



Technical Appendix 6.6 Outline Biodiversity Enhancement Management Plan

Dalfad Wind Farm

Brockwell Energy Limited

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Basis of Report

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Table of Contents

Basis of Report	i
1.0 Introduction	1
1.1 Target Habitats and Species	1
1.2 Biodiversity Enhancement Area.....	2
1.3 Finalisation of the BEMP and Reporting	2
2.0 Existing Conditions & Summary of Ecological & Ornithological Impact Assessments	2
2.1 Ecology (Non-Avian)	3
2.2 Ornithology.....	4
3.0 Biodiversity Enhancement Area (BEA)	4
3.1 Overview	4
3.2 HMA A – Native Broadleaved Woodland Creation / Enhancement	6
3.3 HMA B – Species-Rich Native Mixed Scrub Creation	7
3.4 HMA C – Mixed Grassland Mosaic Creation / Enhancement.....	7
3.5 HMA D – Species-Rich Grassland Creation	8
4.0 Aims, Objectives and Management Prescriptions	8
4.1 Aim 1: Native Broadleaved Woodland Creation / Enhancement (HMA A).....	9
4.2 Aim 2: Species-Rich Native Mixed Scrub Creation (HMA B).....	10
4.3 Aim 3: Mixed Grassland Mosaic Creation / Enhancement (HMA C)	11
4.4 Aim 4: Species-Rich Grassland Creation (HMA D).....	12
5.0 Monitoring.....	13
5.1 Aims 1 & 2: Native Broadleaved Woodland Creation / Enhancement (HMA A) and Species-Rich Native Mixed Scrub Creation (HMA B).....	13
5.2 Aim 3: Mixed Grassland Mosaic Creation / Enhancement (HMA C)	14
5.3 Aim 4: Species-Rich Grassland Creation (HMA D).....	15
6.0 Reporting and BEMP Review.....	16
7.0 Annex A Management and Monitoring Indicative Timetable.....	17



1.0 Introduction

This Outline Biodiversity Enhancement Management Plan (OBEMP)¹ has been prepared to accompany the proposed Dalfad Wind Farm (hereafter referred to as the Proposed Development) Environmental Impact Assessment Report (EIAR).

The OBEMP describes the habitat restoration/enhancement and species conservation management measures that are proposed as part of the Proposed Development, to restore degraded habitats, create new habitats of biodiversity value, and strengthen nature networks.

The measures detailed within this OBEMP would aim to achieve significant biodiversity enhancement as a direct result of the Proposed Development over its operational lifetime, in line with objectives outlined in National Planning Framework 4 (NPF4) Policy 3².

This OBEMP is set out in the following sections:

- Existing Conditions & Summary of the Ecological and Ornithological Impact Assessments;
- Biodiversity Enhancement Area;
- Aims, Objectives and Management Prescriptions;
- Monitoring;
- Reporting and BEMP Review; and
- Management and Monitoring Timetable.

The OBEMP should be read with reference to **Figure 6.13: Outline Biodiversity Enhancement Management Plan Area**.

1.1 Target Habitats and Species

The management recommendations within this OBEMP are informed by the findings of baseline ecological and ornithological studies and the conclusions of assessment upon Important Ecological Features (IEFs) and Important Ornithological Features (IOFs), set out within **Chapter 6: Ecology** and **Chapter 7: Ornithology**.

The key habitats considered in this OBEMP, and for which habitat restoration, enhancement and creation measures are proposed, include native broadleaved/riparian woodland and species-rich scrub, mixed mosaic grasslands, and species-rich grassland. The key ornithological features considered, and for which specific management would be undertaken as proposed within this OBEMP, are breeding and/or wintering waders (primarily curlew (*Numenius arquata*), lapwing (*Vanellus vanellus*), ringed plover (*Charadrius hiaticula*) and golden plover (*Pluvialis apricaria*)). Barn owl (*Tyto alba*), red kite (*Milvus milvus*) and peregrine falcon (*Falco peregrinus*) are also present on the Application Site (hereafter referred to as “the Site”) and whilst not specifically the focus of targeted management, will benefit from the proposed measures.

¹ ‘BEMP’ is used when referring to the completed Biodiversity Enhancement Management Plan.

² National Planning Framework 4, available at: <https://www.gov.scot/publications/national-planning-framework-4/>



The suite of habitat restoration and enhancement measures proposed would also have secondary beneficial effects for a range of other flora and fauna, through providing various breeding and/or foraging habitats.

1.2 Biodiversity Enhancement Area

This OBEMP is based on a series of specific identified land parcels, hereafter termed 'Habitat Management Areas' (HMA) (refer to **Figure 6.13**), which would encompass the habitat management measures proposed.

These HMAs have been identified through discussions with Brockwell Energy Limited (hereafter referred to as "the Applicant"), landowners and respective agents, and relevant technical specialists. These HMAs may however be refined and finalised post-consent into the overarching Biodiversity Enhancement Area (BEA) for the Proposed Development, following any further specialist surveys, feedback from relevant consultees, further discussions with the landowners and associated agents and in cognisance of the likely time lag from the application submission to consent and construction and the associated potential for the baseline conditions to change in the interim, or for the relevant legislative, policy and guidance environment to also change in the interim.

The Applicant would however remain committed to delivering significant biodiversity enhancement as part of the Proposed Development, over its operational lifetime.

1.3 Finalisation of the BEMP and Reporting

Following receipt of planning consent for the Proposed Development, the OBEMP would be refined and developed into a final BEMP. The final BEMP would confirm the overarching BEA encompassing all habitat management proposals, and any finalised management units therein (i.e. the refined HMAs for specific habitat management proposals), where the aims, objectives and management prescriptions of the BEMP would apply.

