Bhlaraidh Wind Farm Extension Section 36C Variation

Technical Appendix 3.6d: Deer Management Plan

Scottish Government - Energy Consents Unit - Application Details

Scottish and Southern Energy Renewables

Bhlaraidh Extension

Deer Management Plan

Scottish and Southern Energy Renewables

Bhlaraidh Extension

Deer Management Plan

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1 Introduction

1.1 Background

This Deer Management Plan (DMP) sets out the proposed measures for deer management in relation to the Bhlaraidh Wind Farm (herein referred to as the Proposed Development). Outline deer management measures were identified within an Outline Deer Management Plan (ODMP) and Bhlaraidh Wind Farm Deer Management Plan, submitted as part of the planning application for the Proposed Development (application reference ECU00001900). This document follows on from the ODMP to provide full deer management prescriptions finalised in coordination with adjacent estates via the Glenmoriston Deer Management Group (GDMG).

The Proposed Development is located at central grid reference NH3947620661, to the north of Invermoriston and covers an area of approximately 1,107ha dominated by wet heath, blanket bog and wet modified bog. The Proposed Development sits within the larger land ownership of Glenmoriston Estate within the GDMG area. Access to the Proposed Development is also taken through Glenmoriston Estate which is an active sporting estate with renewable energy interests in the form of hydroelectric and wind farm developments. Construction of the Proposed Development is expected to start in 2025 and the wind farm is planned to become operational in 2026.

This DMP covers the Proposed Development, whereas the wider estate and neighbouring lands are covered by the GDMG Deer Management Plan[1], which includes a total of 13 estates and an area of approximately 40,000ha. The GDMG plans apply an integrated approach to managing deer that maintains population numbers for sporting activities while ensuring long-term sustainability.

The Proposed Development has connectivity with Levishie Wood Site of Special Scientific Interest (SSSI). Impacts could involve the temporary displacement of red deer (*Cervus elaphus*) from the Proposed Development into the designated nature conservation site. This DMP outlines deer management prescriptions required to mitigate adverse impacts on the Levishie Wood SSSI and outlines deer management on neighbouring land and the Operational Development to ensure the objectives are complimentary, particularly with the GDMG Deer Management Plan. Additionally, this DMP will work in tandem with the Habitat Management Plan to minimise grazing pressure throughout to ensure the success of peatland

[1] Boulton, A. (2016). Glenmoriston Deer Management Group Deer Management Plan 2016-2026 (with mid-term review 2021). Available at: https://glenmoristondmg.deer-management.co.uk/wp-content/uploads/2017/11/GMPlan2016_Final-Draft-amended_301116_v4.1.pdf. Accessed on: April 2024.

restoration works, Caledonian planting and montane scrub planting to be undertaken as part of the Proposed Development.

The DMP is a live document and maybe updated following monitoring or trial results, unexpected events or evolving guidance. Should deer management prescriptions alter, this would be undertaken in agreement with NatureScot and the Highland Council.

1.2 Documents of relevance:

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

- Bhlaraidh Extension Habitat Management Plan (HMP)[2]

Habitat restoration and enhancement will be undertaken 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 erosion, with the majority of peatland areas being dry and modified. The HMP also includes proposals for montane scrub planting and Caledonian planting. The measures to facilitate regeneration and create montane scrub and Caledonian woodland habitats are detailed in the HMP.

- Bhlaraidh Extension Construction Environmental Management Plan (CEMP)

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

- Bhlaraidh Biodiversity Net Gain Assessment (BNG)[3]

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

- Bhlaraidh Wind Farm: Herbivore Impacts on Levishie Woods SSSI[4]

The Herbivore Impact Assessment of Levishie Woods SSSI was conducted in 2018 and serves as a baseline for future assessment of herbivore impacts within the SSSI. Results identified a moderate impact of deer grazing on the SSSI.

- Appendix 5.6 Outline Deer Management Plan[5] (oDMP)

The oDMP included deer management proposals submitted as part of the planning application for the Proposed Development. It summarised the likely impacts on Levishie

[2] WSP (2024a) Bhlaraidh Extension Wind Farm Habitat Management Plan
[3] WSP (2024b) Bhlaraidh Biodiversity Net Gain Assessment Report
[4] Applied Ecology (2018). Bhlaraidh Wind Farm – Herbivore Impacts on Levishie Woodlands SSSI - Baseline Survey. AELSC0215.
[5] Bhlaraidh Extension EIAR Volume 4 – Appendix 5.6 Deer Management Plan

Woods SSSI, proposed mitigation measures to minimise adverse effects of the SSSI qualifying interests and proposals for deer numbers to be maintained at 10 deer/km^2.

