

Bhlaraidh Wind Farm Extension Section 36C Variation

Technical Appendix 3.6a: Habitat Management Plan

Scottish Government - Energy Consents Unit - Application Details



SSE Renewables

Bhlaraidh Extension Wind Farm

Habitat Management Plan





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Habitat Management Plan

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1 Introduction

1.1 Background

- 1.1.1. This Habitat Management Plan (HMP) sets out the proposed measures for habitat restoration and enhancement in relation to the Bhlaraidh windfarm (herein referred to as the Proposed Development). Restoration locations were identified within an Outline Habitat Management Plan (OHMP), submitted as part of the planning application for the Proposed Development (application reference ECU00001900). This document follows on from the OHMP to provide full details of the restoration and enhancement proposals, as required under condition 18 of the planning permission.
- 1.1.2. The location of the Proposed Development, and associated locations identified in the OHMP are shown in Appendix 1, Figure 5.11 (from the Environmental Statement). The restoration and enhancement locations have been refined since the OHMP following detailed field surveys, as detailed within Section 2 of this HMP. A programme setting out the restoration, planting and monitoring timescales is provided in Section 8.
- 1.1.3. The Proposed Development is located at central grid reference NH3947620661, to the north of Invermoriston and is located within an area dominated by wet heath, blanket bog and wet modified bog. Without the application of mitigation, significant effects were predicted on blanket bog from habitat loss and degradation, and on Levishie Wood Site of Special Scientific Interest (SSSI) from potential temporary displacement of deer from the Proposed Development.

1.2 Other documents of relevance:

The following documents should be read in conjunction with this HMP:

- Bhlaraidh Extension Deer Management Plan (WSP 2024)
- 1.2.1. Mitigation is required to restore poor quality, degraded and actively eroding areas of peatland habitat and to minimise the impact of deer grazing. The habitat conditions surrounding the Proposed Development are favourable for the active regeneration of peatland habitats due to the presence of natural erosion, with the majority of peatland areas being dry and modified. Deer numbers are currently managed by the landowner and in accordance with the Glenmoriston Deer Management Group (GDMG) Deer Management Plan (Boulton, 2016). Separate to this HMP, the Outline Deer Management Plan (ODMP) has been updated to a full DMP. The approach to deer management, will work in tandem with this HMP to improve habitats through a reduction in grazing. The deer management plan includes details on a location to leave deer gallochs or un-harvestable remains of deer from stalking activities.
 - Bhlaraidh Extension Construction Environmental Management Plan (CEMP)

1.2.2. The CEMP sets out specific details with respect to habitat reinstated within the areas of habitats affected by temporary infrastructure, such as construction compounds and borrow pits.

- Bhlaraidh Biodiversity Net Gain Assessment (WSP 2024)

1.2.3. This report assesses the predicted change in biodiversity value (measured in Biodiversity Units) as a result of the Proposed Development and habitat restoration and creation set out within this HMP.

1.3 Planning Condition 18

1.3.1. Planning Permission Condition 18 relates to the requirement for a HMP. For ease of reference the requirements of the planning condition are set out here, along with either details of how these will be addressed, or where the relevant details of how these will be addressed can be found within the HMP.

Condition Requirement	
(1) No development, with the exception of the Site Enabling Works, shall commence unless and until a finalised Habitat Management Plan ("HMP"), has been submitted to, and approved in writing by the Planning Authority in consultation with NatureScot, and SEPA.	A copy of this HMP will be submitted to, the Planning Authority in consultation with NatureScot, and SEPA and development will not commence until this HMP has been approved in writing.
The information within the HMP shall include the following:	
(a) the mitigation measures contained in the EIAR and be based upon the Outline Plan provided (Appendix 5.7 – EIAR: Volume 4: Outline Habitat Management Plan)	This HMP builds upon the details within the Outline HMP. Specific mitigation requirements included the translation of juniper – this is detailed in Section 4.4 and the provision of a diver raft – detailed in Section 6. Specific mitigation measures required during the construction phase relating to hydrology, fisheries, water quality, micro-siting and bird disturbance zones are set out within the CEMP.
(b) The proposed habitat management of the site during the period of construction, operation, decommissioning, restoration and aftercare, and shall provide for the maintenance monitoring and reporting of habitat on site	The approach to habitat management within the Site during the construction programme is set out within the CEMP. The habitat restoration and creation set out in Section 3,4 and 5, will commence during the construction phrase and continue into