The final BEMP would be agreed with East Ayrshire Council (EAC) in consultation with NatureScot and any other relevant stakeholders (as deemed necessary) prior to the commencement of construction of the Proposed Development.

A Biodiversity Management Group (BMG) would oversee and monitor the implementation of the agreed BEMP. The BMG should include representatives from EAC, NatureScot, the landowners, and the Applicant.

A BEMP report (initially for operational Years 1, 3 and 5) would be submitted by the Applicant to the BMG detailing the tasks (management and monitoring) completed over the last year(s) and those planned for the year(s) ahead. This review process would ensure that local biodiversity within the BEA is enhanced over the lifetime of the Proposed Development to a demonstrably better state than without intervention.

The implementation and funding of the agreed BEMP will be the responsibility of the Applicant.

2.0 Existing Conditions & Summary of Ecological & Ornithological Impact Assessments

The following section provides a high-level summary of baseline ecological and ornithological conditions established at the Site, and the assessment of effects presented in detail in **Chapter 6** and **Chapter 7**, which have informed the identification of aims and objectives of this OBEMP.



2.1 Ecology (Non-Avian)

The Site contains a mix of habitats. The northern part of the Site is located on the former Dalfad Opencast Mine and part of the former Duncanziemere Opencast Mine, and the southern part of the Site consists predominantly of improved agricultural land. The Dalfad Opencast Mine is a partially restored brownfield site in need of restoration betterment, with the Duncanziemere Opencast Mine in need of further restoration. Both of these former opencast coal mines are EAC priority areas for restoration³.

The two most common habitat types within the Site are improved grassland and rush-dominated marshy grassland. Unrestored mine is the next most extensive habitat type. The remainder of the Site is made up of a wide range of other habitat types, which are typically small, scattered and often fragmented in extent; peatland is present but uncommon within the Site. Native woodland is also scarce and fragmented within the Site, and there are some areas present that have been mapped as ancient woodland on the Ancient Woodland Inventory (AWI) Scotland⁴. For full details of the habitats within the Site see **Technical Appendix 6.1 National Vegetation Classification and Habitats Survey Report** and **Figure 6.3**.

Limited evidence of otter (*Lutra lutra*) was recorded within the Site, and potential presence of water vole (*Arvicola amphibius*) was also recorded; records of both species limited to the Gass Water in the north of the Site (see **Technical Appendix 6.2: Protected Species Survey Report**). The automated bat activity surveys recorded a total of seven bat species and two genus classification during surveys (see **Technical Appendix 6.3: Bat Survey Report**).

There are a number of minor watercourses located within and around the Site, all of which are tributaries of, and form part of, the headwater catchments of the River Ayr. A number of these watercourses contain populations of brown trout (*Salmo trutta*), with some of the watercourses at the south of the Site where there are no barriers to migration also containing Atlantic salmon (*Salmo salar*); see **Technical Appendix 6.4: Fish Population and Fish Habitat Assessment Report**. Many of these watercourses lack riparian cover, making them and the species which inhabit or use them more at risk from future climate change effects.

Within **Chapter 6**, IEFs scoped-in to the ecological impact assessment (EcIA) comprised blanket bog/wet modified bog and commuting/foraging bats; no significant adverse effects are predicted on habitats.

It is predicted that the Proposed Development could potentially directly impact up to 1.61 hectares (ha) of blanket bog/wet modified bog; i.e. 0.77 ha for permanent infrastructure (comprising entirely of wet modified bog) and 0.84 ha for temporary works areas and cut and fill areas (comprising 0.05 ha of blanket bog and 0.79 ha of wet modified bog). It is also precautionarily estimated that the Proposed Development could potentially indirectly affect up to 0.01 ha of blanket bog and 0.80 ha of wet modified bog, i.e. a total of 0.81 ha, when using indirect drainage assumptions (see **Chapter 6** for full details and associated assessment).

³ East Ayrshire Council, 2013. "Opencast Mining in East Ayrshire –Steps to Recovery, Council". <https://www.east-ayrshire.gov.uk/CouncilAndGovernment/About-the-Council/MinutesAgendasAndReports/OpencastCoalUpdate.aspx>

⁴ Scottish Government (2026). Ancient Woodland Inventory. Available at: <https://map.environment.gov.scot/sewebmap/?layers=ancientWoodlandInventoryScotland> (Accessed: August 2026).



2.2 Ornithology

During baseline ornithological surveys, as detailed and presented in **Chapter 7** and **Technical Appendix 7.1: Baseline Ornithology Surveys**, the Site and immediate surrounding area was found to support an assemblage of upland breeding birds. This survey area assemblage included six breeding wader species (i.e. common sandpiper (*Actitis hypoleucos*), curlew, lapwing, oystercatcher (*Haematopus ostralegus*), ringed plover and snipe (*Gallinago gallinago*)) and raptors/owls (including barn owl, red kite and peregrine falcon).

Observations of additional non-breeding species of note in the survey area made over the course of surveys included hen harrier (*Circus cyaneus*), merlin (*Falco columbarius*), osprey (*Pandion haliaetus*), short-eared owl (*Asio flammeus*) and golden plover.

No instances of black grouse (*Lyrurus tetrix*) were recorded across all survey types.

Golden plover were identified to be using habitats within the Site for overwintering and hen harrier were identified to be present during the non-breeding seasons with activity predominantly focused outwith the Site (a potential roost was also identified outwith the Site).

A number of other species were recorded during flight activity or other surveys, see **Technical Appendix 7.1**.

The design of the Proposed Development has sought to avoid the locations or main concentrations of sensitive breeding bird species, in so far as has been possible. No significant effects upon any IOF are predicted. Opportunity therefore remains to improve current nesting and foraging habitats within the Site for local bird species through habitat enhancement objectives such as grassland enhancement and management, and appropriate low-density native woodland planting.