- Appendix 5.8 Operational Bhlaraidh Wind Farm Deer Management Plan[6] (herein referred to as the Operational DMP)

The operational Bhlaraidh deer management plan was created in 2015 as part of the planning condition for the Bhlaraidh Wind Farm. The Bhlaraidh Wind Farm site is hereafter referred to as the Operational Corridor.

The following additional Bhlaraidh Extension Environmental Impact Assessment documents have also been reviewed during creation of this DMP and have been superseded by more recent documents listed above. However, they remain relevant to the context of this DMP:

- Chapter 5: Ecology and Nature Conservation
- Appendix 5.5. Peatland Condition Assessment
- Appendix 5.7 Outline Habitat Management Plan
- Appendix 6.2 Ornithology

1.3 Planning Condition 18 and 20

Planning Permission Condition 18 relates to the requirement for a HMP with full discussion of the planning conditions recorded within the HMP. For ease of reference the requirements of the planning condition which are relevant to this DMP 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. Full detailed of Planning Condition 18 and how these are addressed are detailed within the HMP.

Table 1-1 – Planning Condition 18 Requirements – directly relevant to this DMP

Condition Requirement	
(e) a suitable area to leave deer stalking grallochs or carcasses outwith the wind farm development area is identified	This is detailed within this DMP, which should be read in conjunction with the HMP.
(h) the provision for regular monitoring and review to be undertaken to consider whether amendments are needed to better meet the habitat plan objectives. In particular, the approved habitat management plan shall be updated to	As set out in HMP Section 2, ground condition surveys were undertaken prior to the completion of the HMP and DMP to ensure prescriptions reflected ground conditions. Section 7 of the HMP sets out monitoring requirements and the need for

[6] Bhlaraidh Wind Farm Extension EIAR Volume 4 – Appendix 5.8 Bhlaraidh Wind Farm Deer Management Plan

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.	adaptive management. Section 3 of this DMP sets out monitoring requirements and adaptive management in relation to grazing and trampling pressures from deer.
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. Clauses e and h listed above link the requirements of the DMP and HMP. It is assumed that any changes to the DMP must also be agreed in writing.

Planning Permission Condition 20 states *"No development, with the exception of the Site Enabling Works, shall commence until a Deer Management Plan ("DMP") has been submitted to and approved in writing by the Planning Authority in consultation with NatureScot. The DMP will set out proposed long term management of deer using the Development site and shall provide for the monitoring of deer numbers on site from the period from Commencement of development until the date of completion of restoration. The approved DMP shall thereafter be implemented in full."* The reason for Condition 20 is to protect ecological interest.

1.4 Aims and Objectives of the DMP

This deer management plan has been completed following best practice guidance from NatureScot[7]. The primary aims of the DMP are:

- To summarise the potential impacts upon Levishie Wood SSSI from the temporary displacement of deer and avoid or reduce impacts on the qualifying interest species to non-significant levels.
- To maintain a healthy red deer population as part of the overall estate management in order to provide sporting opportunities.
- To remove existing deer fencing within the Operational Corridor where possible.
- To minimise grazing pressures on areas of peatland restoration, Caledonian woodland planting and montane scrub planting included within the HMP to ensure successful establishment of planting and successful restoration of peat.

[7] NatureScot (2024) Managing Deer. Available at: https://www.nature.scot/professional-advice/land-and-sea-management/managing-wildlife/managing-deer. Accessed: May 2024.

- Minimise overall grazing pressure within the wider blanket bog and moorland communities within the Proposed Development.

2 Baseline

2.1 Deer Numbers and Movements

Red deer (*Cervus elaphus*) is the dominant deer species within the Proposed Development. Red deer are monitored through annual deer counts by estate staff. Helicopter counts are conducted throughout the GDMG area every 5 years with the next scheduled for 2026. Historical helicopter count data is recorded in **Table 2-1**. Sika deer (*Cervus nippon*) are also known to be present in the field study area from previous deer counts by estate staff with numbers increasing over the past few years.

