris*.

[6] SNH (2019), *Peatland ACTION Guidance for Land Managers: Dam Installation Techniques – Peat and Plastic Dams*. Available: https://www.nature.scot/sites/default/files/2019-03/Guidance-Peatland-Action-installing-peat-dams.pdf [Accessed January 2022]

- Woodland creation would follow Forestry Commission Scotland Bulletin Guidance[7] and would take place in agreement with landowners and stakeholders. Planting densities would be between 200 and 400 stems per hectare in blocks rather than narrow strips. Individual tree species should be planted in groups, with trees planted a minimum of 2 m apart. These planting guidelines would be dictated by the character of the site and can be used flexibly. Planting would not take place in frozen or waterlogged ground. Where possible, new woodland would be planted next to an existing woodland, particularly other areas of Ancient Woodland, as larger areas support more species and the existing woodland would provide a source for the natural colonisation of ground flora in the new woodland. New woodland should contain equal proportions of trees and shrubs, such as hawthorn *Crataegus monogyna*, willow *Salix sp.* and elder *Sambucus nigra*, to provide a diverse habitat structure and increase the ecological value. If the new woodland area is larger than 2 ha, approximately 20-30% of the area would be left unplanted to form open glades and rides within the woodland. Rides should be at least as wide as the height of the surrounding trees once they reach maturity. Tree shelters/guards or fencing would be used to protect immature trees from grazing.

1.5 Enhancement Measures

Pine Marten

1.5.1 Pine marten are often forced to build dens in man-made structures or in marginal habitats, such as scrub and heath, in response to a lack of other denning opportunities in the human-influenced landscape[8]. In the short-term, the use of artificial den boxes may mitigate the main source of human conflict with this species and encourage breeding success in areas where pine martens are known to be present. A moderate level of pine marten activity was recorded in the field survey area through the presence of potential dens, shelters and scat. As such, an opportunity for enhancement exists through the deployment of den boxes within the coniferous woodland plantation in the field survey area.

Management Prescriptions

1.5.2 The Applicant would explore opportunities with landowners to identify suitable locations to erect pine marten boxes and would seek to install at least four den boxes. Installation would follow good practice guidance[9], with the boxes installed in areas of long-term woodland retention away from public roads. Each box would be fitted to a tree at a minimum height of 4 m to avoid disturbance.

Bat Species

1.5.3 Bats roost in either man-made structures or trees, although not all tree species or age classes are suitable with mature broad-leaved trees providing opportunities, but the abundant coniferous plantation providing few, if any roost opportunities. It is known from desk study information that bats do occur in the Ecology Study Area, and nine trees with bat roost potential were identified. As such, an opportunity for enhancement exists through the deployment of roost boxes within woodland in the Field Survey Area.

[7] Rodwell, J.S. and Patterson, G.S. (1994), *Creating New Native Woodlands*. Forestry Commission Bulletin 112. Her Majesty's Stationery Office, London.
[8] Twining, J.P., Montgomery, W.I., Reid, N., Marks, N., Tosh, D.G. and Scantlebury, D.M. (2020), *All Forests are not Equal: Population Demographics and Denning Behaviour of a Recovering Small Carnivore in Human Modified Landscapes*. Wildlife Biology (4).
[9] Croose, E., Birks, J.D.S and Martin, J. (2016), *Den Boxes as a Tool for Pine Marten* Martes martes *Conservation and Population Monitoring in a Commercial Forest in Scotland*. Conservation Evidence (13), pp. 57-61.

Management Prescriptions

1.5.4 The Applicant would explore opportunities with landowners to identify suitable locations within suitable broad-leaved woodland to erect bat boxes and would seek to install at least 20 boxes. Installation would follow good practice guidance, with the boxes installed on the edges of areas of long-term woodland retention. Each box would be fitted to a tree at a minimum height of 4 m to avoid disturbance.

Wildflower and Scrub Corridor

1.5.5 There is the opportunity for enhancement of the habitat within the operational corridor of the Proposed Development through the creation of wildflower-rich and scrub habitats, facilitating the connection of existing habitats as well as supporting insect pollinators and other wildlife. All wildflower and scrub planting would be undertaken at locations to be confirmed post-consent and in discussion with the landowner. The extent of these planting areas would be subject to refinement prior to completion of the final HMP. The confirmed planting areas would be shown on a figure in the final HMP.