3.0 Biodiversity Enhancement Area (BEA)

3.1 Overview

This OBEMP proposes a BEA comprising four overarching HMAs; A – D inclusive, see **Figure 6.13**. Each HMA generally focusses on a particular habitat, feature or species type, within which management and monitoring works would be implemented. Details of each HMA are provided in **Sections 3.2 - 3.5** below.

The overall goal of the BEMP is to restore degraded habitats, enhance habitats, and create and conserve habitats of ecological value within these HMAs, which in turn would benefit existing flora and fauna, as well as increase biodiversity in general through strengthening and building nature networks and connections.

The precise objectives and detailed management prescriptions for the finalised HMAs will depend on the current condition of the habitat and the existing factors acting upon it or contributing to the condition. To further inform the objectives and detail appropriate management prescriptions, further specific surveys and desk-based assessment may be required to develop the final BEMP given changes that may occur to the baseline conditions in the time between application submission and finalisation of the BEMP.

These surveys may include, but are not limited to, the following:



- Joint Nature Conservation Committee (JNCC) Common Standards Monitoring (CSM) of Upland Habitats⁵ or habitat condition assessments utilising the latest Scottish Biodiversity Metric condition assessment pro-forma and methodology;
- hydrology/ecology walkover to identify further opportunities for non-native conifer removal, drain blocking/reprofiling, mine restoration/reprofiling, and restoration of the local water table;
- herbivore impact assessment (HIA);
- forestry surveys to further inform and refine woodland creation and planting proposals and details; and
- pre-commencement ornithology surveys and consultation with third-party recording groups to update baseline conditions and further inform targeted species measures and management prescriptions.

As noted in **Section 2.1** some minor and not significant losses of blanket bog and wet modified bog are predicted due to the Proposed Development. Where there are predicted losses to priority peatland habitats NatureScot guidance⁶ recommends associated compensation and enhancement measures for peatland. This OBEMP does not currently include a peatland restoration proposal or associated HMA. This is due to the small, fragmented, and limited nature of the peatland on-site. Although much of the remnant peatland on-site is modified and degraded due to a range of anthropogenic impacts⁷, there are limited restoration options present, for example many of the drains already appear to have been blocked. However, peatland restoration options may become feasible in the future and at the time of BEMP finalisation, for instance removal of self-seeding conifers that may become prevalent in the time between application submission and BEMP finalisation. Options for viable peatland restoration will be considered and explored again at the time of BEMP finalisation.

The Site is adjacent to, and has a small degree of overlap with, the former Powharnal opencast mine (located to the north-east). Restoration of the abandoned and unrestored Powharnal site has been undertaken via the Powharnal Mitigation Management Plan (PMMP) under EAC planning consent 17/1053/PP, and which has been deemed to be concluded in the associated planning reference conclusion report of 26 March 2021⁸. There is also a PMMP Residual Plan in effect from 2021 to 2029 presenting overall aims, management objectives, targets, and prescriptions for the Powharnal restoration area.

This OBEMP has considered the Site's current baseline condition in cognisance of the relevant details of the PMMP and associated residual plan in order to complement and augment the measures undertaken locally, and to provide further similar enhancement to encourage ecological connectivity locally and strengthen nature networks (the envisaged Powharnal and Dalfad Restoration Landscape Masterplan is provided within the conclusion report⁸). Measures within this OBEMP (detailed further below) and which were also generally included within the PMMP include the following key themes: native broadleaved planting (with similar species mixes), native scrub planting, grassland and wetland creation including the creation

⁵ Available at: <https://jncc.gov.uk/our-work/common-standards-monitoring> [Accessed September 2026].

⁶ NatureScot (2026). <https://www.nature.scot/doc/advising-peatland-habitats-and-carbon-rich-soils-development-management> (Accessed September 2026).

⁷ For details see **Technical Appendices 6.1** and **8.3**.

⁸ Conclusion Report - Powharnal Opencast Coal Mine, Muirkirk. Available at <https://docs.east-ayrshire.gov.uk/crpadmmin/2012%20AGENDAS/PLANNING%20COMMITTEE/23%20APRIL%202021/Conclusion%20Report%20-%20Powharnal%20Opencast%20Coal%20Mine,%20Muirkirk.pdf> (accessed September 2026).



of wader scrapes, and the enhancement of habitats for the local bird assemblage including waders and black grouse. Measures within this OBEMP also complement the PMMP Residual Plan, for instance with regards to enhanced predator control and the ongoing monitoring of habitats and birds.

3.2 HMA A – Native Broadleaved Woodland Creation / Enhancement

HMA A covers an area of approximately 74.88 ha split across several sub-units, some of which incorporate the riparian zones of some of the on-site watercourses (e.g. Gass Water, Glenmuir Water, Glenmuir Burn and Small Burn). HMA A also includes 7.81 ha of existing and degraded ancient woodland in the north of the Site.

The other and non-riparian areas of proposed native broadleaved woodland are for both the enhancement of existing areas and the stands of ancient woodland present, and for the creation of new areas which seek to expand from the existing areas, further connect the existing areas and create additional stepping stone woodland habitats within the wider Site and local landscape. Within this area there are some small pockets of existing woodland and scattered trees.

There is a wide range of existing habitats within HMA A, however the most abundant and which makes up 40 % of the area is marshy grassland (primarily rush-dominated marshy grassland). Acid, neutral and improved grasslands make up a further 24 % of HMA A. Existing broadleaved semi-natural woodland (which includes the areas of ancient woodland) covers a further 13 % of HMA. Other habitat types are present in generally small and scattered extents, and the majority are considered suitable for planting and woodland establishment.