Table 2-1 – Red Deer Counts across the GDMG area.

Year	Stags	Hinds	Calves	Totals	Deer Density (Deer/km²)[8]
March 2016	91	313	100	504	12.6
March 2021	75	310	104	489	12.2

Data collected and reported by the GDMG, as described in Operational Bhlaraidh Wind Farm DMP, suggests deer movement is constrained by the River Moriston and Loch Cluanie to the south, with deer generally moving north to south and seasonally moving from east to west. Deer numbers peaked in 2009 and have shown a slight decline in the following years.

The 2016 and 2021 aerial survey showed deer distribution as concentrated on the middle and lower altitude. However, further pers. comm. with the estate suggests deer are generally present on the Operational Corridor and on the area of the Proposed Development during daylight hours, with movement to the south of the Allt Saigh towards preferred grazing fields beyond Levishie Wood at night. Hinds are hefted and fed during the winter in the lower altitude areas near the Proposed Development access track, including locations along the main access track and close to the boundary of Levishie Wood. Deer stalking is undertaken on foot.

[8] The deer densities differ slightly from the densities recorded by NatureScot's annual count as the estate ground covers 4,000ha, not the 3,508ha noted in NS's map and calculations.

2.2 Glenmoriston Estate Cull Returns

Historic cull deer returns are shown in **Table 2-2**. Cull numbers have generally increased as continued efforts aim to reduce the deer density within the GDMG area. Sika numbers have increased slightly within the past few years.

Table 2-2 – Historic Cull Returns[9]

Year	Stags	Hinds & Calves	Totals
2016/17	44	42	86
2017/18	37	73	110
2018/19	28	49	77
2019/20	22	55	77
2020/21	21 (includes 3 Sika)	88 (includes 2 Sika)	109
2021/22	22 (includes 3 Sika)	94 (includes 5 Sika)	116
2022/23	19 (includes 1 Sika)	100 (includes 8 Sika)	119
2023/24	21 (includes 3 Sika stags)	108	129

[9] Numbers of historic cull returns have been provided by Glenmoriston Estate

2.3 Levishie Wood SSSI

The SSSI is located 1.4 km to the south of the Proposed Development at its closest point and is separated from the Proposed Development by small hills and open moorland.

The qualifying interest of Levishie Wood SSSI[10] is upland birch woodland, and the site supports one of the largest birch-juniper woodlands in Inverness-shire. However, the upland birch woodland is considered to be in unfavourable condition based on monitoring completed by SNH in 2002 (Site Management Statement last reviewed 2007). The main negative pressure on the habitat is considered to be deer grazing.

As part of the Bhlaraidh Wind Farm consultation, SNH raised concerns that the deer fencing proposed to surround the HMP planting could decrease available open ground and increase the grazing pressure within Levishie SSSI. Applied Ecology on behalf of SSER[11] conducted a baseline survey of herbivore impacts in March 2018 within Levishie Wood SSSI. Twenty-eight sampling points were surveyed, with more than half of the trees and bushes showing signs of grazing by deer. Significantly fewer silver birch (*Betula pendula*) was grazed in comparison to juniper (*Juniperus communis*). The results suggested that herbivore impacts were at a moderate level.

It is considered that any displacement from the Proposed Development is most likely to occur onto the Operational Development and the other areas of high and middle ground available to deer, however, there does remain a possibility that increased deer movements could occur towards Levishie Wood SSSI. During the period of displacement, the upland birch-juniper woodland in the SSSI could be damaged by trampling and grazing. As the woodland is already considered to be in unfavourable condition due to moderate levels of deer grazing, any further displacement of deer and/or increase in grazing pressure on the SSSI is considered likely to result in a significant adverse effect, even at a low magnitude.

[10] SiteLink - Levishie Wood SSSI (nature.scot)
[11] Applied Ecology (2018). Bhlaraidh Wind Farm – Herbivore Impacts on Levishie Woodlands SSSI - Baseline Survey. AELSC0215

3 Deer Management

3.1 Deer Displacement

It is anticipated that localised, short-term and temporary displacement of red deer onto other areas of the estate which may include Levishie Wood SSSI would cease following the completion of daily construction or decommissioning activities.