	the operational phase. Details with respect to maintenance are set out in Sections 4.6, 5.6 and 6.3 and monitoring requirements are set out in Section 7. With respect to decommissioning proposals will be agreed with Highland Council and other key stakeholders, such as NatureScot, prior to decommissioning works commencing and will consider site-specific habitat and species data gathered during the operational phase of the Proposed Development and pertinent legislation and guidance available at the time of decommissioning.
(c) a scheme of works for peatland restoration works to deliver peatlands commensurate with the quality of the habitat that will be lost directly and indirectly and take advantage of the opportunity for peatland restoration across the site of the Bhlaraidh Wind Farm and Bhlaraidh Wind Farm Extension	Detailed in Section 4
(d) a scheme for planting of montane vegetation (such as juniper and willow). The scheme shall include details of all areas to be planted, the planting mix proposed and details of management of these areas for the lifetime of the Development	Detailed in Section 5
(e) a suitable area to leave deer stalking grallochs or carcasses outwith the windfarm development area is identified	This is detailed within the Deer Management Plan, which should be read in conjunction with the HMP.
(f) a scheme for the delivery of biodiversity enhancement which shall include an emphasis on biodiversity enhancements for black grouse and golden eagle	A separate Biodiversity Net Gain report has been produced which measures the change in biodiversity value that will occur as a result of the Development and the measures detailed within this HMP. The BNG report concluded that through the provision of the habitat restoration and creation a 4% net gain is predicted. The woodland planting (Section 4) includes species which will provide a food source for

	black grouse and will be done appropriately to maintain areas of open ground for golden eagle foraging. The woodland and montane scrub habitats should improve habitats for golden eagle prey species, such as grouse and hares, which in turn will benefit golden eagle.
(g) a scheme for the protection and enhancement of the Golden Eagle population has been submitted to and approved in writing by the Planning Authority. For the avoidance of doubt the scheme shall deliver aims and objectives which complement those of the Regional Eagle Conservation Management Plan. Thereafter the approved scheme shall be implemented through the construction, operation and decommissioning of the Development.	Specially in relation to golden eagle, as part of the Nature Conservation Management Plan (NCMP) for the Dunmaglass Wind Farm a Regional Eagle Conservation Management Plan (the "RECM") was set up in 2014 to enhance the conservation of breeding golden eagles within Natural Heritage Zone (NHZ) 10. The primary aims of this RECM was 'to provide context to the constraints operating in this landscape and, where possible, to undertake practical conservation management actions to enhance the golden eagle population by increasing its size and productivity.' The RECM funded a project officer for 25 years from 2014. The associated works carried out by the project officer and funded by SSE includes the establishment of territories within NHZ10 that are occupied each breeding season that are not covered by the volunteers of the local raptor study group. Although Bhlairaidh Ext. wind farm is in NHZ 7 it is immediately adjacent to NHZ10 and therefore offers an opportunity to research golden eagle behaviour across the northern boundary of NHZ10 and southern boundary of NHZ 7. The work that would be funded by the HMP for Bhlairaidh Ext. Wind Farm will be the purchase of satellite tags, assistance in satellite tagging work within NHZ 10 and NHZ 7 and the satellite transmission costs (and/or equivalent value) for 10 years for each satellite tag. This HMP commits to fund between 2 and 4 satellite tags over the period of the operation of the Bhlairaidh Ext. Wind Farm. The annual monitoring through the RECM will monitor up to 4 golden eagle territories in proximity to the site.
(h) the provision for regular monitoring and review to be undertaken to consider	As set out in Section 2, ground condition surveys were undertaken prior to the

