Appendix 8.5: Outline Restoration and Enhancement Plan: Peat, Biodiversity, Landscape and Forestry

Car Duibh Wind Farm Ltd.

An Càrr Dubh Wind Farm

Appendix 8.5 Outline Restoration and Enhancement Plan (OREP): Peat, Biodiversity, Landscape and Forestry

Draft report
Prepared by LUC
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Car Duibh Wind Farm Ltd.

An Càrr Dubh Wind Farm
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Registered in England
Registered number 2549296
Registered office:
250 Waterloo Road
London SE1 8RD

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Contents

Introduction	1
Overall Objective of the Outline Plan	1
Baseline Conditions: Key Considerations and Opportunities	1
Proposed Restoration and Enhancement Measures	3
Consideration of Peatland Restoration Best Practice Techniques	5
Monitoring	5
Summary of Potential Benefits	6
Conclusion	7
Annex A	8

Introduction

1.1 This document provides an outline of proposed peat resource, habitat and landscape restoration and management measures related to the proposed An Càrr Dubh Wind Farm (hereinafter referred to as 'the Proposed Development'). The document has taken a holistic approach to habitats, peat, landscape, and forestry management:

- Proposed interventions have been identified collectively by the ecology, ornithology, landscape and visual, forestry and peat specialists within the EIA team to ensure maximisation of environmental benefits and avoid conflict between environmental topics.
- As some of the proposed management measures relate both to peatland habitats and the Site's peat resource, preparation of this document has been coordinated with the preparation of the Peat Management Plan (PMP) presented as **Appendix 7.3** of the EIA Report.

1.2 This document sets out outline proposals only; in accordance with standard practice, it is intended that the outline proposals are used as a basis for a detailed management plan, to be agreed under a condition attached to any consent granted to the Proposed Development, in consultation with NatureScot, Argyll and Bute Council, SEPA, and other relevant stakeholders.

Overall Objective of the Outline Plan

1.3 The overall objective of this outline plan is to provide a holistic framework for the enhancement of the An Càrr Dubh Site with respect to biodiversity, peat resource, forestry and landscape, over and above mitigation of the Proposed Development's predicted effects and taking appropriate account of the Site's environmental characteristics and potential for enhancement as identified through baseline studies and the EIA process. This plan also recognises the requirement of National Planning Framework 4 (NPF4) Policy 3 that *"development proposals will contribute to the enhancement of biodiversity, including where relevant, restoring degraded habitats"*.

1.4 Once finalised, in consultation with Argyll and Bute Council, NatureScot, SEPA and additional relevant stakeholders, the measures outlined within this document and implemented over the lifetime of the Proposed Development will conserve, restore and enhance the peat resource and peatland, woodland and riparian habitats within the Site in a manner which would not be possible without intervention. This will allow a variety of interconnected benefits to be realised including avoidance of greenhouse gas emissions, expansion of carbon sinks, enhancements in upland biodiversity and improvements to water quality. The final plan will include a monitoring and review framework to track and report on the efficacy of management measures, allowing interventions to be adapted to emerging evidence and specialist advice and ensure net benefits are realised over the lifetime of the development.

Baseline Conditions: Key Considerations and Opportunities

Non-Avian Ecology

1.1 As noted in **Chapter 8** of the EIA Report and associated appendices, the area of the Site where turbines and ancillary infrastructure is located has a complex habitat composition due to its topography, and supports a range of habitats of conservation interest, including priority heathland, bog and fen habitats. In contrast, the eastern portion of the Site where the access is located has a much more uniform habitat composition due to the dominance of commercial forestry.

1.2 Peatland condition across the Site, however, is highly variable, with large extents of peatland habitats showing a substantial degree of modification and erosion. Grazing, specifically, has affected the habitat composition across the non-forested parts of the Site, resulting in extensive areas of peatland habitat within the Site being in 'modified' condition. In some cases, grazing appears to have resulted in acid grassland replacing blanket bog communities, and in some areas, animal trampling and rubbing on peat haggs has also contributed to active peatland erosion (see **Appendix 8.2** to the EIA Report).

