
Chleansaid Wind Farm

ESB Asset Development UK Limited

Appendix 8.5: Outline Habitat Management Principles



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Figure 1: Proposed Habitat Enhancement Measures

1 INTRODUCTION

- 1.1.1 This Technical Appendix has been prepared to accompany **Chapter 8** of the Environmental Impact Assessment Report (EIAR) for the proposed Chleainsaid Wind Farm (hereafter 'Proposed Development').
- 1.1.2 It presents outline habitat management principles to be finalised in consultation with NatureScot, The Highland Council (THC) and additional relevant stakeholders following receipt of planning consent and thereafter implemented as a Habitat Management Plan (HMP) in accordance with a suitably worded condition of consent.
- 1.1.3 The finalisation and implementation of the HMP would be completed prior to the end of the first year of operation of the wind farm, after which the HMP would remain in place as agreed, subject to effectiveness, for the remaining operational lifetime of the Proposed Development as consented.

2 STRUCTURE OF THE HABITAT MANAGEMENT PLAN

- 2.1.1 There will be three aims and related objectives of the Chleainsaid Wind Farm HMP, to be achieved through the implementation of management prescriptions and habitat creation practices outlined herein.
- 2.1.2 The success of management prescriptions and habitat creation practices in achieving the aims and objectives of the HMP will be monitored, with the results reported, in accordance with timings and protocols to be agreed with NatureScot, THC and additional relevant stakeholders.
- 2.1.3 The HMP should be read in conjunction with **Appendix 10.2** (Peat Management Plan). The combined aims of these two documents are to preserve and enhance notable habitats.

3 AIMS AND OBJECTIVES

- 3.1.1 It is proposed that the aims, objectives and management prescriptions outlined herein will be further refined and prescribed in consultation with NatureScot, THC and additional relevant stakeholders following pre-construction baseline surveys (if required), stakeholder consultations and/or site investigation works as necessary.
- 3.1.2 The North Sutherland Landscape Management Plan¹ which includes the forestry habitat west of the turbine area, and forestry habitats adjacent to the access area, has aims and objectives that mirror the measures proposed in this document, with peat and bog restoration, creation of native/ riparian woodland between open habitats and productive forest and creation of a riparian woodland network to improve watercourses for salmonids and other aquatic wildlife considered to be the 'critical success factors'. The HMP measures for the adjacent Chleainsaid Wind Farm will therefore supplement and enhance habitats and habitat connectivity with the wider North Sutherland LMP area.
- 3.1.3 Furthermore, native tree planting is proposed (or has been carried out) in the wider Dalnessie Estate (such as the area to the east of the turbine area, as shown in **Figure 1**), and therefore the native tree planting proposed in this document, combined with off-site planting, will increase shelter and roosting/nesting potential for a variety of wildlife in an otherwise open, exposed landscape.

¹ <https://forestryandland.gov.scot/images/corporate/design-plans/north-highland/summary-of-north-sutherland-lmp-proposals.pdf> (Accessed 17th December 2021).

3.2 Aim 1: Enhancement of Moorland Habitats

Objective 1.1: Promote Improved Structural Diversity of Wet Heath and Blanket Bog

3.2.1 Objective 1.1 will complement the Peat Management Plan (**Appendix 10.2**) and mitigation commitments made in **Chapter 10: Geology & Hydrology** in relation to using excavated soil and peat in site restoration and rehabilitation at the end of the construction period. Vegetation cover will be re-established as quickly as possible on track and infrastructure verges and cut slopes, by re-laying of excavated peat acrotelm, to improve slope stability and provide erosion protection. Additional methods, including hydroseeding and/or use of a biodegradable geotextile, would be considered if necessary in specific areas. Opportunities for habitat improvement to be considered include the following:

- Reinstatement of peat turves and vegetated peat divots.
- Use of mulches or heather brush (or occasionally a biodegradable geotextile, like jute) and re-seeding to protect areas of bare peat from further erosion.
- Management of grazing by livestock and deer in sensitive areas (see below).
- Re-profiling of peat hags, and hydroseeding if necessary and appropriate.
- Ditch-blocking to promote re-wetting (where this is appropriate and does not interfere with estate management or wind farm operational activities).

3.2.2 The success of the habitat improvement and peat restoration activities would be monitored on a regular basis for an ongoing period during the operational phase of the Proposed Development. The details will be included the HMP to be agreed.

3.2.3 Two areas suitable for peatland habitat improvement/restoration works have been identified in the west of the turbine area as shown in **Figure 1**. The proposed minimum and maximum areas for restoration are derived from calculations used to inform the Carbon Assessment presented in **Chapter 16: Climate Change** (and fully detailed in **Appendix 16.1**).

3.2.4 The turbine area is primarily grazed by sheep and deer (with some areas heavily grazed). It is proposed that livestock grazing within this area and access for deer will continue throughout the operational lifetime of the Proposed Development and as such, habitat management principles to be further detailed and implemented will comprise a sensitive grazing regime. The objective will be to manage grazing densities within the turbine area, to prevent overgrazing and encourage and maintain a good overall site condition.