whether amendments are needed to better meet the habitat plan objectives. In particular, the approved habitat management plan shall be updated to reflect ground condition surveys undertaken following construction and prior to the date of Final Commissioning and submitted for the written approval of the Planning Authority in consultation with NatureScot and SEPA.	completion of this HMP to ensure prescriptions reflected ground conditions. Section 7 sets out monitoring requirements and the need for adaptive management.
2) Unless and until otherwise agreed in advance in writing with the Planning Authority, the approved HMP (as amended from time to time) shall be implemented in full.	It is confirmed that the HMP shall be implemented in full, or in the event of changes, these will be agreed in writing prior to implementation.

- 1.3.5. In summary, this HMP includes specific prescriptions and confirmation of the peatland restoration and Caledonian woodland and montane scrub planting location(s), and the design and location of the artificial nesting rafts for divers (*Gavia* sp.).
- 1.3.6. The HMP is a live document and maybe updated following monitoring or trial results, unexpected events or evolving guidance. Should restoration techniques or proposed restoration locations alter, this would be undertaken in agreement with NatureScot and Highland Council.
- 1.3.7. This HMP follows the guidance set out by NatureScot¹.

¹ Scottish Natural Heritage (2016). Planning for Development: What to consider and include in Habitat Management Plans

2 Aims and Objectives of the HMP

This HMP has the following aims and objectives:

Aim 1: To restore and enhance a minimum of 31.88ha of peatland habitat in the field study area within five years of commissioning of the Proposed Development. This area has been identified following survey work as the full extent of what is achievable on site in terms of peatland restoration and more than compensates for the area predicted to be permanently lost or degraded as a result of the Proposed Development (4.88ha) and the amount of blanket bog being temporarily lost or degraded as a result of the Proposed Development (2.05ha).

Objective 1: The objective of aim 1 is to restore and enhance peatland where possible on Site and to offset both the permanent and temporary loss or degradation. This will increase the quality and extent of an Annex I habitat and compensate for habitat loss and degradation incurred as a result of the Proposed Development.

Aim 2: To work in conjunction with the Deer Management Plan where required.

Objective 2: The objective of aim 2 is to ensure success of peatland habitat restoration proposals and protect habitats in the surrounding area, such as Levishie Wood SSSI.

Aim 3: To detail locations and planting requirements for Caledonian woodland and montane scrub creation.

Objective 3: To enhance biodiversity in the wider area, and specifically provide suitable habitat for black grouse, whilst maintaining areas of open ground for golden eagle. The woodland planting includes species which will provide a food source for black grouse and will be done appropriately to maintain areas of open ground for golden eagle foraging.

Aim 4: To detail the location and specification for the installation of an artificial nesting raft for divers.

Objective 4: To increase availability of nesting sites for black throated divers

3 Data collection to inform the HMP

3.1 Existing site data

3.1.1. The following data sources have been subject to review, to inform the development of this HMP:

- Bhlaraidh Extension Environmental Impact Assessment; specifically:
 - Chapter 5: Ecology and Nature Conservation
 - Appendix 5.5. Peatland Condition Assessment
 - Appendix 5.6 Deer Management Plan
 - Appendix 5.7 Outline Habitat Management Plan
 - Appendix 6.2 Ornithology

3.2 2023 Data collection

3.2.1. To provide up to date field survey data to inform the HMP development, a peatland survey was undertaken in conjunction with a UKHab and habitat condition assessment (HCA) survey.

3.2.2. The Site was visited in July 2023 by a soil scientist with a PhD in Peatland Management, an ecologist, suitability experienced in UKHab surveys, and an associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and an ecologist suitability experienced in ornithology, also a member of CIEEM.