1.3 The network of watercourses within the Site was found to offer potential water vole habitat, with a number of active colonies recorded. Populations of this species in the uplands are naturally fragmented and reflect the distribution of scattered patches of suitable habitat. Particularly favourable habitat was recorded along stretches of slow-moving water in the centre and north-western areas of the Site, notably along the Eas an Amair.

1.4 In addition, otter was confirmed to be present on watercourses and waterbodies in the west of the Site, although no resting sites were recorded. red squirrel and pine marten were confirmed to be present in the forestry in the east.

1.5 Prior to mitigation and enhancement, the Proposed Development has not been predicted to have any significant effects under the EIA regulations with respect to non-avian ecological interests.

Ornithology

1.6 There are no statutory designated sites with ornithological interest within or adjacent to the Site; however, the Site is within the foraging range for golden eagles associated with the Glen Etive and Glen Fyne Special Protection Area (SPA). Hen harrier flights were recorded during surveys relating to the Proposed Development, with these likely to be flights of birds associated with breeding territories to the west of Loch Awe. The Site currently supports a narrow assemblage of moorland birds. Black grouse were encountered in the surroundings of the Site during the baseline surveys for the Proposed Development, although only in 2019; and it is noted that the Argyll black grouse population is historically localised and limited. The Proposed Development is not predicted to have significant effects upon any bird species.

1.7 The key objective for any habitat management measures at the Site is to provide improved nesting and foraging opportunities for moorland bird species through peat resource restoration and interventions relating to specific species (including ground nesting waders, raptors and black grouse) away from development infrastructure, whilst balancing the need to avoid potentially adverse effects on golden eagle via changes to their habitat.

1.8 As detailed in **Chapter 9** of the EIA Report, the layout of the Proposed Development has been designed to avoid 'good' golden eagle habitat, as informed by the Golden Eagle Topographical (GET) Model and satellite telemetry data from tagged range holding birds. Due to the high priority to be given to golden eagle protection at the Site, it is important that habitat management measures (additional tree planting in particular) do not undermine this aspect of the Proposed Development's design.

Peat Resource

1.9 As noted in the EIA Report **Chapters 3** and **7** and the PMP, the Proposed Development has been designed to minimise impacts on the Site's peat resource, commensurate with the need to take into account other environmental effects and technical design constraints. However, much of the Site is covered in peat, with this imposing some limits on the scope to avoid peat altogether. Prior to mitigation and enhancement, the Proposed Development has been predicted to have a minor negative but non-significant effect upon the Site's peat resource. Part of the proposed management of peat resource at the Site therefore will involve reuse of peat excavated to allow construction of the Proposed Development (see **Appendix 7.3**). The Site, however, offers opportunities for extensive peat resource management and enhancement, over and above mitigation of the Proposed Development's effects, via restoration of currently eroded areas of peat. Degraded parts of the site are visible primarily as hagged areas (either vegetated or bare), with degradation of the Site's peat resource having occurred both via natural erosion and via artificial drainage from the Site's substantial network of moorland drains. Over 800 drain segments have been mapped across the Site, totalling over 65 km in length.

A view of the Site looking north towards Loch Sionnaich and Loch an Eileih Duibh, north of the proposed substation location.

Landscape and Visual

1.10 Key current characteristics of the Site in landscape and visual terms with implications for this management plan are:

- 'scarring' associated with hagged/eroded peat, which is a visual detractor;
- visually 'harsh' edges to existing areas coniferous plantation, which would benefit from being softened by additional planting of native tree species; and
- a lower diversity of vegetation cover than the Site's potential, due to current and historic grazing pressures.

Forestry

1.11 The Site and surroundings currently have a relatively low diversity of tree species, as the woodland resource is dominated by commercial conifer plantation, with smaller extents of broadleaved and mixed woodland.

1.12 As detailed in **Appendix 4.1**, a minimum of 3.77 hectares of woodland planting is required within the Site under the Control of Woodland Removal Policy (CoWRP)[1] to compensate for the permanent felling required to support construction and operation of the Proposed Development.