The aim within HMA A would be to create areas of native broadleaved woodland in a semi-natural pattern along the riparian corridors identified, to enhance and expand existing areas, and create and connect new areas.

The proposals in HMA A would generally involve the low-density planting and establishment of a range of small-seeding broadleaved species in non-uniform patterns and densities within suitable habitats, with some patches of retained open ground to form openings and glades in the long term.

As noted above, approximately 13 % (9.9 ha) of HMA A comprises existing broadleaved semi-natural woodland, including ancient woodland. The aim will also be to enhance these stands of woodland where applicable, for example through enrichment planting.

Planting would largely aim to reflect the canopy composition/character of a number of NVC types based on the prevailing existing habitat types and ground/soil conditions at specific locations around the Site. It is envisaged that the primary target communities will be a mixture of W4 *Betula pubescens* - *Molinia caerulea* woodland, W7 *Alnus glutinosa* – *Fraxinus excelsior* – *Lysimachia nemorum* woodland, W10 *Quercus robur* - *Pteridium aquilinum* - *Rubus fruticosus* woodland and W11 *Quercus petraea* - *Betula pubescens* - *Oxalis acetosella* woodland. The mixture of native broadleaved trees would likely primarily comprise birch (*Betula* spp.), rowan (*Sorbus aucuparia*), oak (*Quercus* spp.), alder (*Alnus glutinosa*) and willows (*Salix* spp.); however, it is proposed to increase species diversity by also including smaller proportions of species such as aspen (*Populus tremula*), wild cherry (*Prunus avium*), hawthorn (*Crataegus monogyna*), hazel (*Corylus avellana*), crab apple (*Malus sylvestris*), small-leaved lime (*Tilia cordata*), wych elm (*Ulmus glabra*) and holly (*Ilex aquifolium*).

The creation, expansion, enhancement and connection of woodland areas along with the riparian planting has multiple beneficial biodiversity effects, such as creating structure and



new breeding, shelter and foraging habitats for a range of species, from terrestrial and aquatic invertebrates to birds, bats and fish. In the longer term, woodland creation may also benefit the local red squirrel network through increasing habitat extent, connectivity and providing corridors for this species. There are also many secondary benefits of woodland creation, such as natural flood attenuation, shade, carbon sequestration and helping to mitigate the effects of climate change.

Watercourses within the Site are generally open and lack much shading or shelter and therefore riparian planting would also improve the ecological quality of watercourses (e.g. through allochthonous material inputs, thermoregulation, erosion reduction), create shelter opportunities (e.g. for otter), establish improved habitat corridors (e.g. for bats), provide shading to watercourses and a source of nutrient inputs and aiding in temperature regulation and cover for fish and improve bank stability with established root systems to allow banks to tolerate higher water flows without erosion, and to prevent choking of riverine sediments/gravel with finer soil particles which in turn will benefit insect assemblages.

Black grouse were not recorded during baseline surveys for the Proposed Development but there are records of historical leks in the local area (see **Chapter 7**). The small-seeding broadleaved and scrub (**Section 3.3**) planting proposed would also serve to benefit local black grouse populations should they still be present in the area, or return to the area, through the provision of foraging resources and natural shelter opportunities.

3.3 HMA B – Species-Rich Native Mixed Scrub Creation

HMA B covers an area of approximately 10.59 ha in the centre of the Site along the eastern slopes of a water filled mining void. The area is part of former opencast mine workings in need of restoration.

The aim within HMA B is primarily to create a mosaic of scattered species-rich native mixed scrub interspersed with grassland on the slopes. There is very little existing scrub habitat within the Site, and where present it is dominated by hawthorn (i.e. NVC type W21 *Crataegus monogyna* - *Hedera helix* scrub). Also included within HMA B is the intention to create a line of native broadleaved trees along the eastern upper boundary of the HMA, to assist with screening for certain ornithological species.

Proposals in HMA B would involve the planting of a range of scrub species in scattered and non-uniform patterns and densities, with a line of broadleaved trees to the east. Species likely to comprise this scrub habitat would include hawthorn, holly, hazel, crab apple, elder (*Sambucus nigra*) and blackthorn (*Prunus spinosa*).

The creation of more diverse and species-rich scrub will provide biodiversity enhancement and create new shelter and foraging habitats for a range of species. It will also likely have secondary benefits by helping reduce soil erosion and increase stabilisation of the steeper slopes at this location.

3.4 HMA C – Mixed Grassland Mosaic Creation / Enhancement

HMA C covers an extensive area of approximately 185.31 ha, across two large sub-units (**Figure 6.13**) within the core area of former opencast mining activities. Some of the historically removed/disturbed habitats within this area have been restored/partially restored into various grassland or ephemeral vegetation types, to a degree; however, a large area in HMA C remains as unrestored mine (i.e. approximately 40.8 % of the area). The next most common habitat types within HMA C are marshy grassland (22.2 %) and semi-improved acid grassland (15.2 %).



The key aim within HMA C is to maintain, enhance and create suitable breeding and foraging habitat for the Sites breeding wader assemblage which use these areas (see **Chapter 7**). This will be primarily achieved by creating and enhancing a mixed grassland mosaic comprising a mix of different wet and dry grassland types, species-rich grassland patches, maintaining some more stony/ephemeral patches of vegetation and also incorporating areas of different sward heights and wetland wader scrapes where the hydrological conditions allow.

The variety of grassland and habitat types would increase the invertebrate food source for waders, as well as provide suitable breeding and chick rearing habitat. There would also be secondary benefits for biodiversity in general, for example increasing floral diversity and reducing soil erosion.