3.2.3. The survey area covered the following locations, as shown on Figure 5.11 of the OHMP, provided in Appendix A:

- Potential peatland restoration areas
- Montane Scrub Planting search area
- Riparian planting² search area
- Lochs within the Site Boundary and immediate area around this

3.2.4. The surveys were undertaken to identify which of these areas were suitable to take forward for restoration and habitat creation, and to locate a suitable location to install a diver raft.

3.2.5. For each potential peatland restoration area, the baseline peatland degradation conditions were recorded. The features recorded were channels; gullies; peat hags; and bare peat areas.

3.2.6. Compartments were deemed suitable for restoration if blanket bog degradation was recorded during the UKHab Survey. Suitable restoration locations were selected from within the potential peatland restoration areas (identified within the OHMP) where the measures would

² Following the Site survey, this location was considered more appropriate for Caledonian woodland planting.

be most effective for restoring blanket bog areas. The features chosen for restoration were mapped on site and their dimensions were also approximately measured to inform this HMP.

- 3.2.7. The HCA surveys followed the method presented in Natural England Biodiversity Metric V3.1 (herein referred to Metric 3.1)³. All habitats were assigned UKHab Primary Habitats in line with UKHab User Manual (Version 1.1)⁴. All habitat mapping was undertaken in ArcMap Version 10.8.1.
- 3.2.8. A summary of the survey findings from the 2023 surveys is provided in Appendix 2.

³ Natural England (2021) The Biodiversity Metric 3.1
<http://publications.naturalengland.org.uk/publication/6049804846366720> [Accessed January 2023]
⁴ UK Habitat Classification (2020). The UK Habitat Classification User Manual. Version 1.1.

4 Peatland/ Bog Restoration

4.1 Candidate Peatland Restoration Areas

- 4.1.1. An indicative blanket bog area of 31.88 Ha has been identified as suitable for restoration based on the findings of the peatland and UKHab surveys, as shown in Figures 2, 3a and 3b, which provide an overview of the restoration locations and locations at a smaller scale. These areas are detailed in Table 4.1 below.
- 4.1.2. Restoration of this area would ensure that Aim 1 and Objective 1 of the HMP are achieved. Further specific restoration objectives (sub-objectives to Objective 1) for the candidate peatland restoration areas are detailed below.

4.2 Peatland Restoration Objectives

- 1.1 Restore blanket bog hydrology and raise the water table through re-wetting bog areas.
- 1.2 Increase the abundance and distribution of bog-moss (*Sphagnum sp.*) and other bog species.
- 1.3 Reduce direct losses of CO₂ to the atmosphere from peat oxidation in the long-term from bare peat areas.

4.3 Restoration Approach

- 4.3.1. The peatland restoration is likely to be programmed between 2025 and 2030 (some elements will commence during the construction period and some elements will be undertaken during the operational phase. This may be subject to revision depending on commencement of windfarm construction.
- 4.3.2. Within the candidate peatland restoration areas identified, restoration works will include channel blocking and reprofiling; slowing the flow of water through gullies; reprofiling, stabilising and revegetating peat hags; and bare peat area revegetation. The restoration methods will align with NatureScot guidance⁵. Other guidance documents which have been

⁵ NatureScot (2022). Peatland ACTION - Technical Compendium. Available online at: <https://www.nature.scot/doc/peatland-action-technical-compendium> [Accessed August 2023].

reviewed in the development of this HMP include the Natural England (2011b)⁶; Yorkshire Peat Partnership (2017⁷; 2018a⁸; 2018b⁹ and 2019¹⁰) and IUCN (2010)¹¹.