There are distinct diurnal movements of deer across the estate, with deer preferring the high ground and middle grazing fields around the existing access track during the day, moving south towards the lower ground and grazing fields beyond Levishie Wood SSSI at night. During the period of construction there is considered sufficient alternative high ground (i.e. the Operational Development and areas of the Proposed Development where construction activities are not taking place) and middle ground that will remain undisturbed (i.e. no increase in typical activities). The alternative areas are likely to ensure that deer would not be displaced entirely from this area.

Deer are also fed during the winter along the existing access track and close to the boundary of Levishie Wood SSSI. This supplementary feeding encourages deer to concentrate in this area, away from the higher ground and any potential disturbance from the Proposed Development.

Management and maintenance of the Proposed Development during the operational phase in the medium-term is not considered to lead to significant deer displacement as personnel activity would be low, vehicle speed limits would be controlled and the deer in the field study area are considered to have some habituation to operational levels of human activity due to the presence of the Operational Development. Deer quickly adapt to activities that pose no threat and are likely to remain in the field study area during operation.

3.2 Disturbance and Mortality

Measures to reduce the disturbance and potential mortality of deer will be undertaken during construction of the Proposed Development. The following measures are proposed:

- Follow general guidance and specific objectives in the Operational Development MP as relevant to the Proposed Development.
- Restrict construction traffic to the construction site boundary as defined within CEMP.
- Restricting speed limits to 15mph within the Proposed Development to minimise deer vehicle collisions and disturbance.

3.3 Cull Plan

The monitoring of deer movement and counts will continue to be undertaken by estate staff as part of their overall duties and the information provided will be used to manage cull levels. Engagement with neighbours on the surrounding estates through the GDMG will also continue to ensure deer management measures are complementary and collaborative.

Final annual cull targets for the Proposed Development will be in line with the GDMG Deer Management Plan and agreed with Glenmoriston Estate. The requirement is to achieve and maintain a target of 10 deer/km^2 to minimise grazing and trampling to the areas of peat restoration, montane scrub planting and Caledonian woodland planting.

Grallochs and carcasses must be bagged and removed from the wind farm site for disposal. Indicative gralloch disposal sites are shown in Figure 1and are positioned greater than 30m from watercourses shown in the OS 1:25000 maps. Suitability of each site must be assessed prior to any disposal to ensure a sufficient distance from smaller watercourses and public areas.

3.4 Planting and Peat Restoration Areas

Peatland restoration, montane scrub planting and Caledonian planting areas identified on **Figure 1** within the HMP.

Success of any peatland restoration is considered to be heavily reliant on the close monitoring of deer numbers. Currently the pressures on some compartments from deer are likely to be a contributing factor towards the continued widespread peat erosion within the Site due to both overgrazing and trampling. 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.

Montane scrub planting specifications include downy birch (*Betula pubescens*), rowan (*Sorbus aucuparia*), whortle-leaved willow (*Salix myrsinites*), mountain willow (*Salix arbuscula*), dwarf birch (*Betula nana*) and juniper (*Juniperus communis*) which are palatable to deer. The location of the montane scrub planting is on the higher ground at Carn Mór consisting of large rocky outcrops and thinner soils throughout. It is therefore not possible to successfully erect deer fencing surrounding the montane scrub planting as it would be unlikely

to withstand exposure from wind or snow and become too impractical and costly to maintain. To protect the montane scrub planting it is recommended that targeted deer culls focus on the montane scrub area to displace deer from this area.

Initial discussions have identified that any proposed deer fencing around the Caledonian Planting areas could be agreeable with Glenmoriston Estate. Currently fencing is not proposed around the Caledonian planting, due to the risk that this may inadvertently funnel deer through the riparian corridor in this location, as there an existing area of deer fencing to the north of the proposed Caledonian planting on the opposite bank of the watercourse (Allt Saigh). This could likely result in increased trampling on the banks leading to degradation and destabilisation of the bank and/or possible siltation of the watercourse. If future monitoring of the woodland planting identifies a requirement for deer fencing surrounding the Caledonian planting, careful consideration of the fencing design will be required, with consideration of the existing fencing to ensure no adverse effects on the watercourse banks.

