

Manage water levels appropriately

Project Summary

Title: Sustainable Wetland Restoration in the New Forest

Location: New Forest, Hampshire, England

Technique(s): Installation of debris dams; reconnecting disused meanders; raising river bed levels.

Cost of technique: £££££

Overall cost of scheme: ££££££

Benefits: ££££££

Dates: 2002-2006

Mitigation Measure(s)

Manage water levels appropriately

Improve channel geomorphology to create habitat

Allow the river to flood its floodplain

How it was delivered

Delivered by: Environment Agency (LIFE3 funding stream)

Partners: New Forest National Park Authority, Hampshire County Council, Forestry Commission, Natural England, National Trust, RSPB



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Background / Issues

The New Forest is located in the county of Hampshire in southern England. Past water level management strategies in the New Forest have proved detrimental to the local hydrological regimes and associated wet woodland habitats, resulting in threats to the New Forest SAC priority habitats. Straightening and deepening of river channels and the creation of drainage ditches has disrupted the natural hydromorphology of the forest streams, leading to a decrease in quality of habitats and capacity for self-regeneration. A survey conducted by the Environment Agency in 1996 found that over 100 km of New Forest river channels showed signs of degradation.

This project aimed at changing the regional water management strategy to improve priority interest features of the New Forest SAC and their supporting adjacent habitats. The project has also promoted the establishment of long-term sustainability and the regeneration of areas of priority habitat by reinstating natural processes.



LIFE-3 project catchments showing the locations of channel/floodplain restoration and the main monitoring reaches.

- 1 = Semi-natural Control,
- 2 = Channelised Remeandered Reach,
- 3 = Channelised LWD Reach,
- 4 = Rhinefield Re-meandered reach.

Step-by-step

The project has restored 10 km of river channel by implementing a number of techniques. These include constructing and installing debris dams. These occur naturally in the forest, e.g. by a tree falling over and forming a partial blockage which then impedes transport of further woody debris, thus forming a woody dam. They play an important role in maintaining water levels in the adjacent wetland areas and slowing down water flows. Additional techniques include re-installing and connecting disconnected meanders using evidence of previous meanders from the modified river systems, and raising river bed-levels using spoil originally removed from the channels.

The results of these works are more natural, slower flowing river systems that now have the ability to overflow onto their floodplains as part of the 10 year integrated catchment management plan for management of water levels.



(1) Before restoration – Deep, straightened channel;
(2) U-channel once completed

Benefits

- Improved water level management strategies, including more natural hydromorphology with slower moving river systems and increased reconnection with floodplains.
- Restoration of 261 ha of riverine woodland, 18 ha of bog woodland, 184 ha of valley mire and 141 ha of wet grassland.
- The moving of 1330 ha of SSSI units into recovering condition.



Restored Wet Grassland Habitats

Lessons Learnt

- The introduction of large woody debris together with channel re-meandering has increased flood attenuation and is reported as having a net positive impact on downstream flood risk.

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