- 4.3.3. An experienced peatland restoration works construction contractor will be appointed. The construction contractor may wish to change the restoration methods suggested in this HMP. This will be appropriate where there is a justification for the change and the methods align with NatureScot guidance (2022)¹². Any amendments to recommendations suggested in this HMP must be approved by The Highland Council and NatureScot.
- 4.3.4. Options for channel blocking will be appropriate for the channel features (including slope, depth, width, and accessibility) and will include a mixture of blocking and reprofiling with peat dams being preferentially used where possible.
- 4.3.5. Interlinking the restoration programme with the construction of the wind farm will help to maximise the reuse of vegetated turves and peat arising from excavation activities, with only limited storage, would significantly increase the chance of restoration success. This is integrated into the Peat Management Plan (PMP) and will be delivered by the main contractor. Several opportunities for the reuse of excavated peat are identified within this HMP, where appropriate these have been included within the PMP.
- 4.3.6. Peatland restoration techniques (particularly at altitude) have been developing rapidly and as such, discussions with experienced peatland restoration teams (e.g. Peatland Action and Strath Caulaidh) is recommended, prior to restoration work being finalised.
- 4.3.7. Success of any peatland restoration is considered likely to be heavily reliant on the close monitoring of deer numbers (which is discussed further within the Deer Management Plan (WSP 2024). Currently the pressures on some compartments from deer are likely to be a

⁶ Natural England (2011b). Guidelines for monitoring peatland restoration (TIN097). Natural England Technical Information Note TIN097. <https://publications.naturalengland.org.uk/publication/24008> (Accessed September 2023)

⁷ Yorkshire Peat Partnership (2017). Technical Specification 1: Gully & Grip Blocking or Sediment Trapping techniques. <https://www.yppartnership.org.uk/sites/default/files/2018-07/171011%20Technical%20Specification%201%20Blocking%20and%20sediment%20trapping%20in%20gullies%20and%20grips%20%20TT.doc.pdf> (Accessed August 2023).

⁸ Yorkshire Peat Partnership (2018a). Technical Specification 2: Large Gully and Hag Stabilisation and Re-vegetation. <https://www.yppartnership.org.uk/sites/default/files/2018-07/171011%20Technical%20Specification%202%20Large%20gully%20side%20and%20hag%20stabilisation%20%26%20re-vegetation%20TT.pdf> (Accessed August 2023).

⁹ Yorkshire Peat Partnership (2018b). Technical Specification 3: Flat or gently sloping bare peat Stabilisation and Re-vegetation. <https://www.yppartnership.org.uk/sites/default/files/2018-07/171011%20Technical%20Specification%203%20Flat%20or%20gently%20sloping%20bare%20peat%20stabilisation%20%26%20re-vegetation%20TT.pdf> (Accessed August 2023).

¹⁰ <https://www.yppartnership.org.uk/sites/default/files/2019-09/Conserving%20Bogs%20The%20Management%20Handbook%202nd%20Edition.pdf> (Accessed September 2023)

¹¹ https://www.iucn-uk-peatlandprogramme.org/sites/default/files/2019-07/Peatbogs_and_carbon.pdf (Accessed September 2023)

¹² NatureScot (2022). Peatland ACTION - Technical Compendium. <https://www.nature.scot/doc/peatland-action-technical-compendium> (Accessed August 2023).



contributing factor towards the continued widespread peat erosion. Without deer control, in these compartments, peatland restoration will likely fail, and the current situation will continue and so deteriorate further with exposed peat eroding and bare peat areas expanding.

