

A case study for UK landscape restoration

# The Mires-on-the Moors project

## The story

During the 19th and 20th centuries huge swathes of upland peat bogs were drained as part of a nationwide effort to increase flagging agricultural productivity. The detrimental effects of this policy on the landscape are being felt today, nowhere more so than on Exmoor and Dartmoor. Water is no longer stored as efficiently in the peat, causing more water to run off the land and flow downstream into already swollen rivers during periods of high rainfall. The peatlands have become dry and consequently are losing more carbon than they can accumulate. The quality of water leaving the peat bogs is deteriorating too. Carbon discolours the water and increases its acidity, which causes problems downstream, especially in the South West where the water company extracts the majority of water directly from rivers. This raises the cost of water treatment, which ultimately is passed on to the bill payers.

**“The Mires project is an excellent example of how a wide range of partners can work together to deliver multiple benefits to society - a template for cost-effective landscape restoration nationwide.”**

Professor Richard Brazier, University of Exeter.

## The restoration strategy

South West Water proposed to Ofwat a 50p rise in annual water rates to fund a £2.2m project to restore 2,000 hectares of peat bog on Exmoor between 2010 and 2015, in collaboration with the Environment Agency, Exmoor National Park Authority and Natural England. Ofwat supported the plan, stipulating the need for scientific evidence to evaluate the effectiveness of the programme. The University of Exeter was chosen to carry out the work, funded by NERC, TSB and SWW. By blocking up drainage ditches, the aim is to enhance water storage, improve water quality and facilitate a rise in water table levels, which will allow the peat to accumulate quicker and store more carbon. In the long term, the region's biodiversity is also expected to benefit. A University of Exeter team, led by Professor Richard Brazier, has collected four years of data after installing monitoring equipment at 200 locations to record changes in water levels, water quality and gas fluxes from these damaged blanket bogs.

## The impact

Preliminary results from Professor Brazier's team reveal a significant rise in the water table level of 2.65cm, which translates into

**“The Mires project shows fantastic creativity and partnership in responding to climate change.”**

Julian Wright, policy advisor for climate change and water, Environment Agency.

a two-thirds reduction in the volume of water leaving the monitoring sites post-restoration. Across the 2000 hectares of moorland due to be restored by 2015, this could represent a significant reduction in water entering the River Exe at times of high rainfall, equating to 6,630 Olympic-size swimming pools. The team has also recorded significant improvements in water quality as a result of restoration. The highest concentrations of dissolved organic carbon, which contributes to water discoloration, have fallen by up to 50 per cent, which may translate into lower water treatment costs and higher carbon retention on the moorland.

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