Land Use Considerations and Principal Restoration and Enhancement Area

1.13 The Site and its surroundings are in longstanding active use for sporting interests, livestock and forestry, and the proposals set out in this outline plan need to achieve environmental enhancement whilst allowing these land uses to continue across the two estates on which the Proposed Development is located, as these uses are fundamental to the estates' future management. This balance has been achieved in part by defining a Principal Restoration and Enhancement Area (PREA) boundary within the Site; this is shown in **Figure 8.5.1**.

Optimal water vole habitat of the Eas an Amair watercourse: aquatic vegetation in slow moving water with many narrow, but deep, tributaries containing peaty banks and dense rush dominated bankside vegetation. Five water vole burrows were identified in this location along with other field signs including feeding remains, slides and droppings.

[1] Forestry Commission Scotland (now Scottish Forestry) document titled 'The Scottish Government's Policy on Control of Woodland Removal' (2009). Available at https://forestry.gov.scot/publications/285-the-scottish-government-s-policy-on-control-of-woodland-removal

Proposed Restoration and Enhancement Measures

1.14 The parts of the Site to which the following proposals relate are illustrated in each case in **Figure 8.5.1.**

Governance and Implementation

1.15 Given the number of interested parties involved, and that this OREP proposes interventions over quite extensive areas, it is proposed that the final Restoration and Enhancement Plan is delivered by a Restoration and Enhancement Steering Group (RESG). Members of the group are likely to include:

- the developer;
- the landowners (or their agent/s);
- a principal contractor (when appointed);
- a restoration contractor (when appointed); and
- various members of an appointed environmental consultant team.

Other parties, such as the Inveraray and Tyndrum Deer Management Group (ITDMG), would be engaged or consulted with as required on specific interventions.

Peat Resource Restoration

Infill of Hagged Peat

1.16 Extensive eroded areas in proximity to proposed infrastructure (<100m) have been screened for slope angle (<5°) and stability issues. These will be infilled with peat excavated from areas of nearby infrastructure (catotelm overlain with acrotelmic turves). The purpose of this intervention is to relocate excavated soils into areas where peat has been naturally lost (and the current lack of vegetation indicates a continued trajectory towards further erosive loss).

Reprofiling of Hagged Peat

1.17 Areas have been identified which are either too far from proposed infrastructure to move peat to, or too steep to infill (> 5°), but which would nevertheless benefit from reprofiling to reduce the incidence of bare peat and discourage further erosive loss.

Drain Blocking

1.18 All drains in the PREA area have been identified, with these making up the majority of the drains within the Site. It is proposed that blocking measures are undertaken across the drain network to reverse peat drying and associated erosion. It is proposed that blocking is undertaken to all the drains shown on **Figure 8.5.1**. The method of blocking would be determined post-consent according to best practice at the time (as this is continually evolving).

Tree Planting

1.19 Tree planting is proposed within the PREA, comprising both riparian and non-riparian planting. This will include, at a minimum, 3.77ha of planting required under the CoWRP due to felling required to construct and maintain the access to the Site.

1.20 Planting will comprise a combination of continuous and discontinuous shrub and tree-dominated planting. Native tree species appropriate for the Site will be agreed post-consent, but may include the following:

- Alder *Alnus glutinosa*;
- Aspen *Populus tremula*;
- Downy birch *Betula pubescens*;
- Eared willow *Salix aurita*;
- Grey willow *Salix cinerea*;
- Hawthorn *Crataefus monogyna*;
- Juniper *Juniperus communis*;
- Rowan *Sorbus aucuparia*;
- Scots pine *Pinus sylvestris*; and
- Sessile oak *Quercus petraea*.

1.21 Such species will provide additional food sources for black grouse in the spring and winter, together with suitable cover from predation for both adults and broods, and will provide connectivity for the species between foraging, lekking and breeding habitats. Discontinuous areas of planting will ensure that extensive shading of existing food plants (e.g. grasses and bilberry, where present) for black grouse does not occur, with planted tree and shrub species being selected for their preference by black grouse.

