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Research & Monitoring

The success of the restoration is being monitored through drone and on-the-ground survey and instrumentation. The restoration areas and nearby unrestored comparison sites also provide a valuable platform for research into the impacts of different restoration measures on factors including water table depth, flow rates, water quality and rates of erosion.

Where can I find more information?

Please take a look at our website:

<https://glensaugh.hutton.ac.uk/> - this includes further information on our peatland restoration, as well as some of our other action-based research, links to data sources and virtual reality tools.



GLENSAUGH

Climate-Positive Farming Initiative

Peatland Restoration

Peatland restoration at Glensaugh is a key element of our wider regenerative catchment management and whole system approach to tackling the climate and biodiversity crises.

Peatland: a valuable habitat

Peatlands cover more than 20% of Scotland's land area and are one of the most carbon-rich ecosystems on Earth, storing an estimated 3.2 billion tonnes of carbon in the UK alone. Healthy peatlands not only continue to remove carbon from the atmosphere and lock it away, but are important habitats supporting a range of biodiversity, and provide other valuable ecosystem services including improving water quality and reducing flood risk downstream.

However, it is estimated that around 80% of our peatlands are degraded, largely due to human activities. Degraded peatlands exacerbate flooding and water quality problems, and are estimated to be responsible for net emissions equivalent to around 20 million tonnes of CO₂ each year.

Peatland restoration is vital and is a key element of the Scottish Government's Climate Change Plan 2018-2032.

Peatland Restoration at Glensaugh

The peatland at Glensaugh is fairly typical of upland blanket bog in Scotland. Prior to restoration, it was intersected by extensive patches of bare peat hags and exposed gully sides, leading to active erosion and drainage of some of the surrounding peatland.

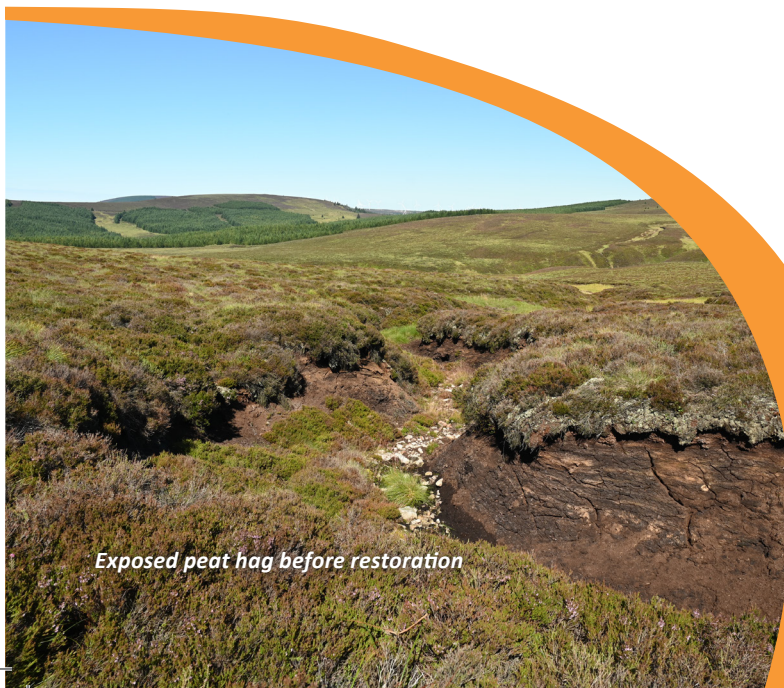
Restoration works were undertaken in 2022, utilising experienced contractors and specialised machinery, including excavators fitted with custom-designed extra-wide 'bog-tracks' to minimise damage.

Restoration techniques

- **Revegetating exposed peat:** bare peat faces were reprofiled to a shallower slope and then revegetated using turves from small "borrow areas" nearby. Recovery of borrow areas was facilitated by stretching existing vegetation around their edges, leaving only shallow depressions that will form valuable small pools for wildlife and mosses.
- **In-gully bunds and baffles:** within gullies, low peat and turf "bunds" were constructed to slow water flow, help to trap and build up sediment, and create shallow pools to encourage vegetation regrowth. In wider gullies, where there was a danger of impounding too much water, small peat deflector baffles were constructed instead to slow water flow and deflect it away from the base of the hag to reduce erosion risk.
- **Surface 'Arc' bunds:** low, crescent-shaped bunds were constructed on some slopes above eroding gully systems to help attenuate surface water flows into the gullies, holding more water in newly created bog pools and surrounding peatland, thereby supporting the transition to a healthier habitat.



Reprofiling and revegetating bare peat face



Exposed peat hag before restoration



Pools formed behind in-gully bunds and surface 'arc' bunds