Management Prescriptions

1.5.6 The following measures would be undertaken to enhance the operational corridor where felling and vegetation clearance has occurred as part of the Proposed Development:

- The species of scrub and wildflower to be planted, any required ground preparation and maintenance, and the suitability of the Operational Corridor (OC) would be determined by further ground investigation in year 1 of the implementation of the final HMP. Scrub species to be planted would include native species, such as downy birch, rowan *Sorbus aucuparia*, eared willow, grey willow *Salix cinerea*, goat willow, elder and hawthorn. Scrub planting would take place in agreement with the landowner and where it would not affect the safe operation and maintenance of the overhead line. Where possible, species would be sourced locally. Scrub creation would follow Forestry Commission Scotland Bulletin Guidance[10] and would aim to provide habitat connectivity between areas of unfelled woodland across the OC.
- Seeding of the OC with a native wildflower seed mix in areas of scrub planting would also occur to provide an additional foraging resource for pollinating bees and other insects. Seeding would be undertaken in autumn as winter conditions are a requisite for seed germination. Suitable native seed would be obtained from a local supplier that can supply species of local provenance, where possible. Species to be seeded would include species already present in the field survey area, such as meadow buttercup *Ranunculus acris*, tormentil *Potentilla erecta*, heath bedstraw *Galium saxatile*, bluebell *Hyacinthoides non-scripta*, white clover *Trifolium repens*, common bird's-foot-trefoil *Lotus corniculatus*, thyme-leaved speedwell *Veronica serpyllifolia*, cuckoo flower *Cardamine pratensis* and bugle *Ajuga reptans*.

1.6 Work Programme

1.6.1 A detailed HMP delivery programme would be developed in consultation and with the landowners as part of the development of the final HMP.

[10] Rodwell, J.S. and Patterson, G.S. (1994), *Creating New Native Woodlands*. Forestry Commission Bulletin 112. Her Majesty's Stationery Office, London.

1.7 Funding and Duration

1.7.1 The final HMP and implementation would be funded by the Applicant and the duration of the HMP would be confirmed in consultation with NS. Management agreements for habitat enhancement would be established with landowners and other stakeholders in line with best practice.

1.8 Monitoring

Peatland Restoration

1.8.1 Monitoring activities would be undertaken using a similar approach to that used for NS's Peatland Action programme[11]. Vegetation surveys would be undertaken by suitably qualified ecologists to monitor the success of peatland restoration and highlight the need for any further management measures. Surveys would collect data on the structure and composition of the vegetation, and plant species abundance and diversity from permanent quadrats in the restored areas. A site-specific monitoring schedule would be established as part of the peatland restoration project.

Compensatory Woodland Planting

1.8.2 New areas of woodland would require monitoring and management, particularly in the first 2-3 years when immature trees are establishing. New trees would be inspected once a year to ensure they are not being choked by other vegetation, such as grass species, until tree shelters/guards are removed. Tree guards would be removed when the base of the tree reaches 7-10 cm in diameter, typically 3-5 years after planting. If more than 25% of planted trees in an area of new woodland have failed, additional planting would be required.

1.8.3 Long-term management of new woodland areas would be undertaken by landowners in consultation with the relevant statutory authority, where required. Management may include deer control, selective thinning, replanting, rotational mowing to maintain open rides and glades, and the control of invasive non-native species, such as rhododendron *ponticum*.

Pine Marten Den Boxes and Bat Roost Boxes

1.8.4 A monitoring programme will be developed in consultation with relevant stakeholders for these boxes as part of the final HMP. Monitoring activities would be undertaken by a suitably qualified ecological professional under licence from NS. Pine Marten monitoring is advised to occur once per year in May, when breeding females are occupying natal den sites with their dependent kits. Bat boxes can be checked at any point throughout the summer months. Boxes would initially be checked for signs of use by observing them from a distance using binoculars. Following an initial inspection, a licensed surveyor would access the box using a ladder.

Wildflower and Scrub Corridor

1.8.5 Vegetation surveys undertaken by suitably qualified ecological professionals would monitor the success of the wildflower and scrub corridor and highlight the need for any further management measures. Surveys would collect data on the structure and composition of the vegetation, and plant species abundance and diversity from permanent quadrats in the enhanced areas. The success or failure of scrub planting would be noted during each survey. If more than 25% of new scrub has failed, additional planting would be required. Monitoring would commence in summer of year 1 of the implementation of the final HMP (during the first year of operation of the Proposed Development) and

[11] NS (2022), *Peatland ACTION – Project Resources.* Available at: https://www.nature.scot/climate-change/nature-based-solutions/peatland-action/peatland-action-project-resources [Accessed April 2022}

would be repeated up to 5 years, after which new woodland/scrub habitats are considered to become established.

1.9 Amendments

1.9.1 The final HMP would be a live document and would be updated following the results of on-going monitoring surveys, unexpected events and changes in regulations or guidance.