1.22 During the establishment phase, trees will be protected in accordance with best practice guidance available at the time of planting, with the requirement for fencing being avoided in so far as possible.

1.23 Monitoring will be undertaken regularly to ensure planting is successful and does not become a shelter for deer.

Riparian Tree Planting

1.24 Riparian planting will aim to establish small groups of native trees along the riparian corridors of watercourses within the REA, including along the Eas an Amair and the Alltan Airigh Mhic Choinnich, to enhance biodiversity and watercourse quality and promote the connectivity of habitat features.

1.25 The detailed riparian planting scheme, to be confirmed post-consent, will take into account peat depth (no planting should take place on peat >0.5m), potential water vole habitat and Groundwater Dependent Terrestrial Ecosystems (GWDTEs). Typically, planting would favour the drier humps and bumps, above the very wet peat areas, as trees will grow more successfully in the drier conditions and this will avoid habitats of greatest conservation interest.

1.26 Best practice guidance for riparian planting will be followed[2], with planting groups expected to be 5-10m wide and 10-20m long, depending on the width of the watercourse, speed of flow, and extent of habitat considered to be suitable for planting.

Non-Riparian Tree Planting

1.27 Planting large additional forestry blocks within ‘good’ golden eagle habitat would be expected to have negative effects on golden eagles, and will therefore be avoided, notwithstanding its potential ecological benefits in other respects. Planting in riparian corridors would not have the same adverse implications for golden eagles; and smaller areas of tree planting (in addition to riparian planting) can also potentially be accommodated at the Site without adverse impacts upon eagles, subject to detailed design of the planted areas to limit their size and aggregate area and achieve appropriate separation distances between them. On this basis, ‘search areas’ for potential additional native tree planting have been identified. The detail of planting proposals within these areas would be agreed post-consent, and would be based upon the following principles:

- planting will be undertaken in small and/or linear groups rather than larger woodland blocks;
- planting will be prioritised on lower ground;
- planting will be prioritised away from the most sensitive habitats with respect to golden eagle to the greatest possible extent in other respects; and
- the aggregate total area of planting will be limited to the extent required to avoid adverse cumulative impacts upon golden eagle.

[2] The Woodland Trust (2016) Keeping Rivers Cool: A Guidance Manual. Creating riparian shade for climate change adaptation. Available at: https://www.woodlandtrust.org.uk/media/1761/keeping-rivers-cool.pdf [Accessed February 2023]

An area of peat hagging with extensive bare peat which has been trampled by livestock within the centre of the Site.

Grazing Management

1.28 The availability of live medium-sized prey (e.g. grouse, hares or rabbits), where influenced by the competitive effects of grazing by larger herbivores (e.g. sheep and deer) has been suggested as a factor influencing golden eagle range occupancy and productivity[3,4]. The golden eagle population of NHZ 14, where the Proposed Development is located, was most recently classified as being in a favourable conservation status (FCS), but sheep grazing was identified as the most likely negative pressure with respect to this status being maintained.

1.29 The influence of grazing upon the availability of live prey for golden eagles and species productivity is, however, complex. The Proposed Development therefore provides the opportunity for the introduction of a grazing management scheme, with associated monitoring, to further understand the relevant relationships, and with the aim of enhancing the availability of live prey within the G/LAE1B golden eagle range which overlaps with the Site.

1.30 The baseline grazing density across the PREA will be measured prior to the start of construction (Year 0). Detailed proposals for grazing management will be developed post-consent and will make use of these baseline data; targets and measures to reduce grazing densities across the PREA will be determined in consultation with the RESG and stakeholders (including NatureScot). Management of grazing density will aim to promote the success of the restoration and enhancement measures.