3.5 HMA D – Species-Rich Grassland Creation

HMA D is 7.01 ha in size and currently comprises an agriculturally improved field (NVC type MG6) surrounding T14.

The aim within HMA D is to cease the current agricultural management and create a species-rich lowland neutral grassland/meadow habitat. This would primarily be achieved through ground preparation, seeding with an appropriate seed mix followed by appropriate ongoing grassland management.

The creation of a species-rich meadow/grassland habitat has multiple biodiversity benefits such as greatly increasing local floral diversity for pollinators and supporting populations of insects, birds, bats, and many other species which rely on these important, but scarce and declining, habitats.

4.0 Aims, Objectives and Management Prescriptions

The aims define the general BEMP goals, and the related objectives further define the aims into quantifiable targets. The prescriptions (i.e. measures) detail the indicative management works to be implemented to achieve these aims and objectives. **Annex A** provides an indicative timetable for the implementation of the associated prescriptions.

As discussed in **Section 3.1**, detailed appropriate objectives and prescriptions will be further developed post-survey for the final BEMP based on additional survey findings, consultation and in accordance with best practice. However, the experience gained by SLR from providing and delivering plans for similar sites and habitats would suggest that as an outline, the aims, objectives and prescriptions would likely include or be similar to the below for the Proposed Development.

It is also recognised that the Applicant proposes to facilitate and encourage enhanced recreational access to the Site. As part of this, information, guidance and advice will be presented to members of the public accessing the Site, for instance through educational boards or relevant signage, to assist in delivering the aims and objectives of the BEMP. Such information and advice, may for example include, but not be limited to, recommending people accessing the Site should use and stick to footpaths and access tracks, dogs should be kept on a lead (especially during the breeding bird season), to not enter any derelict buildings on-site and prohibition of starting fires. Further details pertaining to recreational access proposals is provided in **Chapter 2: Project Description** and the **Socio Economic, Tourism and Recreation Report**.



4.1 Aim 1: Native Broadleaved Woodland Creation / Enhancement (HMA A)

- Objective 1.1** Enhance, create, expand, and connect areas of native broadleaved woodland, riparian woodland and ancient woodland, and increase tree species diversity within and around the Site through the planting and establishment of new low-density native woodland.
- Objective 1.2** Increase and enhance faunal diversity within and around the Site by providing more habitat structure and new breeding, shelter and foraging habitats for birds, bats and other small mammals, and invertebrates.
- Prescription 1.1** Undertake new native broadleaved woodland planting and establishment within the open ground of HMA A and respective sub-units with a diverse mix of native broadleaved species.
- Planting will be in non-uniform patterns and of variable densities and may include areas of retained open ground to avoid woodland homogeneity on advice from a professional forester.
- Planting in existing semi-natural habitats would utilise low impact ground preparation techniques such as screefing or inverted mounding⁹. Some vegetation management or clearance may be required to facilitate successful planting/establishment (e.g. rush control).
- In areas where suitable soils or depth of soils may be lacking (for example in the former mine areas) any excess topsoils from excavation elsewhere in the Site during construction may be translocated, or some material may need to be imported to create a suitable growing medium on currently barren areas.
- Given the Site location, soils, prevailing baseline habitats of the HMA, local hydrology, and to reflect the character and structure of the existing broadleaved woodlands locally, it is anticipated that the woodland species mixes here would primarily contain birch, rowan, oak, alder and willows. However, it is proposed to increase diversity by also including smaller proportions of species such as alder, aspen, wild cherry, hazel, hawthorn, crab apple, small-leaved lime, wych elm and holly.
- Proportions of species and their exact planting locations would be determined by a forester, in agreement with a suitably qualified ecologist and the landowner, during preparation of the final BEMP.
- Tree planting would be initiated during construction and be completed by the end of operational Year 1. Tree planting would be carried out between the months of November and March when trees are dormant and more likely to establish successfully. Days when the ground is frozen or when snow or excessive surface water is present are to be avoided.
- Prescription 1.2** Undertake enrichment planting within suitable existing woodland and ancient woodland areas within HMA A and respective sub-units. The enrichment planting will aim to assist woodland regeneration, increase species diversity, and help facilitate a mixed age structure in the long-term.

⁹ Scottish Forestry. (2021). Cultivation for upland productive woodland creation sites: applicants' guidance. <https://www.forestry.gov.scot/publications/guidance-cultivation-upland-productive-woodland-creation>.



Locations for enrichment planting will be identified by a professional forester during finalisation of the BEMP. Enrichment planting would be completed by the end of operational Year 1.

Prescription 1.3 Removal of any existing and self-seeding non-native conifer species from the HMA.

Prescription 1.4 Fencing of the planting areas will likely be required to protect new trees from deer and livestock browsing during the establishment phase. Any new fencing within 1 km of known historical black grouse leks would follow guidelines in Trout & Kortland (2012)¹⁰ to minimise collision risk for black grouse.

Trees will be planted in 1 m - 1.2 m biodegradable tree tubes to further protect from potential browsing damage.

Tree tubes will be removed after approximately 10 years or after adequate establishment of the trees.

Prescription 1.5 Maintenance as required and beating-up of failed specimens to ensure woodland establishment.

Prescription 1.6 The following activities would be prohibited within HMA A:

- clearing out of existing ditches;
- supplementary feeding of livestock;
- application of any insecticides, fungicides or molluscicides;
- application of lime or any other substance to alter the soil acidity (except where this may be required within former mining areas);
- cutting or topping of vegetation except to control injurious weed species or to improve the condition or biodiversity value of the habitat;
- burning of vegetation or other materials;
- use of roller or chain-harrow;
- use of off-road vehicle activities with the exception of use of low scale agricultural vehicle movements (e.g. quad bike);
- construction of tracks, roads, yards, hardstands or any new structures (not associated with the Proposed Development); and
- storage of materials or machinery.

