

What's Next? Continuing the Restoration of the Border Mires in Kielder Forest



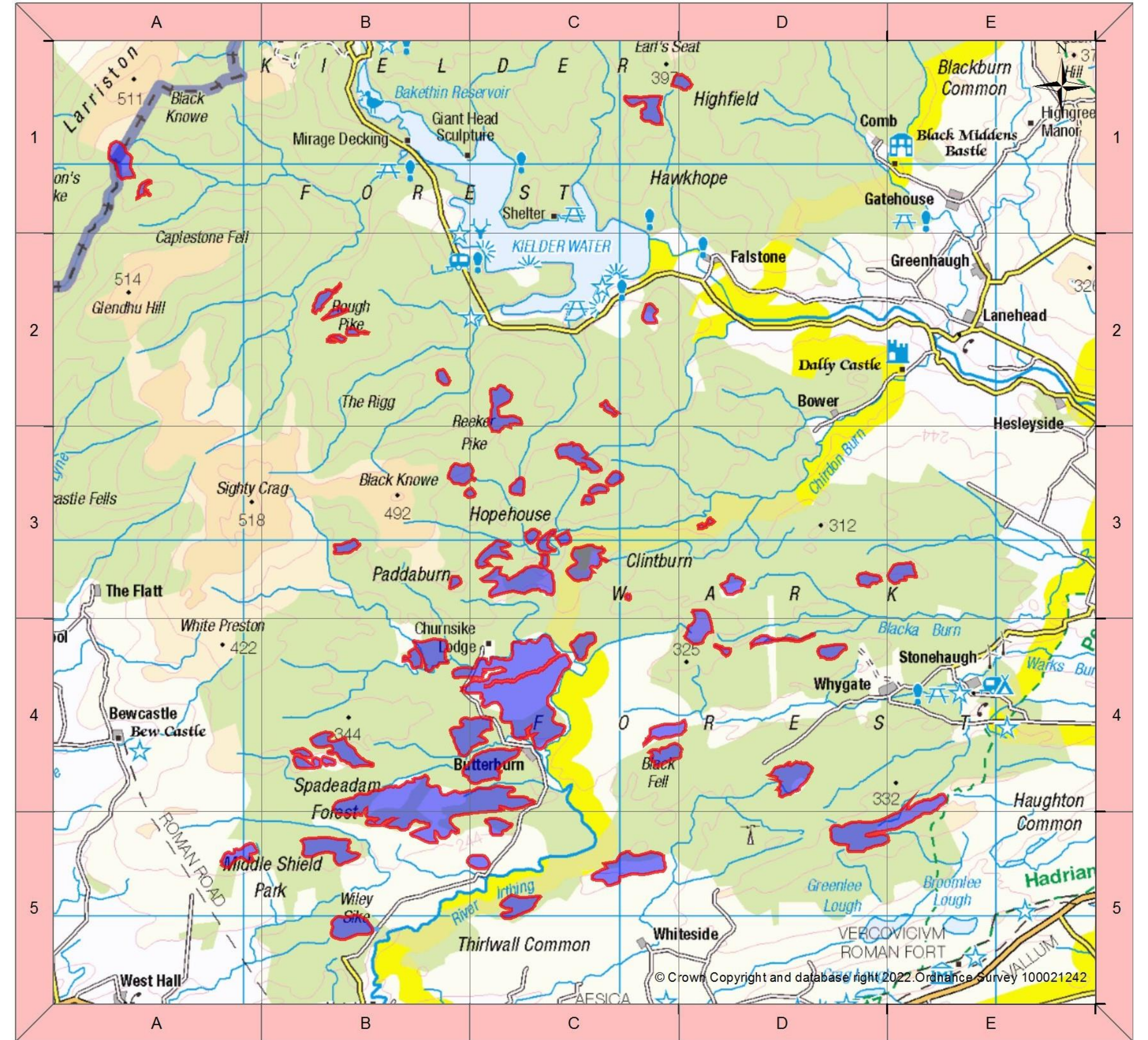
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The Border Mires

A collection of 58 areas of exceptionally deep peat totalling over 2000 ha spread across west Northumberland and East Cumbria, between Hadrian's Wall and the Scottish Border (see map to right) make up the Border Mires. The topographical, climatic, geological, and historical circumstances which have resulted in such a concentration and quality of Mire habitats are very specific and set the Border Mires apart from mire complexes elsewhere. Their recent history over the last century or so has been inextricably tied with the development of Kielder Forest as afforestation boomed under the newly founded Forestry Commission. This shared history has had both positive and negative repercussions on the Border Mires.

