Peatland Restoration Consultation Brief Delnadamph Estate Natural Capital and Sustainable Investment Team 28th February 2023





DELNADAMPH PEATLAND RESTORATION: CONSULTATION BRIEF

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1.0 Introduction

Peatland is a crucial habitat and carbon store that also plays an important role in flood management and water quality. Scottish peatlands cover approximately 20% Scotland's landmass and store over 1.6 billion tonnes of carbon. However, due to myriad factors, most are now damaged in some way and are releasing this carbon into the atmosphere. Halting further degradation of our peatland is, therefore, crucial to the health of both the local and wider environment, and Scotland's ambition to achieve net zero by 2045.

Revere is a partnership between Palladium and UK national parks, which aims to catalyse large scale nature restoration through private investment. Delnadamph Estate is engaging with this partnership and working in conjunction with the Cairngorms National Park Authority (CNPA) and the Palladium Group on a series of projects to restore the Estate's peatland.

The objective of these projects is to restore, as far as is possible, peatland communities and condition, as well as to reduce carbon emissions, improve water quality, reduce erosion and sedimentation, and improve biodiversity.

This consultation invites feedback on phase 2 of peatland restoration at Delnadamph. A grant application will be made for funding under Peatland ACTION and the project will be registered under the IUCN Peatland Code.

The maps in 6.0 define the maximum project area boundary, and the actual location of groundworks will be based on continual assessment of the site.

2.0 Project details

2.1 Location

Estate Name	Delnadamph Estate
Estate Address	Delnadamph Estate, Corgarff, AB36 8YP
Estate boundary	See map at 6.0 (black boundary)
Project boundaries	See maps at 6.0

2.2 Project details

Planned operational start date	August 2023
Planned operational end date ¹	December
	2023
Project size (ha) ²	118.382
Altitude range (m)	460 - 620

¹ The operation phase may be extended or reduced, dependant on specific ground conditions. Operational end date may also be rolled over to the following year, in consultation with Peatland ACTION officers, if severely impacted by delays (e.g., early or prolonged snowy weather)

² Area calculated by manually digitising all artificial drain lines and image classifying bare peat erosion features, via 25cm resolution digital air photos. Shapefiles are then 'buffered' by 30m as per the PC field protocol v1.2. Obvious non-peatland is removed from this extent.

2.3 Organisations involved

Role	Organisation	Experience
Project Designer	Bidwells LLP	Long history of estate and project management. Within team experience of >4500ha of peatland restoration as well as associated Peatland ACTION & Peatland Code applications.
Project Contractor	TBC after tender	Palladium will ensure that the contractor chosen is competent and suitably experienced to undertake the works required.
Project Developer (IHS Markit) and submission to Peatland Code	Palladium	Palladium operates in over 90 countries and works with governments, businesses, and investors to realise positive impact for investors, nature and communities. Revere combines the expertise of Palladium with the that of the National Park authorities to deliver nature restoration projects across the UK.

2.4 Project objectives

Issue	Objective
Loss of peatland carbon (e.g., particulate and	Reduce physical erosion of bare peat
dissolved carbon into watercourses, or as CO ₂ into the atmosphere)	Assist re-wetting of peatland adjacent to gullies, where possible.
High catchment waterflow during storms and high rainfall events.	Increase the capacity to hold back a proportion of run-off and increase lag time for natural flood management
Poor water quality (e.g., high levels of suspended sediment and associated discolouring)	Reduce or scrub the high levels of suspended particulates, thereby improving downstream aquatic environment and minimising the need for water treatment.
Reduced resilience of peatland vegetation and degraded biodiversity	Revegetation of existing bare peat areas, providing more habitat. Increase or help stabilise the extreme margins of the water table where possible and increase standing water across sites.

3.0 **Project Techniques**

Most restoration works will be conducted using low ground pressure tracked excavators and in-situ material. The specific techniques used will depend on site features.

3.1 Techniques addressing erosion

Locally available turf (adjacent to, or from nearby), can be used to revegetate gullies and construct bunds. However, if insufficient donor turf is available within the site, it may be harvested and imported from outside the restoration area. If appropriate, bunds may also be constructed of mineral and stone.

Contractors will continually assess local ground conditions to determine machine access constraints and mitigate damage to vegetation. If parts of the site are deemed inaccessible to machines, they may be treated by hand.



Google Earth images above showing eroded land pre & post treatment. Erosion gullies and bare peat on left image. Erosion gullies that have been reprofiled and dammed on the right. The faded edge of each gully is where it has been reprofiled. The frequent dark spots along and surrounding each gully are small pools of water behind each dam feature.

Site photos show pre and post erosion treatment. A large ~1m deep gully (bottom left) has been reprofiled on the right-hand side, with the left-hand side untouched as a comparison. A shallower gully running across the photo (bottom right) with regular spaced dams to pool water along its length

3.2 Techniques addressing artificial drainage

Techniques to restore drained land focus on damming the drain line at a regular spacing. This halts water flow at each dam and attempts to direct the overflow out across the wider landscape. Each dam feature will accumulate a small pool of water behind it.

In parallel with damming, a zip reprofiling technique can be used to backfill the remainder of the drain line, this reduces the drain void and essentially closes up the drain. Once this has been completed, it can be quite difficult to see where the drain once was.

The reinstated land is usually robust enough to withstand occasional use by low-pressure vehicles (e.g., Argos), facilitating better estate access, and the pooled water created by damming the drains provides excellent habitat for sphagnum and other bog vegetation to recolonise.



Google Earth images above showing drained land pre & post treatment (top left and top right). Drain lines open on left image. Drain lines that have been zip reprofiled and wave dammed on the right. The faded drain line is where it has been filled and no continuous void exists. The regular dark spots along each line are small pools of water behind each dam feature.