1.31 Temporary fencing (stock-proof, such as deer fencing) is proposed around some of the areas identified for hagg infill and reprofiling for the first 1-5 years while the turves 'take' (bind together) and while any bare peat revegetates:

- approximately 2km of fencing around the group of restoration areas centred on Turbine 9 is proposed, potentially with gates on the access tracks where the fence joins them; and
- approximately 3 km of fencing between turbines 4 and 7 is also proposed, with gates near Turbine 4 and on the access to Turbine 7.

1.32 Temporary stock-proof fencing may also be required around some areas of tree planting to allow the young trees to successfully establish. Detailed proposals will be agreed post-consent.

1.33 Stock fencing would require marking to reduce black grouse collisions. Markers such as larch droppers (approximately 450mm by 50 mm by 16 mm at a spacing of 2-3 droppers per metre) or chestnut paling fencing could be used[5].

An example of droppers on stock-proof fencing to reduce bird collisions.

[3] Moss, D and Walker, D. (2008) Golden Eagle Monitoring at Beinn Ghlas Windfarm 2000-2007. A Report by Wildlife Advice and Natural Research to Beaufort Wind Ltd.
[4] Whitfield, D P, Fielding, A H, McLeod, D R A and Haworth, P F (2008). A conservation framework for golden eagles: implications for their conservation and management in Scotland. Scottish Natural Heritage Commissioned Report No.193.

[5] Forestry Commission (2012) Technical Note 19: Fence marking to reduce grouse collisions. Available at: https://www.forestresearch.gov.uk/publications/fence-marking-to-reduce-grouse-collisions/ [Accessed March 2023]

1.34 As a result of the use of fencing, grazing animals would be displaced to unfenced areas of the Site. This could result in additional pressure on these areas. Additional management measures are therefore proposed in this respect, to include:

- Vegetation monitoring of unfenced areas to assess the condition of vegetation and to ensure no adverse effects on unfenced habitats. Should a deterioration in condition of the vegetation as a result of grazing pressure be identified during monitoring surveys, measures to address this will be agreed by the RESG.
- The continuation and monitoring of the current annual deer cull plan, in co-ordination with the Inveraray and Tyndrum Deer Management Group (ITDMG).
- Removal of deer fencing around established woodland areas (where appropriate) to open up areas previously inaccessible to deer.

Water Vole Monitoring

1.35 A monitoring regime is proposed to establish current occupied water vole habitat, and unoccupied but suitable habitat, on key watercourses (for example the Eas an Amair and tributaries of the Allt Blarghour). Full details of the regime are to be confirmed post-consent.

1.36 Establishment of a mink raft or rafts and regular monitoring are proposed to act as a preventative measure with respect to water vole predation. Engagement with the Mink Control Project (MCP) (although the site is technically outside their project area) may be beneficial in relation to this intervention, and the possibility that the Site could contribute to the MCP will be explored further prior to the detailed monitoring regime being agreed post-consent.

Boxes for Pine Marten/Red Squirrel

1.37 Installation of boxes for pine marten and red squirrel is proposed on trees in the existing woodland in the east of the Site. Locations are expected to be confirmed post-consent following further pre-construction surveys.

Enhancement of Habitat for Bird Species

Hen Harrier

1.38 Hen harriers do not currently breed within the Site but use the Site for foraging. Management of habitat within the PREA for hen harrier would aim to:

- maintain and/or manage potential nesting areas of existing heather stands outwith a 300-500m buffer of the turbines;
- enhance the structural diversity of dry and wet heath habitats within the PREA through peatland resource restoration; and
- enhance the abundance of heather on blanket bog habitats.

1.39 Potential areas of nesting habitat outside a 300-500m buffer of turbines will be identified and mapped post-consent. Areas identified will not be subject to burning or cutting; any establishing non-native trees in these areas will be identified and removed. Any burning or cutting of other dry and wet heath habitats will be appropriate and monitored.

Black Grouse

1.40 Peatland resource restoration and vegetation management will aim to enhance the structural diversity of dry and wet heath habitats within the PREA, including through an appropriate, monitored programme of cutting and burning. The abundance of heather on blanket bog habitats will be monitored and enhanced where appropriate.