Table 4-1 – Restoration Locations

Ref.	Baseline Summary	Restoration Prescription	Restoration Rationale and Objective
1a	Peatland Condition Assessment The compartment was classified as 95% Bog (Near-natural: 5%; Modified 80%; Highly Modified: 15%) by the Peatland Condition Assessment. The assessment reported that the compartment contained abundant common bog-moss (<i>Sphagnum</i> sp.) species in places, with a relatively high-water table, except for the area around a channel which is eroding towards the lochan. Peatland Survey The peatland survey found a distinct channel (C1A) at the northern edge of the compartment. UKHab Survey The UKHab survey recorded 1.64 Ha of degraded blanket bog in moderate condition. The water table was just below the surface and lower in close proximity to the recorded channel. Hares tail cotton grass was occasional overall with	Block Channel 1A (C1A) that is typically 3m wide and 1.5m deep. Plastic piling or composite dams would be appropriate here. Depending on the depth of peat/clay substrate present (>75cm required for plastic piling dams). Composite dams may be more appropriate as plastic piling dams can lead to chemical leaching into the environment. Furthermore, composite dams can include a variety of materials, such as wood and peat (which may be a suitable use for any excess peat arising from construction). The full channel length should be dammed, and dams can be placed at intervals of between 3-15m, depending on the slope. Damming should be combined with reprofiling to avoid the creation of deep pools (NatureScot, 2022).	Blocking Channel 1A (C1A) was chosen as it was identified as a key point of bog water drainage on the ground. Furthermore, degradation was found to be most severe around channel 1A in the Peatland Condition Assessment, with a higher water table to the south. Other degradation depicted on the aerial imagery was not chosen for restoration as the damage was not as prominent on the ground as it appeared on the imagery and some areas had revegetated or held water. The compartment is moderately degraded and has a higher water table in the southern part of the compartment. Therefore, blocking C1A will retain more water within the whole compartment, (helping to re-instate a more natural hydrology) and aid recovery of the more degraded area surrounding C1A. This could restore an approximate blanket bog area of 1.64 Ha.

	small isolated patches where frequency increased to frequent around wetter areas. Sphagnum moss was frequent throughout with evidence of drying out and dying white sphagnum. Dwarf birch was rare throughout within the dryer areas where the habitat has started to transition to heath with dwarf shrub and other heath species becoming dominant.		
5a	Peatland Condition Assessment The Peatland Condition Assessment classifies 5a as 100% Bog (Modified: 50% and Highly Modified: 50%). The assessment states that the southern end of the water table has dropped significantly. Though moderately rich in bog-moss (Sphagnum sp.), bog pools are confined to hollows with erosion around margins. About 15% of this compartment shows signs of trampling and there is localised bare peat from erosion when the channel water level is high. Peatland Survey The peatland survey found a significant channel cutting through the compartment, carrying large	To slow the flow of water at Gully 5A (G5A) (approximately 1.5m deep and 2m wide). Peat/turf bunds, approximately every 7-10m, would be appropriate here (NatureScot, 2022). To place a dam at the easternmost point of BPA5A so further erosion is prevented when water levels are high. Additional investigation during high water level periods is required to assess what damming options are suitable in this area. To revegetate BPA5A that is approximately 50m². This could be done using surplus peat turves, if available from nearby construction. To significantly reduce Deer presence in accordance with the DMP.	The significant channel running through the compartment is likely to be natural and guidance stipulates that natural channels cannot be blocked (NatureScot, 2022). Therefore, slowing the flow through G5A may reduce some of the water lost from the bog and recover the area. G5A was chosen as this was identified as a likely key point of bog water drainage on the ground when water levels are higher. Reducing the water lost through G5A will raise the bog water table and aid species recovery to normal levels. Damming the easternmost point of BP5A will prevent further peat erosion here and reduce direct losses of CO₂ to the atmosphere from peat oxidation in the long-term. Deer management will inhibit erosion and allow for the recovery of other bare peat areas.

