



**Douglas West Wind Farm**

**Appendix 7.8**

**Outline Habitat Management Plan**

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## 1. INTRODUCTION

This Outline Habitat Management Plan (OHMP) describes the proposed habitat management at Douglas West Wind Farm, near Douglas, South Lanarkshire (hereafter referred to as the 'Revised Development').

This OHMP sets out in the following sections the:

- Management Units;
- Aims, objectives and management prescriptions;
- Monitoring programme; and
- Management and monitoring timetable.

In general, direct loss of habitats associated with the Revised Development will be less than at many similarly-sized wind farm developments due to an existing road running through the site. Nevertheless, a Habitat Management Plan (HMP) will reduce the level of impacts on sensitive ecological and ornithological receptors. The key habitats addressed are wet heath and marshy grassland, and the key ornithological species are black grouse, hen harrier and the breeding wader assemblage. The habitat improvements and management prescriptions proposed will also improve the habitat on site for a number of non-avian species using the site, including otter.

A final HMP, which will include confirmed Habitat Management Areas (HMA) and associated Management Units where the Aims will apply, will be agreed with South Lanarkshire Council in consultation with Scottish Natural Heritage (SNH) prior to the commencement of construction.

The management recommendations within this OHMP are based on the findings of the Ecology and Ornithology assessments within Environmental Statement (ES) for the Revised Development. The ecology chapter concludes that there will be a minor adverse impact to wet heath habitat prior to implementation of the HMP. This OHMP proposes to compensate for this impact and to enhance other habitats within the site. There were no significant effects on the other valued ecological receptors.

The ornithology chapter concluded that during the operational phase, minor adverse displacement effects were predicted for black grouse, hen harrier and breeding waders, prior to the implementation of the HMP. This OHMP seeks to further reduce the likelihood of any significant effects by enhancing species' habitats within the site, in a manner that is sympathetic to other ecological requirements, and does not conflict with other potential impacts (e.g. increased collision risks).

## 2. MANAGEMENT UNITS

The OHMP comprises three proposed Management Units within which management will be implemented in suitable habitat, for mitigation of ecology or ornithology effects (Figure 7.10). The exact location of the Management Units will be confirmed in the Final HMP prior to construction commencement.

**Management Unit M1** will cover an area to the south of the existing access road (and which is also to the south of the restored open cast coal mining area). Wet heath and marshy grassland are the dominant habitat types present in this Management Unit and management works will apply to these areas to improve habitat quality as set out in Section 3 below. The NVC survey (Appendix 7.1 of the ES) found that the wet heath within this Management Unit is degraded primarily due to land drainage and sheep grazing.

**Management Unit M2** will cover the central and north-eastern sections of the site which overlaps with the restored area from the open cast coal mine. The habitat in this area has reverted predominantly to rough grassland consisting of a mixture of soft-rush and tufted hair-grass with patches of more open and improved grassland scattered in between. It is proposed that riparian planting and enhanced management of grassland in this Management Unit will increase vegetation species richness, habitat diversity and stabilise banks.

**Management Unit M3** will be located to the south-west of the Revised Development site on other land within the control of the Applicant, and will provide an enhanced and more connected habitat for black grouse, away from potential effects of the Revised Development. Currently the habitat comprises a mixture of degraded wet heath and marshy grassland. It is proposed that a combination of semi-natural woodland planting and moorland management will be undertaken in this area using methods that are complementary to the adjacent Hagshaw Hill Extension Black Grouse Management Plan (refer to Section 3 below).

Habitat Management obligations shown on land outwith the Planning Application Site Boundary are on other land within the Applicant's control and are to be secured by a Section 75 Legal Agreement with the Local Authority.

### 3. AIMS, OBJECTIVES AND MANAGEMENT PRESCRIPTIONS

The Aims define the general OHMP goals and the related Objectives further define the Aims into quantifiable targets. The Prescriptions detail the management works to be implemented to achieve these Aims and Objectives. Annex 1 provides an indicative timetable for the implementation of the various Prescriptions.

<b>Aim 1</b>	<b>Enhance the wet heath resource across Management Unit M1</b>
Objective 1.1	Increase the abundance of dwarf shrubs including crowberry ( <i>Empetrum nigrum</i> ) and bilberry ( <i>Vaccinium myrtillus</i> ) and bell heather ( <i>Erica cinerea</i> ).
Prescription 1.1	Manage sheep grazing densities within the Management Unit as required to achieve Objective 1.1.
Prescription 1.2	The following activities will be prohibited within heath habitats, as agreed with SNH: <ul style="list-style-type: none"> <li>▪ Clearing out of existing ditches.</li> <li>▪ Application of any insecticides, fungicides or molluscicides.</li> <li>▪ Application of lime or any other substance to alter the soil acidity.</li> <li>▪ Cutting or topping vegetation except to control injurious weed species.</li> <li>▪ Burning of vegetation or other materials.</li> <li>▪ Use of roll or chain-harrow.</li> <li>▪ Planting trees.</li> <li>▪ Carrying out any earth moving activities.</li> <li>▪ Storage of materials or machinery.</li> </ul>