3.2.5 Red deer *Cervus elaphus* in the Dalnessie Estate are actively managed and it is understood that this will continue in its current level. The Proposed Development will provide improved access for deer culling and as such, more efficient deer control measures may be implemented, with densities <3-5 deer km² (a sustainable density for blanket bog and heathland habitats; Putman *et al.*, 2011²; SNH, 2014³), likely to be realised.

3.2.6 As such, further target deer management is not proposed as part of the HMP.

² Putman, R., Landbein, J., Green, P. & Watson, P. (2011) *Identifying threshold densities for wild deer in the UK above which negative impacts may occur*. Mammal Review, **41** (3), pp 175-196.

³ SNH (2014) *Planning for development: What to consider and include in a deer assessments and management at development sites*. Scottish Natural Heritage, Inverness.

3.3 Aim 2: Enhancement of Fisheries Habitats

- 3.3.1 Baseline surveys to inform the assessment of the Proposed Development did not identify any high calibre salmonid spawning habitat within the turbine area. The Shin hydro impoundment on the River Brora downstream will prevent migratory fish from passing upstream to the turbine area. However, the River Brora (which flows adjacent to the turbine area) and the Allt nan Con-uisge (which flows through the turbine area) are considered to be suitable to support non-migratory fish, including brown trout *Salmo trutta*.
- 3.3.2 As such, opportunities to enhance and/or create fish habitats by way of the creation of fish cover and riparian planting are provided.
- 3.3.3 Prescriptive measures for inclusion within the HMP will then be agreed with NatureScot, THC, Kyle of Sutherland District Salmon Fishery Board (KSDSFB), Kyle of Sutherland Fisheries Trust (KSFT) and additional relevant stakeholders.

Objective 2.1: Management of Fish Cover

- 3.3.4 Opportunities to increase habitat complexity for fisheries within watercourses in the turbine area (Allt nan Con-uisge and tributaries) will be investigated, with prescriptive measures agreed with NatureScot, THC, KSDSFB, KSFT and additional relevant stakeholders.
- 3.3.5 Measures for improving and/or creating fish cover to be explored will comprise techniques such as placing boulders and wood debris in watercourse channels; these provide refugia for both juvenile and adult fish, and opportunities for macroinvertebrates.

Objective 2.2: Management of Bank-side Vegetation

- 3.3.6 Native riparian tree planting can deliver benefits for fisheries, including the casting of shade, maintenance of cool water temperatures, provision of cover and sources of food from in-falling litter and insects.
- 3.3.7 Riparian tree planting can also deliver opportunities for foraging and commuting bats, terrestrial mammals, birds (including black grouse *Tetrao tetrix*) and reptiles. As such, prescriptive measures may incorporate additional objectives for other species but will remain sensitive to the potential for exacerbating potential impacts upon such species groups resulting from the Proposed Development (e.g. mortality risks to bats through interaction with wind farm turbines, or tree planting on sensitive bog habitat/deeper peat).
- 3.3.8 Riparian tree planting is proposed along the Allt nan Con-uisge which is currently lacking tree cover (as shown in **Figure 1**). The tree planting avoids those areas of deeper peat and is an appropriate distance from turbines to minimise the mortality risk to bats from collisions. The prescriptive measures are to be agreed with NatureScot, THC, KSDSFB, KSFT and additional relevant stakeholders.

3.4 Aim 3: Enhancement of Opportunities for Black Grouse

- 3.4.1 An objective of the riparian planting will be to enhance terrestrial biodiversity, with woodland and edge habitat suitable for species including black grouse. Surveys revealed that there is no evidence that black grouse use the turbine area, although the species is using forested/clear-fell areas in the wider area, and so there is potential to enhance the turbine area for black grouse.

Objective 3.1: Native Woodland Planting

- 3.4.2 Riparian tree planting to be prescribed will include both continuous and discontinuous shrub and tree dominated planting. Discontinuous areas of planting will ensure that extensive shading of existing food plants (e.g. grasses, heathers and bilberry *Vaccinium myrtillus*, where present) for black grouse does not occur, with tree and shrub species planted selected for their preference by black grouse such as (amongst others) birch *Betula* spp., and willow *Salix* spp., and rowan *Sorbus aucuparia*. Furthermore, the native woodland area proposed in the south of the turbine area (as shown in **Figure 1**) will also benefit black grouse (as well as other species); if a comparable plant species assemblage is planted as that proposed for the riparian planting.
- 3.4.3 Such plant 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.

4 MONITORING

- 4.1.1 A monitoring programme to include compliance checking of the implementation of prescriptive measures along with the monitoring of the effectiveness of such measures will be established and agreed in consultation with NatureScot, THC and additional relevant stakeholders.
- 4.1.2 The requirement for any updated baseline surveys to act as 'Year 0' for monitoring purposes will also be identified and undertaken at the appropriate time.

FIGURE 1: PROPOSED HABITAT ENHANCEMENT MEASURES