Site photos show pre & post drain restoration (bottom left & right). The drain line extends behind and away from the photo for more than a km. The treated drain line also extends away from the photo, oval pools are created at ~5m spacing, with infilled vegetation between these.

3.3 Techniques summary

The site at Delnadamph is impacted by both artificial drainage and erosion, and techniques will be implemented as determined appropriate by ongoing assessment of the site.

4.0 Site sensitivities

Designation / sensitivity type	Detail	Mitigation
Council planning	Peatland restoration falls under Town and Country Planning requirements to submit Permitted Development Rights (PDR).	Application for prior notification of permitted development will be submitted and works will not proceed until PDR has been granted.

SAC/SSSI/SPA/RAMSAR	The western edge of the site falls under the Inchrory SSSI, Cairngorms SAC and Cairngorms Massif SPA (for the protection of Golden Eagle breeding).	Authorisation is to be sought from NatureScot to work on the SSSI, SAC and SPA, and consultation will be conducted with the Scottish Raptor Study Group (SRSG). Work will be undertaken between August and December to avoid the breeding bird season. If timelines adjust (extend to March), it will be in consultation with SRSG.
NNR/National Park/WH Site	The site is not part of a national park, nature reserve or other heritage site.	N/A
Ancient woodlands	There is no ancient woodland within or near to the project boundary, which could be impacted by the project.	N/A
New woodland schemes	There are no new woodland schemes within or near the project boundary, which could be impacted by the project.	N/A
Trees and woodland	There are no mature trees or woodland within or near the project boundary, which could be impacted by the project.	N/A
GCR	Although the site is not encompassed by a Geological Conservation Review, the Cairngorms GCR falls near to the western boundary of the site.	Groundworks will not be conducted on the GCR, nor will access be conducted through it. GRC would not be influenced by works, as they are upslope or otherwise in other catchments.
Scheduled monuments	No heritage sites have been recorded within the project boundary.	N/A
Unscheduled monuments	Searches have highlighted that there may be unclassified sites in the vicinity of the project boundary, although not within the project itself.	Exclusion zones will be placed around any heritage sites in the vicinity of the project, found prior to or during works.
Protected species (watercourses)	All onsite watercourses	A standard 20m machine exclusion zone will be applied to watercourses in the works area. However, the project area will encompass drainage impact that extends into this exclusion zone, for which groundworks within it are not required (i.e., drainage associated with features that fall outside the exclusion zone in their entirety). A minimum exclusion zone of 5m surrounding watercourses will apply to the entire project area. The 20m machine exclusion zone may be reduced further, up to a minimum of 5m, in specific areas. This would be under the direction of the project designer, and only after completion of a protected species survey, and assessment of sedimentation risk and other constraints. Prior to and during works, a protected species survey will be implemented where water crossing are to be sited. Any confirmed sign will have a 20m exclusion applied.
Protected species (breeding birds)	Breeding birds	Restoration works will not be conducted during the breeding season.
Drinking water catchment & downstream fisheries	The River Don, which runs through the site, provides habitat for a range of freshwater species. The stocks of sea trout and salmon are monitored by the Don District Salmon Fishery Board.	Industry best practice must be followed as per Scottish Water guidance. The contractor must prepare a spill plan / kit to be available on site with machinery, as per their Construction Phase Plan. Buffers must be maintained between watercourses and the excavators. Scottish Water will be consulted before works commence, and SEPA consulted where necessary (if working in marked watercourses). Although groundworks may cause an initial increase in particulate load of downstream watercourses, restoration of the peatland should reduce erosion of the peat mass and, therefore, reduce sediment flow. Additionally, restoration should increase water retention in the landmass and flood lag-time, resulting in more consistent water flow.
Car licence requirements	Not applicable to project	No water will be held back exceeding 1m in depth exclusion zones will be placed around OS 50k watercourses. Non-erosional flow pathways outside of this have been sense checked and have been removed

		from specified works where appropriate (buffer zones may still encompass these areas).
Soils	Soils are predominantly deep peat, peaty soils, or small mineral knolls.	A peat depth survey has been carried out, which influenced the restoration design. All restoration is to be undertaken in a manner approved by Peatland ACTION. Restoration activities are designed to improve peatland soils where possible.
Utilities	No utilities have been identified near to or within the site.	N/A
Recreational access	The estate hosts events and can be accessed by the public for hillwalking and other recreational activities.	Works will not restrict access to any marked paths unless absolutely necessary and clear signage will be in place to highlight health and safety concerns presented by the restoration works. Signage will meet CDM regulations (2015).
Site traffic and use of local facilities	Excavators will be transported to the site via low loaders at the beginning of the project and remain on site until restoration works are complete or significant weather delays works. Contractors will access the site daily using estate tracks and argo / soft-track machines	Low pressure machines will be used for the majority of the works to reduce impacts on associated grounds. Existing infrastructure will be utilised where possible. Impact on local public roads will be minimal.

5.0 How to submit feedback

Please submit any feedback by e-mailing Fernanda White at Fernanda.white@bidwells.co.uk.

The initial 4 week consultation period will close on 28th March 2023, to allow time for comments and concerns to be considered, and any mitigation measures required to be incorporated into the project design. However, contact details will be updated as necessary to allow ongoing feedback for the project's duration.

Please note that the project will be registered with the IUCN Peatland Code for the verification of carbon credits, and any comments raised as part of the consultation process will be passed to one of the independent validation bodies working with the Peatland Code, although names and contact details will not. Comments may also be passed to statutory bodies responsible for project assessment.

6.0 **Project maps**









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