4.2 Aim 2: Species-Rich Native Mixed Scrub Creation (HMA B)

Objective 2.1 Create and enhance areas of species-rich native mixed scrub and increase floral diversity through planting.

Objective 2.2 Increase faunal diversity locally by providing more habitat structure and new breeding, shelter and foraging habitats.

Prescription 2.1 Undertake scrub planting within HMA B. Planting will be in non-uniform patterns and of variable densities on advice from a professional forester.

¹⁰ Trout, R. and Kortland, K. (2012). Fence marking to reduce grouse collisions. Forestry Commission Technical Note.



Planting will also be scattered in order to retain areas of grassland and to allow the formation of grassland glades/openings and a mixed scrub – grassland mosaic.

In areas where suitable soils or depth of soils may be lacking any excess topsoils from excavation elsewhere in the Site during construction may be translocated, or some material may need to be imported to create a suitable growing medium on currently barren areas.

The scrub planting mix will likely comprise variable mixtures of hawthorn, holly, hazel, crab apple, elder and blackthorn. In addition, a line of broadleaved trees will be planted along the eastern boundary of the HMA.

Proportions of species and their planting locations would be determined by a forester, in agreement with a suitably qualified ecologist, during preparation of the final BEMP.

Scrub planting would be initiated during construction and be completed by the end of operational Year 1. Planting would be carried out between the months of November and March when trees are dormant and more likely to establish successfully. Days when the ground is frozen or when snow or excessive surface water is present are to be avoided.

Prescription 2.2 As per Prescription 1.3 above.

Prescription 2.3 As per Prescription 1.4 above.

Prescription 2.4 As per Prescription 1.5 above.

Prescription 2.5 As per Prescription 1.6 above.

4.3 Aim 3: Mixed Grassland Mosaic Creation / Enhancement (HMA C)

Objective 3.1 Create a mixed grassland mosaic habitat and create/enhance suitable nesting, chick-rearing and foraging habitat for the local breeding wader assemblage.

Objective 3.2 Increase grassland and floral diversity through the creation of a mosaic of different grassland types.

Prescription 3.1 Create a mosaic of different grassland habitat types within the HMA. This will utilise data to be collected at the time of BEMP finalisation to identify suitable sub-parcels within the HMA to create patches of different wet and dry grassland/meadow types, species-rich grassland patches, and maintaining some more stony/ephemeral patches of vegetation.

In areas where suitable soils or depth of soils may be lacking any excess topsoils from excavation elsewhere in the Site during construction may be translocated, or some material may need to be imported to create a suitable growing medium on currently barren areas.

Suitable areas will be prepared and sown with a suitable variety of native grass and wildflower seed mixes, including wet and dry grassland species mixes to reflect local variations in soils, hydrology and topography and to aid in the formation of a mixed mosaic. The grass and wildflower seed mixes and target areas for these will be confirmed within the final BEMP.



- Prescription 3.2 Annual grassland management to maintain the respective habitat in line with best practice and guidance¹¹. This will be via grazing or cutting.
- Grazing is usually the preferred management since grazing animals create variety by eating, dunging and trampling unevenly across an area. Cattle are preferred as they are less selective grazers than sheep. If applicable, grazing proposals, including timing and stocking rates will be detailed in the final BEMP. If grazing is utilised, livestock will be excluded and grazing prohibited from 15th March to 30th June annually within the HMA to prevent disturbance to breeding waders or accidental trampling of nests.
- If grazing is not considered appropriate, cutting would be considered and may be undertaken on a patchwork basis to create a variety of sward heights through the HMA.
- Prescription 3.3 Where suitable hydrological conditions allow, create a number of wader scrapes within the HMA to attract and increase insect availability for foraging or chick rearing waders. Scrapes are shallow depressions with gently sloping edges, which will hold water during spring and early summer when waders are nesting and rearing chicks. Each scrape will be positioned in a suitably wet hollow location and will be a minimum of 25 m² in size. The indicative locations of the scrapes will be presented in the final BEMP based upon an ecology and hydrology walkover; however, exact locations may be refined on-site by an ecologist at the time of construction depending on local ground conditions and suitability.
- Prescription 3.4 Undertake predator control within the area of influence of HMA C to reduce predation on breeding waders and their nests, eggs and young.
- Prescription 3.5 As per Prescription 1.6 above (with the exception of vegetation cutting, if required and the planting/establishment of trees).

4.4 Aim 4: Species-Rich Grassland Creation (HMA D)

- Objective 4.1 Create a species-rich lowland neutral grassland/meadow habitat and increase floral diversity through the creation of a wildflower meadow.
- Objective 4.2 Increase floral and faunal diversity locally and provide more flower-rich habitat that benefits pollinators and populations of insects, birds, bats, and many other species.
- Prescription 4.1 Convert the improved field in HMA D into a species-rich grassland/meadow habitat. This will initially involve ground preparation, creation of a stale seedbed, and sowing with appropriate native grass and wildflower seed at the correct time of year. The grass and wildflower seed mix will be confirmed within the final BEMP.

¹¹ For example see <https://www.ruralpayments.org/topics/all-schemes/agri-environment-climate-scheme/management-options-and-capital-items/species-rich-grassland-management/guidance-for-species-rich-grassland-management/>, <http://www.magnificentmeadows.org.uk/> and <https://www.nature.scot/doc/species-rich-grasslands-guidance-leaflet#:~:text=Species%20rich%20grasslands%20have%20a,amphibians%20and%20many%20other%20animals.>



Prescription 4.2 Annual grassland management to maintain the habitat in line with best practice and guidance¹¹. This will be via grazing or cutting.