Although the Border Mires have retained a more natural, less degraded state than many peatlands across the UK, and been of interest to researchers as a result, they have not escaped the impact of human activities entirely. Luckily their importance started to be recognised as far back as the 1960's and over the next six decades that recognition would lead to a series of actions focussed on their protection and restoration. Key among those was the establishment of the Border Mires Management Committee in 1986 which continues to oversee and coordinate restoration and management of the Border Mires to this day. The string of statutory designations now providing legal protection to these sites is a testament to the efforts of those individuals and organisations who have worked for these sites for decades.

Unlike peatlands where extraction or pollution have led to large scale loss of natural mire vegetation, the work required to restore the Border Mires has generally centred on hydrological reinstatement (through blocking of drainage features) and removal of non-native trees (either those planted as a crop or occurring as self-sown re-generation) to enable the remnant vegetation to thrive. Those restoration efforts have ranged from volunteer delivered ditch blocking stretching back over 50 years and led by what is now Northumberland Wildlife Trust, through significant European funding (EU LIFE 1998-2003) which installed thousands of dams and removed hundreds of thousands of trees, to a more recent push from the British Government (2005-2010) to bring the sites designated as SSSI's (Sites of Special Scientific Interest) - a large portion of the Border Mires - into favourable condition, or at least set on a path to recovery. This legacy is now being built upon with Committee partners continuing the identification and delivery of initiatives to preserve and restore the network of valuable peatland habitats.



Map Above: The Border Mires: 58 Mires spanning West Northumberland and East Cumbria and lying between Hadrian's Wall in the South, and the Scottish Border to the North.



Pundershaw Moss, inc. previously clear-felled area with significant spruce re-gen to be cleared & ditches to be blocked



Coom Rigg NNR, arrow straight tree-line evidence of human intervention; trees on the left will be mulched



Wedges Rigg showing significant Sitka Spruce re-generation due to be cleared



Sphagnum mosses are still present in significant quantities on most of the Border Mires