<b>Aim 2</b>	<b>Enhance the vegetation species richness within Management Unit M2</b>
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Objective 2.1	Increase vegetation species richness with the grassland habitats.
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Prescription 2.1	Riparian planting along Longhill Burn and Alder Burn to increase habitat diversity and stabilise banks.
Prescription 2.2	As per prescription 1.1.
Prescription 2.3	As per prescription 1.2.
<b>Aim 3</b>	<b>Increase Numbers of Breeding Waders within Management Units M1 and M2</b>
Objective 3.1	Enhance wet heath and rough grass habitats to improve breeding conditions for the wader assemblage present within the Revised Development site.
Prescription 3.1	as per Prescription 1.1
Prescription 3.2	as per Prescription 1.2
Prescription 3.3	Creation of small ponds/scrapes with shallow and muddy and/or gravelly margins to enhance invertebrate resource for feeding waders and their chicks.
Prescription 3.4	Place gravel over any exposed flat, concreted areas (i.e. existing hardstanding that is not being utilised by the Revised Development) to create nesting habitat for oystercatcher and ringed plover.
<b>Aim 4</b>	<b>Increase Hen Harrier Foraging within Management Unit M1</b>
Objective 4.1	Enhance wet heath resource across Management Unit M1 to increase hen harrier prey abundance.
Prescription 4.1	as per Prescription 1.1.
Prescription 4.2	as per Prescription 1.2.
<b>Aim 5</b>	<b>Maintain/enhance Black Grouse Numbers and Usage within Management Unit M3</b>
Objective 5.1	Establish semi-natural woodland within Management Unit 3 to enhance habitat for black grouse.
Prescription 5.1	Complete and implement a planting plan detailing: the location and extent of planting coupe(s), density of planting, species, herbivore protection and maintenance schedule.
Prescription 5.2	Tree planting to occur in small (20-30m <sup>2</sup> ) coupe(s). Tree species would comprise some of the following: birch, alder, willow, rowan, hawthorn, juniper and Scots pine.
Prescription 5.3	Manage livestock and deer grazing levels to help maintain a varied structural mosaic of wet heath and rough grass (as per Prescription 1.1).

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#### **4. MONITORING**

Habitat monitoring should evaluate the recovery of wet heath and enhancement grassland habitats within Management Units 1 and 2 from over-grazing and drainage by recording changes to the structure of the vegetation and species abundance, evenness and diversity. A representative sample of around 30 quadrats will be established within the Management Units to gather sufficient data to inform future management. The final detailed methods should be agreed with SNH.

Faunal species monitoring will help to further evaluate the species richness within Management Unit 2. The surveys will focus on species known to be using the site, e.g. otter and badger, and those that could utilise the site, e.g. water vole. Terrestrial invertebrates and amphibian density and diversity should also be considered. The species to be monitored for should be agreed with SNH.

Habitat monitoring and faunal species monitoring will commence in year 1 of operation of the Revised Development to establish the baseline and then will be repeated in years 3, 5, 10 and 15 of the operational life of the Revised Development. The frequency of monitoring thereafter will be agreed in consultation with SNH.

A series of breeding bird surveys should be completed in years 1, 2, 3, 5, 10 and 15 during the operational life of the Revised Development. The main objective of this monitoring will be to assess the success of habitat management in Aim 3 by recording numbers and distribution of breeding waders. Any hen harrier (or other raptor) activity will also be recorded.

Black grouse monitoring will take place within Management Unit 3 during April and May of years 1, 2, 3, 5, 10 and 15. This will be tied in with any continued monitoring for the Hagshaw Hill Extension Black Grouse Management Plan, and aim to establish the success of the habitat management measures outlined in Aim 5, and in place in the wider area.

Reports will be submitted to South Lanarkshire Council and SNH in years 1, 2, 3, 5, 10 and 15. The reports will detail management works completed to date and works proposed over the next reporting period. The breeding bird reports, habitat and faunal species monitoring reports will be appended.

## Annex 1. Management and Monitoring Timetable

Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15...
<b>Grazing Management</b>	Continues for 25 years														
<b>Fencing (if required for implementation of management)</b>															
<b>Broadleaved tree planting</b>															
<b>Drain Blocking</b>															
<b>Scrape and pond creation</b>															
<b>Gravel placement over concreted areas</b>															
<b>Excluded Activities</b>	Apply from the completion of construction														
<b>Habitat Monitoring</b>															
<b>Faunal Species Monitoring</b>															
<b>Bird Monitoring</b>															
<b>Reporting South Lanarkshire Council and SNH</b>															