Grazing is usually the preferred management since grazing animals create variety by eating, dunging and trampling unevenly across the field. Cattle are preferred as they are less selective grazers than sheep. If applicable, grazing proposals, including timing and stocking rates will be detailed in the final BEMP.

Alternatively, the grassland will be managed via cutting in late summer, no earlier than 31st July. Grass cuttings would be baled and removed to aid nutrient removal. Around 5%-10% of the field may remain uncut each year, a different area each time, to vary the sward height and allow plants to set seed. Grazing after cutting (aftermath grazing) will also create variety, if applicable.

Prescription 4.3 No supplementary chemical fertilisers, organic manures or slurry to be applied to the field for the lifetime of the BEMP.

Prescription 4.4 Weed species such as docks, ragwort and creeping thistle will be controlled where they impact negatively on the overall area of species-rich grassland. Weeds can be chemically spot treated.

Prescription 4.5 Prohibited activities noted in Prescription 1.6 above apply, as well as the planting/establishment of trees.

5.0 Monitoring

Monitoring will establish whether the proposed management prescriptions are achieving the various aims and objectives, and in turn will inform adaptive management to ensure the aims and objectives are achieved through the life of the BEMP.

The sections below outline the likely monitoring required for the proposals detailed above, however, the detailed monitoring proposals will be provided in the final BEMP to be submitted post-consent/pre-construction when the BEA, HMA's and associated proposed enhancement measures have been finalised. An indicative monitoring timetable is provided in **Annex A**.

5.1 Aims 1 & 2: Native Broadleaved Woodland Creation / Enhancement (HMA A) and Species-Rich Native Mixed Scrub Creation (HMA B)

Monitoring would be undertaken in HMAs A and B to ensure the establishment of the broadleaved woodland and scrub planting.

- A professional forester would monitor the planted areas annually in Years 1 to 5 following planting to ensure successful establishment, specifically looking for evidence of damage (e.g. browsing) or disease. Failed specimens would be replaced in the consecutive winter (i.e., between November and March). The forester would also advise on whether any further management or maintenance is required to ensure the establishment of the trees/scrub. Tree tubes and stakes should also be checked within this timescale, broken stakes or tubes should be replaced as appropriate and stakes and tubes should be removed once the trees are established and maturing beyond the requirement for protective tubes.



- The presence of encroaching self-seeded conifer trees, and the success of removal measures, will be monitored.
- HMAs A and B would be monitored again by a professional forester in operational Year 10 to ensure that there are no issues with disease or invasive species and to determine if any thinning at this stage would benefit woodland establishment.
- Monitoring would be undertaken again in operational Year 20 when some thinning operations may be required in the woodland in order to encourage growth of better trees and create more open woodland, further new enhancement / enrichment planting may also be considered at this stage. This would aid regeneration of seedlings and begin the process of establishing a mixed age structure.

5.2 Aim 3: Mixed Grassland Mosaic Creation / Enhancement (HMA C)

Monitoring in HMA C will ensure the creation and establishment of a range of different grassland types and monitor usage of the area by breeding waders. Monitoring would likely include:

- Vegetation monitoring through the establishment of a representative sample of permanent quadrats/line transects to record changes to the composition of the vegetation and species abundance, evenness and diversity. Recording of impacts from deer/livestock would also be included in the monitoring programme. The respective monitoring surveys would be carried out at the most appropriate times of year. Repeat surveys would be carried out in the same month in each monitoring year (Years 1, 3, 5, 7, 10, 15) to gather comparable data. Photographs would also be taken of each sample quadrat/transect, as well as overview photographs of the HMA.
- A relevant grassland condition assessment utilising i) the latest Scottish Biodiversity Metric condition assessment pro-forma and methodology, and/or ii) a CSM⁵ grassland site condition survey, at representative locations across different grassland types within the HMA.
- Sward height monitoring - this data would be used to determine whether grazing levels (if applicable) need to be increased or decreased within the HMA during the accessible period or whether any grass/rush cutting/mowing is required to maintain a mixed height and diverse sward.
- Breeding bird surveys (BBS) of the HMA, plus a 250 m buffer. The main objective of this monitoring will be to assess changes in wader activity levels by recording numbers and distribution of breeding waders. However, all breeding birds observed will be recorded, including ground nesting passerines and raptors, to determine whether the enhancement proposals have beneficial effects for the locally present nesting breeding bird assemblage, and not just on waders. BBS will follow standard methods and guidance for upland breeding waders (Brown & Shepherd, 1993¹²). BBS surveys will, as recommended, include four survey visits between mid-April and early July

¹² Brown, A.F. & Shepherd, K.B. (1993). A Method for Censusing Upland Breeding Waders. *Bird Study*, 40, 189-195.



(Calladine *et al.*, 2009¹³; NatureScot, 2025¹⁴). BBS surveys would be carried out in operational years 1, 2, 3, 4, 5, 7 and 10 and 15. The frequency of monitoring thereafter will be agreed with the BMG.

- Target Notes of any substantial areas of injurious weeds such as docks, ragwort and creeping thistle that may require management/control;
- If grazing is used as a management tool, then maintenance of an annual diary detailing the types and numbers of livestock, and the times at which they are present/absent, and associated livestock densities within the HMA.
- A predator control diary to document the implementation and results of the any predator management and control undertaken within and around HMA C.