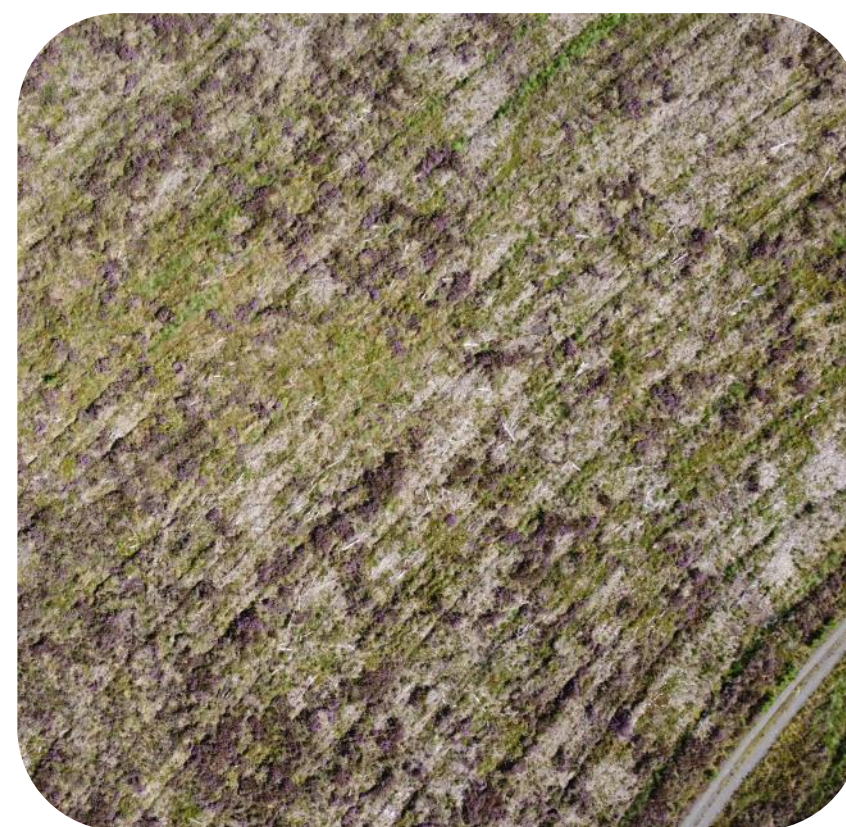
The Current Project

Forestry England are currently delivering a £1million programme of restoration work benefiting 9 of the Border Mires. The project, funded by DEFRA's Nature For Climate: Peatland Grant Scheme (NCPGS), is funding the activities listed below across a total project area of approx. 890 ha and will run until March 2025:

- Blocking of drainage features totalling over 24 km in length
- Removal of 29 ha of forestry crop or dense re-generation on deep peat
- Removal of self-seeded conifer regeneration across approx. 327 ha
- Monitoring of hydrology, vegetation and peat condition throughout the project period

The majority of drainage features to be blocked are man-made, resulting either from historic attempts to drain the land for agricultural improvement, or from forestry ground preparation activities to create more favourable growing conditions.

Where drainage features are simple and linear the primary method of blocking will be using peat dams. Where commercial forestry crops have been removed, a network of ridge and furrows usually with a large quantity of tree stumps and brash (see image on right) is left behind. This creates a complex network of potential drainage features, and a microtopography of high and low areas which is difficult to re-wet consistently by installing dams on individual linear features alone. In these areas bunding or ground-smoothing will be considered as a more effective means of restoring the site wide hydrology with a single intervention.



Trees to be removed will be mulched in situ or hand felled by chainsaw operators depending on tree size and density. Typically self-seeded trees will be removed by hand while forestry crops will be mulched. These methods remove the need to construct roads which may be required to facilitate traditional harvesting methods, saving money and preventing further damage to the peatland habitats. Often, the crop is of poor quality due to the sub-optimal conditions and the income from the harvested material would be negligible.

Monitoring is already underway and aims to capture an initial baseline and then changes to those baselines resulting from the work undertaken for the lifetime of the project.

The Future

While the "naturalness" of the Border Mires in comparison to other, more heavily impacted areas is worth celebrating, there is still much to be done. Even where mires are in good condition, there is almost always further work required to return them to a natural balance where no intervention is required to retain favourable status. The current NCPGS project, focussed on 9 of the over 50 mires is just the latest step.

Restoration of these areas is a process, not an event, and every previous project has been a learning opportunity as well as a restoration intervention. Techniques, technology and the industries understanding of how best to restore natural habitats is constantly evolving and improving. The Border Mires committee are keen to learn from that development, particularly in the areas of large scale forest-to-bog restoration, and long-term management or suppression of natural regeneration on peatlands.

Other developments in the management of the Border Mires may result from current reviews of forestry policy for planting and restocking on peat, with opportunities for buffering or expanding high quality peatland habitats on Forestry England land possible as crops on eligible soils are harvested.

The Border Mires Committee have many aspirations for future work and are actively seeking for appropriate funding for it; their focus means they are well placed to access current (and future?) funding streams aimed at the restoration and preservation of peatlands.

The last 35+ years of partnership working have resulted in significant improvements to the Border Mires, and with current plans the next 35 will do the same.



Above: Dry ridges and wet furrows. Below: Sundew species are commonly found on Borders Mires



The Border Mires Committee is comprised of Forestry England (North District), Northumberland Wildlife Trust, Natural England, Northumberland National Park Authority, University of Newcastle upon Tyne and the Ministry of Defence. The Committee was established in 1986 to oversee conservation of the Border Mires and associated peatland habitats in the area.

