

Restoration of a raised bog at Portmoak Moss Woodland Trust Scotland

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Portmoak Moss is a 42ha site owned by the Woodland Trust Scotland and located near the village of Scotlandwell, Kinross-shire. The site lies close to the shores of Loch Leven and is one of the few remaining parts of complex of lowland raised bogs and wetlands that developed around the loch since the last ice age. Historically much of the site has been drained and worked for peat, although the centre of the original peat dome has remained intact, surrounded by an abrupt cutting face between 2 and 3m high. Core samples have indicated peat depths up to 6m in the centre of the dome. In the 1960s the site was further drained and afforested with conifers, some of which were beginning to suffer windblow by the late 1990's. The Woodland Trust Scotland acquired the wood in 1996 with the help of the local community.

Initially, in 1999 the Trust cleared an area of windblow on the raised area, and did not replant, the intention at that time being to leave the area to natural succession. However, it was found that remnants of typical raised bog communities (NVC M18) were present beneath the conifer cover including a number sphagnum mosses. A feasibility study was commissioned and subsequently a decision was taken, in consultation with the local community to attempt a restoration of the intact peat dome covering 35% of the site (15 hectares) to a functioning lowland raised bog ecosystem.

The restoration process has been carried out in distinct phases

- Felling of all trees in the restoration area in three stages - 1999, 2004, 2005
- Blocking of all drainage ditches with 135 plastic piling dams. The target was to achieve a fall in water level of no more than 20cm across each dam in 2004 and 2005
- Installation of dipwells to monitor water levels across restoration area

- Prevention of birch and conifer establishment, by a combination of brushcutters, herbicide control (weed wipers using glyphosate) and volunteer hand-pulling. This is ongoing, but the need for birch control is expected to reduce to a low level once water levels increase and the site re-vegetates.



Sensitive extraction of felled material using a 'Skyline' to prevent compaction of restoration area.

The amount of birch regeneration on the felled area is greater than anticipated. A range of techniques have been tried and we are currently working in partnership with the Scottish Wildlife Trust on a three year project to control the regeneration. We hope maintained higher water levels will act as a natural control. The wood is managed in partnership with the Portmoak Community Woodland Group who also undertake birch-pulling workdays to supplement the chemical control.



Volunteers hand pulling birch regeneration

Although currently in the early stages of restoration, qualitative survey has indicated some recovery of sphagnum species in the earlier felling areas. In the long term it is anticipated that the area will be a mosaic of sphagnum, heathers, erioophorum and grasses, depending on local wetness.

Ongoing monitoring targets have been defined as follows:

- To maintain water levels within 400mm of the surface throughout most of the year
- To prevent birch establishment in the restoration area

No-one knows how long the peat bog will take to return to something of its former glory. The Trust anticipates that for a few years, work will continue to remove saplings and scrub, but hope that as water levels rise nature will take over and favour specialist bog species.

Restoration work has been undertaken with grant funding obtained from SITA, SNH and FCS, help from the local community and in Partnership with the Scottish Wildlife Trust.

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