

Peatland Restoration



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Risk Assessment

Mires are internationally important peat producing habitats such as bogs and fens. On Exmoor and Dartmoor, blanket bog occurs at the South West limit of its European extent. Centuries of moorland drainage and peat-cutting have dried-out much of this peatland which is now vulnerable to future climate changes.

Blanket peat is dependent on cool climates and high rainfall throughout the year to retain saturated conditions. These habitats are sensitive to changes in temperature and rainfall patterns, and damaged peatlands are at greater risk. They can be made more resilient by blocking drainage ditches to maintain a higher water table.

Peatlands retain water within their mass (over 50% of peat is water). Damaged peatlands have less water holding potential, but re-wetted peatlands have an

increased potential to absorb and retain water following precipitation and to release it more slowly into upland streams. Locally this helps maintain stream-flow during dry periods and locally reduce downstream erosion and flooding risks.

As our climate changes with predicted drier summers and wetter winters, healthy peatlands will become increasingly important for the management of water supplies, due to their regulating effect on water resources.

Peatlands accumulate plant materials and act as a carbon store, preventing carbon entering the atmosphere. Drainage halts peat accumulation and allows oxygen to enter peat stores turning them into Carbon dioxide, which escapes into the atmosphere.

Most peatland in the South West have been drained or modified to some extent and climate change may increase oxidation, as prolonged dry periods make the peat more vulnerable.

Mire restoration was undertaken on Exmoor between 2006 and 2010 through a public-private partnership. South West Water has secured funding for a further five year programme of work on Exmoor and Dartmoor under its Mires on the Moors Project. Other partners include Natural England, Environment Agency, Exmoor and Dartmoor National Park Authorities, English Heritage, Duchy of Cornwall, and the MoD.

The project used historic aerial photography and LIDAR techniques to identify damaged sites and target restoration activity, focusing on parts of the moorland significantly affected by drainage and agricultural improvement.

Impact example: South West



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How is the risk being addressed?

The Mire Restoration project is re-wetting and restoring damaged peatlands by blocking drainage ditches, and allowing the bogs to recover. This will encourage wildlife such as bog plants and bird species to return.

On Exmoor 50 km of ditch has now been blocked. As a result over 350 hectares of damaged mire has now been re-wetted.

A programme of monitoring and research is being undertaken by Bristol and Exeter Universities and the Environment Agency to look at the impact of this type of mire restoration on water resources and flood risk management.



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