1.41 Areas of trees and shrubs will be established to improve foraging habitat and cover (see **Tree Planting** above). Fencing where required will be designed such that collision risk of black grouse is reduced through the use of marking (see **Grazing Management** above), with measures to reduce collision risks for black grouse with respect to existing fencing also being identified and implemented.

Consideration of Peatland Restoration Best Practice Techniques

1.42 An experienced restoration contractor would be required to work on site concurrently with construction. This contractor's role will be to undertake drain blocking while foundation / hardstanding construction is ongoing; and then, when peat is available from construction, to place this in the hagged areas and construct mineral bunds (in the steeper hagged areas) to help retain the basal catotelmic peat.

Monitoring

Vegetation

1.43 The efficacy of peatland restoration measures and grazing management will be subject to monitoring. Monitoring is likely to be resource-intensive in initial years, while the success of implementation will require close attention. The monitoring programme will ensure that appropriate mechanisms are in place to remediate any failed measure, or implement necessary management, throughout the operational lifetime of the Proposed Development.

1.44 Details of the monitoring programme will be confirmed post-consent; however, such monitoring will make use of published methodologies[6] and is anticipated to include measures such as:

- fixed point photography at key locations of restoration;
- quadrats at sample locations, including, for example, assessment of the extent of vegetation cover, NVC community, and extent of bare peat;
- assessment at sample plots with regards to signs of grazing activity; and
- control plots both within and outside fenced areas, in locations that have not required restoration.

1.45 Monitoring will record trends in the condition, distribution and abundance of dwarf shrubs including heather (and including recording signs of heather beetle). The abundance and distribution of other key bog species will also be recorded (e.g. *Eriophorum vaginatum*, *Sphagnum papillosum* and *Sphagnum magellanicum*).

Tree Planting

1.46 Areas of planted trees will be monitored in the initial 3 years after planting, and any failed trees will be replaced. Subsequent monitoring will be undertaken to ensure the trees remain healthy, and to check for any issues with regards to disease or grazing. Details of the regime will be agreed post-consent.

Ornithology

Moorland Breeding Birds

1.47 Moorland breeding bird surveys will be undertaken to monitor the effect of peat resource restoration measures on moorland breeding birds within the PREA. An updated baseline (Year 0) to map the presence and distribution of moorland breeding birds will be undertaken prior to the commencement of construction works, with monitoring subsequently undertaken in years 1, 3, and 5 of wind farm operation, then subsequently every five years subject to review.

1.48 The survey will employ an adapted Brown and Shepherd methodology[7] for censusing upland breeding waders, comprising a four-visit survey between April and July of each monitoring year.

Hen Harrier

1.49 Breeding hen harrier surveys will be undertaken to monitor the effect of peat resource restoration measures on the use of habitats by hen harrier and the uptake of nesting habitat. An updated baseline (Year 0) will be undertaken prior to commencement of construction works, with monitoring subsequently undertaken in Years 1, 3 and 5 of wind farm operation, and then subsequently every five years subject to review.

[6] For example, Macdonald *et al.* (2007) A Guide to Upland Habitats: Surveying Land Management Impacts.

[7] Brown, A. F. and Shepherd, K. B. (1993) A method for censusing upland breeding waders. Bird Study, 40, pp. 189-195.

1.50 Monitoring in each year will map and assess the condition of areas of mature heather cover suitable for nesting harriers, and will record flight activity and evidence of breeding attempts through protocols agreed in consultation with Argyll and Bute Council and NatureScot.

Black Grouse

1.51 Black grouse lek surveys will be undertaken to monitor the effect of peat resource restoration measures on local black grouse populations. An updated baseline (Year 0) will be undertaken prior to commencement of construction works, with monitoring subsequently undertaken in Years 1, 3 and 5 of wind farm operation, then subsequently every five years subject to review.

1.52 Monitoring in each year will comprise black grouse lek site surveys and inspection of black grouse collision avoidance measures.