The impact of deer trampling and overgrazing was evident throughout the Proposed Development and resulted in reduced habitat condition, species diversity and habitat structure. The reduction in deer numbers will allow for the restoration of these degraded or reduced condition habitats and allow for natural regeneration of vegetation mirroring the more natural processes evident in the areas protected by deer fencing. The impacts of the deer management plan will have landscape wide benefits for the habitats and species present.

3.5 Condition Monitoring

As recorded within the HMP, the proposed habitat monitoring will measure success against the set yearly targets which will be reported in an annual monitoring report for the first five years. Following which, the monitoring and reporting frequency will be reviewed with updated requirements set based on the trajectory of habitat restoration success. Monitoring will be undertaken by a suitably qualified ecologist.

The habitat monitoring will be used to review the success of the deer management plan in terms of preventing grazing pressure or trampling within areas of peat restoration or planting. 'Adaptive management' may need to be undertaken where success criteria fail due to grazing or trampling, requiring alternative solutions e.g. increased culling of deer, installation of deer fencing, or targeted culling in specific locations to dissuade deer from areas where deer fencing is unsuitable.

Specifically for montane scrub planting, the HMP recommends initial planting ratios account for a potential 25% loss of trees for the first five years, expected as a result of exposure. It is a requirement that additional losses of any trees by grazing or trampling are replaced, including any within the Caledonian planting areas.

The herbivore impact assessment work at Levishie Woods SSSI was last completed in 2022 and will be completed every five years until 2032. The herbivore impact assessment within the SSSI will be extended to occur each year during the period of construction for the

Proposed Development and then be reinstated to every five years. The report produced by Applied Ecology and subsequent survey reports will be used as the established baseline to be compared with the future monitoring results. The habitat condition at the sampling points will be monitored annually during construction of the Proposed Development then at least every five years in early spring following the completion of construction. The monitoring protocol will be managed and coordinated by the Environmental Advisor for the Proposed Development, with surveys undertaken by a suitably qualified ecologist. Survey methodology, including the statistical tests, must remain consistent with the baseline survey previously undertaken and surveys must be undertaken in spring. A report will be produced at the end of each monitoring year and will be provided to The Highland Council and NatureScot. Should a deterioration in condition of the vegetation from deer grazing in Levishie Wood SSSI be identified during these monitoring surveys, measures will be agreed between SSER, Glenmoriston Estate, GMDG and NatureScot to reduce the grazing pressure.

3.6 Removal of Deer Fencing

A large area of woodland planting located to the east of the access track and centred around grid reference NH 37818 18231 is shown on **Figure 1**. The woodland is now suitably established and of a sufficient age and size that the surrounding deer fencing is able to be removed. The woodland is approximately 23 Ha and will provide suitable areas for deer that they have previously not had access to. Opening of this woodland and increasing the total area available for deer is considered likely to further reduce the risk of displacing deer to Levishie Wood SSSI.

It is recommended that the suitability for any remaining deer fencing within the Proposed Development is regularly reviewed. Once woodland becomes established, reaching a sufficient age and size, it is recommended that the fence is removed. Any deer fencing removed (fence and posts) must be fully removed from the Proposed Development and recycled as far as possible.

Conclusion

The DMP has been written in conjunction with the HMP and BNG assessments for the Proposed Development.