	volumes of water from the bog. However, the meandering nature of the channel, and the stony substrate, suggest that it may be natural. This channel is fed by a deep gully cutting southwest through the compartment (G5A). A sizeable bare peat area (BPA5A) was also observed close to the northern section of the natural channel. Likely created from erosion at times when the water levels were higher. UKHab Survey The UK Habitat survey recorded 2.15 Ha of degraded blanket bog in poor condition. The water table is significantly lower than surface level likely to be partially caused by the gully. Evidence of sphagnum drying out with many hummocks and carpets now white and dead. Hares tail cottongrass is frequent overall and present within the hollows and wet areas of the channels and gullies. Over-grazing is evident throughout with ling heather intensively grazed. Damage from deer trampling results in large areas of bare peat on level ground and poaching around smaller channels and gullies. Bog pools remaining within the area		Collectively these measures could promote the restoration of approximately 2.14 Ha of blanket bog area. There is also potential to extend this restoration area northwards into the rest of the marked area mapped as the same habitat. However, this area was not surveyed as it sits outside of the compartment.
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	contain dense algae blooms and water quality overall is poor likely resulting from nutrient enrichment from high numbers of deer. The area is within a hollow and sheltered on most sides from prevailing winds and wind farm access tracks making it a suitable area for large numbers of deer. Deer were observed on the surrounding high ground at the time of survey. Area 5 is the most degraded of the peat restoration areas surveyed due to the multiple sources of damage from the gully, deer grazing and trampling and nutrient enrichment,		
7	Peatland Condition Assessment The Peatland Condition Assessment reports 60% bog (5% Near-natural; 30% Modified; and 65% Highly Modified). The assessment states that the compartment is almost bisected north to south by shallower peat supporting M15 wet heath. The area to the west of this is less modified but sloping towards the loch. The area to the east is much more modified with a general lowering of the water table with more raised areas tending towards M15c wet heath. The bog pools are	To block and reprofile C7. The channel is approximately 1m deep and 1m wide, but variable. This location is suitable for peat dams. The full channel length should be dammed, and dams should be placed at intervals of between 3-15m, depending on the slope (NatureScot, 2022). To slow the flow of water through G7A and inhibit further development of PH7A. The gully is approximately 0.5m wide and 0.5m deep at the location shown on the map. Peat/turf bunds at 10m intervals could be used here (NatureScot, 2022). Stabilise, reprofile and revegetate PH7A (approximately 2m long and 3m high) and the gully banks close to it (typically 1m	Channel C7 and gully G7A were chosen to be restored as the peatland survey identified them as areas where restoration would be most effective on the ground. Furthermore, the eastern area of the compartment was identified as the most degraded by the Peatland Condition Assessment. Therefore, restoring bog hydrology directly in this area is likely to have the greatest benefit to the site. Reducing the amount of water lost at C7 and G7A will raise the bog water table and facilitate species recovery to normal levels. Stabilising, reprofiling and revegetating peat hags, gully banks and bare peat areas will prevent further erosion of these features and reduce direct losses of CO₂ to the