5.3 Aim 4: Species-Rich Grassland Creation (HMA D)

Monitoring in HMA D will likely include:

- Grassland monitoring through the establishment of a representative sample of permanent quadrats/line transects to record changes to the composition of the vegetation and species abundance, evenness and diversity. The respective monitoring surveys would be carried out at the most appropriate times of year (and prior to any cutting). Repeat surveys would be carried out in the same month in each monitoring year (Years 1, 3, 5, 7, 10, 15) to gather comparable data. Photographs would also be taken of each sample quadrat/transect, as well as overview photographs of the HMA.
- A relevant grassland condition assessment utilising i) the latest Scottish Biodiversity Metric condition assessment pro-forma and methodology, and/or ii) a CSM⁵ grassland site condition survey, at representative locations across the HMA.
- A pollinator survey (specifically bees, moths and butterflies) in each monitoring year (Years 1, 3, 5, 7, 10, 15) to track species presence and abundance over time. Surveys would be conducted in the summer on warm sunny days, prior to any cutting (if applicable);
- Sward height monitoring over a number of transects within the HMA (the sward should mostly be between 5 cm – 20 cm for a neutral meadow¹⁵);
- Target Notes of any substantial areas of injurious weeds such as docks, ragwort and creeping thistle that may require management/control; and
- If grazing is used as a management tool, then maintenance of an annual diary detailing the types and numbers of livestock, and the times at which they are present/absent, and associated livestock densities within the HMA.

¹³ Calladine, J., Garner, G., Wernham, C. & Thiel, A. (2009). The influence of survey frequency on population estimates of moorland breeding birds. *Bird Study*, 56, 381-388.

¹⁴ NatureScot (2025). Recommended bird survey methods to inform impact assessment of onshore windfarms. Available at <https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms> [Accessed April 2026].

¹⁵ <https://www.ruralpayments.org/topics/all-schemes/agri-environment-climate-scheme/management-options-and-capital-items/species-rich-grassland-management/guidance-for-species-rich-grassland-management/>



6.0 Reporting and BEMP Review

A report would be submitted by the Applicant to the BMG in Years 1, 3 and 5 of operation, the frequency of reporting after Year 5 would be agreed with the BMG. This report would detail:

- management undertaken in the past year(s);
- monitoring undertaken, results and discussion of results; and
- management and monitoring proposed for the following year(s).

The BMG may meet periodically to discuss the reports and management of the Site, if this is considered necessary by the members of the BMG.

Where monitoring indicates any management objectives are not met, further management prescriptions or interventions would be agreed by the BMG.

The requirement for the measures, monitoring and reporting following Year 15 of the operational phase would be dependent on the results of the monitoring which would be discussed and agreed within the Year 15 review report and agreed in writing with the BMG.

The BEMP would be reviewed every five years from its commencement. The purpose of the review would be to assess the effectiveness of the proposed management prescriptions at achieving the aims and objectives of the BEMP. If necessary, such measures may be amended by the BMG.



7.0 Annex A Management and Monitoring Indicative Timetable

Year	0 ¹⁶	1 ¹⁷	2	3	4	5	6	7	8	9	10	11	12	13	14	15...
Work Item	Year of Implementation															
Management Prescriptions																
Native broadleaved and native scrub planting and livestock/deer exclusion fencing (as deemed necessary) (HMAs A & B)	✓	✓														
Self-seeded non-native conifer encroachment removal (HMAs A & B)		✓	Throughout lifetime of BEMP, as necessary and informed by BEMP monitoring													
Ground preparation and seeding/sowing (HMAs C & D)	✓	✓														
Creation of wader scrapes (HMA C)	✓	✓														
Beating-up and replacement of tree tubes/stakes (HMAs A & B)			As required													
Excluded activities as per Prescription 1.6 (HMA A), Prescription 2.5 (HMA B), Prescription 3.5 (HMA C) and Prescription 4.5 (HMA D),		Throughout lifetime of BEMP														
Removal of tree tubes (HMAs A & B) ¹⁸											✓					
Grassland management (e.g. grazing, mowing, baling etc (HMA's C & D)		✓	Throughout lifetime of BEMP, as necessary and informed by BEMP monitoring													
Injurious weed control (HMA's C & D)		Throughout lifetime of BEMP, as necessary and informed by BEMP monitoring														
Predator control (HMA C)		Throughout lifetime of BEMP, as necessary and informed by BEMP monitoring														

¹⁶ Construction Phase.

¹⁷ First year after final commissioning of the Proposed Development / Operational.

¹⁸ Fast growing species may require the removal of trees guards before Year 10, to prevent damage. This would be informed by forestry monitoring surveys.



Year	0 ¹⁶	1 ¹⁷	2	3	4	5	6	7	8	9	10	11	12	13	14	15...
Monitoring																
Native broadleaved and native scrub planting establishment/growth monitoring – (HMAs A & B ¹⁹)		✓	✓	✓	✓	✓	As required and informed by forestry monitoring									
Self-seeded non-native conifer encroachment monitoring (HMAs A & B)		✓	✓	✓	✓	✓	As required depending on frequency of regeneration									
Vegetation monitoring, grassland condition assessments, sward monitoring and injurious weeds target notes (HMAs C & D)		✓		✓		✓		✓			✓					✓
Pollinator survey (HMA D)		✓		✓		✓		✓			✓					✓
Breeding bird surveys (HMA C + 250 m buffer)		✓	✓	✓	✓	✓	As agreed by the BMG									
Maintenance of an annual livestock/management diary (if grazing is used as a grassland management technique) (HMAs C & D)		Throughout lifetime of BEMP														
Maintenance of predator control diary to document implementation/results of any management (HMA C).		Throughout lifetime of BEMP														
Reporting / Reviews																
BEMP Report		✓		✓		✓	Reporting schedule after Year 5 to be agreed with the BMG									
BMG 5-year review of BEMP						✓					✓					✓

¹⁹ Following initial planting, any failed specimens recorded during forestry monitoring surveys would be replaced during a 'beating up' second planting period to be determined.





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