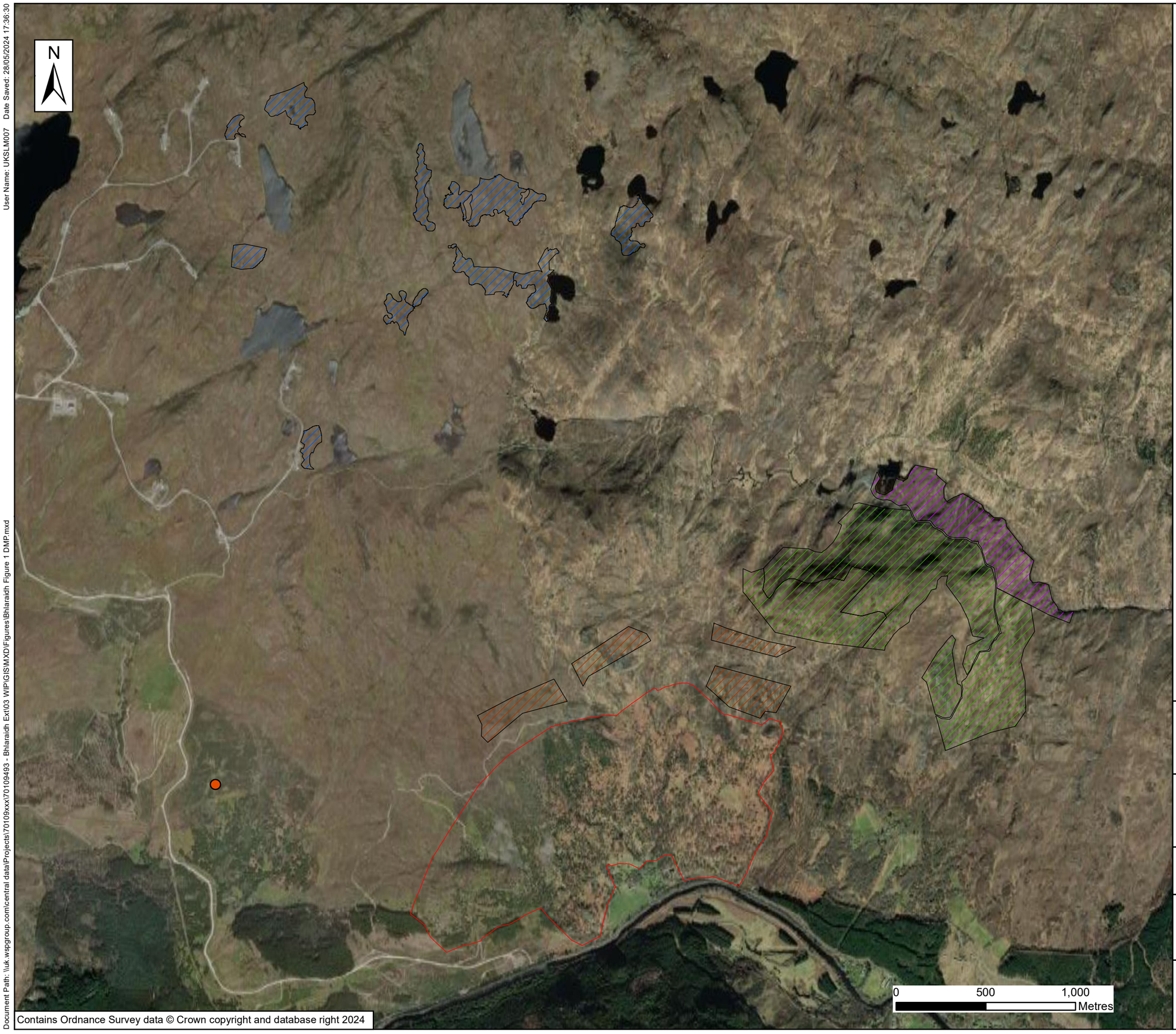
Monitoring of deer grazing and trampling is required to ensure that proposals within this DMP are sufficient to achieve the aims and objectives set within the HMP for successful peatland restoration, montane scrub planting and Caledonian planting. This DMP requires management of deer in the Proposed Development to a density of at least 10 deer/km^2.

Following annual monitoring, adaptive management may be required should deer grazing and trampling result in detrimental impacts within areas peat restoration , Caledonian and montane shrub planting. Ongoing herbivore impact assessments should continue within Levishie Wood SSSI to monitor for any change to baseline grazing levels that could be caused by displacement of deer from the Proposed Development.

Deer fencing should be removed where possible from areas of existing woodland planting, where this has become sufficiently established.

Appendix A

Figures



Legend

- Fence removal
- WSP Peatland Restoration Areas
- WSP Montane Scrub Planting
- WSP Riparian Planting
- Gralloch
- Levishie Wood SSSI

wsp

Client: SSER

Project: Bhlaraidh Extension
Deer Management Plan

Title: Figure 1:
Deer Management Plan

Drawing No:	Figure 1	Drawn:	SMS
Date:	29/05/2024	Checked:	SK
Scale:	20,366 @ A3	Approved:	AM

User Name: UKSLM007 Date Saved: 28/05/2024 17:36:30

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