Golden Eagle prey species monitoring

1.53 Golden eagle prey species monitoring surveys will be undertaken to monitor the effect of peat resource restoration measures (including grazing management) on golden eagle prey abundances. A baseline (Year 0) will be undertaken prior to commencement of construction works, with monitoring subsequently undertaken in Years 1, 3 and 5 of wind farm operation, then subsequently every five years subject to review.

1.54 Monitoring in each year will comprise prey transects, adopting protocols to be agreed in consultation with Argyll and Bute Council and NatureScot.

1.55 Consultation will also be undertaken with the Argyll Raptor Study Group to agree protocols for monitoring of the G/LAE1B golden eagle range, including monitoring of breeding occupancy, outcomes and productivity and nest prey remains.

An example of a grazed rocky crest of U6 *Juncus squarrosus-Festuca ovina* grassland acid grassland habitat to the north of the Site.

Summary of Potential Benefits

Peat Resource Restoration

1.56 The total area identified with the potential to be restored via infill and reprofiling is approximately 33 ha. The surrounding peat resource will also benefit. Following Peatland ACTION guidance (Scottish Natural Heritage, 2017), these benefits could on average be expected to occur up to approximately 30m from the infill/reprofiling areas themselves. On that basis, the benefited area in total would be approximately 132 ha (this figure excluding overlapping benefits, see **Table 6.3, Appendix 7.3**). This is 3.7 times greater than the total (conservatively estimated) footprint of the Proposed Development (28 ha).

1.57 Drain blocking will benefit the peat resource adjacent to drains by raising the water table. The benefits from drain blocking specifically (again, excluding overlap with areas benefitting from infill / reprofiling) is estimated to be 310 ha. The total area of benefit is therefore approximately 442 ha, which is 15.8 times greater than the total footprint of the Proposed Development.

1.58 The above measures will not only enhance the Site's peat resource but also provide enhanced opportunities for associated peatland biodiversity, including invertebrates and plant species, which in turn will benefit breeding moorland birds and foraging raptors.

Tree Planting

1.59 With respect to biodiversity, riparian and non-riparian tree planting will be established on suitable soils where woodland could naturally establish. The approach follows the mitigation hierarchy by compensating for the loss of woodland habitat resulting from the Proposed Development, and further enhancing the Site through additional planting.

1.60 New woodland habitats will provide foraging and sheltering opportunities for a variety of species of conservation interest that are known to be present within the Site such as bats, otter and pine marten. Birds (including black grouse) will benefit from the increased availability of habitat resources, and prey species of golden eagle will benefit, which will in turn benefit the eagles themselves. Planting provides opportunities to link existing woodland blocks and introduce a more varied species mix of native tree species.

1.61 Riparian planting will improve watercourse quality through the introduction of shading, enhancing watercourse functioning, with additional benefits including flood risk management and bank stabilisation, with these in turn protecting freshwater habitats used by a range of species. Fisheries will benefit from riparian planting through the casting of shade (resulting in maintenance of cool water temperatures), provision of cover and sources of food from in-falling litter and insects.

1.62 Detailed tree planting measures may incorporate additional objectives for other species but will remain sensitive to the need to avoid increasing potential impacts upon species groups resulting from the Proposed Development.

1.63 With respect to landscape and visual qualities, additional tree planting of native species offers opportunities to create a more intact and higher quality, more diverse landscape, including by softening harsh coniferous plantation edges.

1.64 The opportunity areas identified in **Figure 8.5.1** present the potential for planting substantially in excess of the 3.7ha of compensatory planting required under the CoWRP; the riparian planting areas indicated in **Figure 8.5.1** alone cover an area of approximately 41.36ha, which is over 10 times greater than the compensatory planting requirement. Taking into account also the opportunities to achieve a more diverse native species mix within the PREA, tree planting within the PREA offers the potential for substantial enhancement of the Site with respect to forestry.

Grazing Management and Cutting/Burning Control

1.65 As noted above, fencing relating to infill measures is proposed to support successful restoration of the peat resource and overlying priority peatland vegetation at the Site, as well as around areas of tree planting to allow young trees to become established. Appropriate bird droppers will be put in place to avoid potential collision risks for bird species, such as black grouse.