	all species-poor M3 with only common cottongrass and bare peat. Micro-erosion is widespread suggesting that the area has been historically burned. Peatland Survey The peatland survey found a distinct channel (C7) at the eastern side of the compartment that drained into a small lochan. The channel was carrying substantial volumes of water at its southern end. A notable gully (G7A) was also observed east of C7. In addition to this, two peat hags were found at the site (PH7A and PH7B). UKHab Survey WSP restoration Area 7a covers 3.77 Ha of degraded blanket bog in poor condition with a small lochan in the centre. Water level is below the surface with a few bog pools remaining. The area is drying with ling heather recorded as frequent and sphagnum coverage reduced to occasional. Hares tail cotton grass is still frequent overall but is absent from the driest areas. WSP restoration areas 7b and 7c cover 0.85 Ha of blanket bog in moderate condition. Water table is	high). Whole turving could be used for re-vegetation and make use of excess peat from construction, if available. Stabilise, reprofile and re-vegetate PH7B and the bare peat areas adjacent. PH7B is around 11m long and 2m high. The bare peat area at the north of the hag is estimated to be 6m² with banks that are 1.5m high. Similar to PH7A, whole turving could be used for re-vegetation and make use of excess peat from construction, if available. An active channel associated with PH7B was not observed during the peatland survey. Further investigation during the winter (when water levels are higher) should be undertaken to assess whether channel blocking is required here also. Excess peat, from the proposed turbine and track in this compartment, may be available for restoration.	atmosphere from peat oxidation in the long-term. These measures could restore an approximate blanket bog area of 3.77 Ha. It is not considered possible to restore the 0.85 Ha adjacent to the access track.
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	slightly below ground level and lower than what would be expected for a heathy bog habitat. The habitat appears to be drying slightly and transitioning to a more degraded state with the abundance of peat forming species reduced and dying white sphagnum evident. Heath species abundance is higher than would typically be expected for healthy bog habitats.		
10	Peatland Condition Assessment Compartment 10 is categorised as 60% Bog (90% Modified and 10% Highly Modified 10%). The western half of the compartment and the areas beside the loch are more sloping and tend to form a mosaic with around 60% M15 wet heath and 40% M17 bog. Within the bog, common bog-moss (<i>Sphagnum</i> sp.) species are moderately abundant. In the north-east on the boundary with Compartment 9, there is localised erosion with bare peat. Peatland Survey During the peatland survey, channels, and gullies in the eastern part of the compartment were observed. The most notable was a	Block and reprofile Channel 10B to prevent further peat erosion and loss of water from the bog. Approximate depth and width are 1m and 2m (respectively). Plastic piling or composite dams would be appropriate here. Depending on the depth of peat/clay substrate present (>75cm required for plastic piling dams). Composite dams may be more appropriate as plastic piling dams can lead to chemical leaching into the environment. Furthermore, composite dams can include a variety of materials, such as wood and peat (which may be a suitable use for any excess peat arising from construction). The full channel length should be dammed, and dams can be placed at intervals of between 3-15m, depending on the slope. Damming should be combined with reprofiling to avoid the creation of deep pools (NatureScot, 2022).	Channels C10B and C10C were selected for restoration as they were identified as key points of drainage within the bog, during the walkover survey. Furthermore, C10C was associated with marked erosional features in the areas immediately adjacent. Reducing the amount of water lost through these channels should raise the water table, allowing species recovery to normal levels and expanding the pockets of remaining blanket bog vegetation. Substantial amounts of water are lost through C10A but this cannot be blocked as it is likely a natural channel (NatureScot, 2022). However, exploring options for blocking overflow points at times of higher water level could reduce erosion in the adjacent areas. Restoration measures here are also dependent on the successful management

	channel on the eastern corner of the compartment (C10A), that was carrying substantial amounts of water from the bog. This meandering nature of the channel and stony substrate suggests that this channel is natural. A second significant channel was observed towards the centre of the compartment. In addition, marked peat erosion was also observed at the southern end of the compartment in association with a deep channel (Channel 10C). Channel banks here were steep and bare peat was present. UKHabit Survey The UK Habitat survey recorded 7.99 Ha of degraded blanket bog in poor (6.65 Ha) and moderate (1.34 Ha) condition and 0.19 Ha of purple moor grass and rush pasture in moderate condition surrounding a watercourse. The blanket bog is degraded with several channels throughout. The water table is below surface level with bog pools in lower areas. Coverage of bare peat is over 20%. Sphagnum is rare throughout with common cotton grass and hares tail cotton grass occasional.	Block Channel 10C and reprofile. Reprofilng is particularly important here because of the depth of ditch, to avoid deep pools developing behind dams. Depth of drainage ditch is approximately 2-3m deep and it is around 1-2m wide. Here a composite dam, coupled with reprofiling, may be the most effective technique considering the depth of the ditch. The dams should be placed at intervals of between 3-15m. This will depend on the measured slope down the length of the channel (NatureScot, 2022). Investigate overflow points from Channel 10A during the winter to assess if linear dams might be appropriate. These could reduce lateral peatland erosion at overflow points. Potential overflow points are identified on the map. To significantly reduce Deer presence in accordance with the DMP.	of Deer, without which, the bog may not recover. Collectively, these measures could restore an approximate blanket bog area of 7.99 Ha.
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