1.66 With respect to biodiversity, reduction in grazing pressure on sensitive upland habitats, in combination with the peat resource management that is proposed, is likely to improve the peatland habitat condition of the wider Site and positively affect live prey abundances for golden eagle. The measures set out above would allow vegetation to establish and recover. It is recognised that stock-proof fences can themselves create areas of erosion where grazing animals follow the fence line, and so careful planning will be required in relation to this intervention (potentially avoiding fence lines running through the most sensitive habitats, if feasible). Subject to careful planning of this kind, and monitoring of the condition of vegetation in unfenced areas as referenced above, it is expected that the benefits of fencing will substantially outweigh any localised negative effects.

1.67 Reduced grazing pressure and its benefits as noted above would lead to more intact and higher quality habitats, that have greater resilience and are capable of supporting an increased range of biodiversity, whilst contributing to a more diverse landscape. These benefits would substantially outweigh the temporary visual impact of areas of fencing across an open landscape.

1.68 The implementation and monitoring of a sensitive burning and cutting regime will promote opportunities for breeding black grouse and hen harrier.

Water Vole Monitoring

1.69 Small upland water vole populations are very sensitive to non-predictable events, including predation. Monitoring of the population on Site would allow assessment of the density of, and variation within, the population.

1.70 Monitoring of strategically located mink raft(/s) would act as a warning system of a possible predation issue.

Boxes for Pine Marten/ Red Squirrel

1.71 Pine marten and red squirrel boxes would enhance the provision of sheltering opportunities for these species within the Site.

Conclusion

1.72 Subject to the principles set out above being taken into account when the detailed Restoration and Enhancement Plan is drafted and agreed post-consent, the proposals described in this OREP offer opportunities for substantial, interrelated environmental enhancements at the An Càrr Dubh Wind Farm Site with respect to peat resource, biodiversity, forestry and landscape.

Annex A

Figures

An Càrr Dubh Wind Farm
for Car Duibh Wind Farm Ltd

LUC

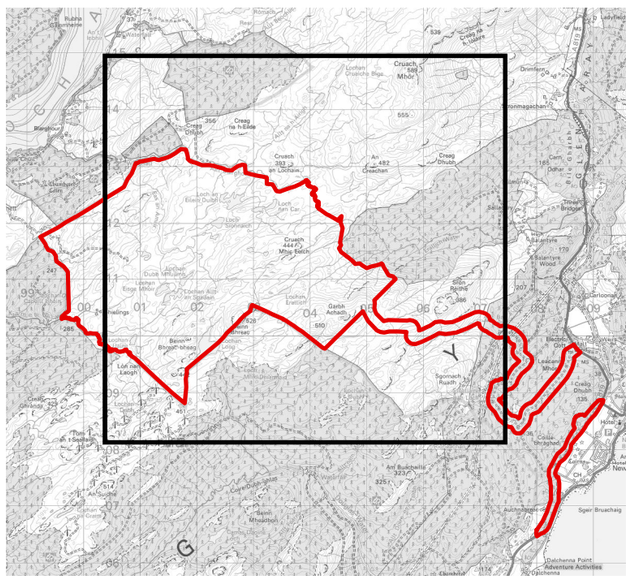
Figure 8.5.1: Restoration and Enhancement Plan: Outline Proposals

Proposed Development

- Site boundary
- Borrow pit
- Temporary construction compound
- Permanent compound including substation and BESS
- Temporary hardstanding
- Permanent hardstanding
- Permanent met mast
- Existing access track
- Proposed track

Restoration and Enhancement Proposals

- Principal Restoration and Enhancement Area (PREA)
- Drain - potential blocking
- Hagged peat - potential infill
- Hagged peat - potential reprofile
- Potential riparian tree planting area
- Potential other tree planting area



Statkraft

Map scale 1:25,000 @ A3

CB:JH EB:Harbich_J LUC FIGA08-05-01_11260_Ecology_REP_A3L 05/04/2023
Source: LUC, EastPointGeo