Long-Term Floodplain Restoration in New Forest and Cole Catchments, United Kingdom

Year of issue

2026

Summary

Sponge Scapes case study UK 06

These two catchments benefited from floodplain restoration (river remeandering, logjams, etc) in the early 2000’s.

Blackwater and Highland Water, sub-catchments of the Lymington river in the New Forest National Park (in the UK South-East River Basin District), underwent restoration in the early 2000s. Straightening of historic woodland streams in the 19th century disrupted natural seasonal flooding, dried the forest, limited animal access, and accelerated erosion. Restoration efforts reconnected the river with its floodplain, restored its natural forms, and revitalized the surrounding floodplain forest habitats.

The River Cole is located in the Thames River Basin District, west of Oxford. Predominantly rural, the river catchment faces flooding and water quality issues, worsened by urban run-off from the urban area of Swindon at is headwaters. Rehabilitation projects in the early 2010s addressed these challenges, enhancing wildlife corridors and benefiting key species.

Photo Gallery



Location

50.535, 1.3848

Project

SpongeScapes

Sector

Hydromorphology

Overview

Location of the project

Blackwater and Highland Water are sub-catchments of the Lymington river in the New Forest National Park (in the UK South-East River Basin District). The River Cole is located in the Thames River Basin District, west of Oxford.

Sponge measures implemented in the case study

Floodplain restoration and management

Objectives

The core objective is to understand better the impact of floodplain restoration activities in the long term (over almost three decades). Has the Restoration activity altered the flood hydrology? Can we detect the type and trend of hydraulic change over the period of restoration? How has the restoration altered the instream ecology?

Involved partners

Authority type	Authority name	Comments	Authority responsibility
Nature park	New forest National Park Authority	Lymington River catchment' owner	Responsible
NGO	National Trust NGO	Cole River catchement's owner	—
Other	Natural England	—	—
Other	Forestry Commission	The Forestry Commission is a non-ministerial government department responsible for forestry in Great Britain. Its mission is to protect and expand Britain’s forests and enhance their value to society and the environment.	—
Other	Environment Agency	The Environment Agency is responsible for flood management, waste management, regulating land and water pollution, and conservation	—
Other	Hampshire County Council	—	—
NGO	RSPB Bird and Wildlife Conservation Charity	—	—
Research institute / University	Educ (University of Southampton)	—	—

Site Information

Climate Zone

Cool temperate moist

Policy and Governance

Pressure remarks

Along the Lymington river, straightening of historic woodland streams in the 19th century disrupted natural seasonal flooding, dried the forest, limited animal access, and accelerated erosion.

The river Cole catchment faces flooding and water quality issues, worsened by urban run-off from the urban area of Swindon at is headwaters.

Part of a wider plan

Yes

Public consultation

No

Has contractual arrangements

No

Impacts and Monitoring

Monitoring System

Monitoring parameters

For this case study, there is long-term data (since 1994) on river flow, calibrated hydraulic models before/after floodplain restoration and ecological data (macrophytes and macroinvertebrates) at the restored and a control site taken after the restoration. Data gathering, analysis and modelling will help identify sponge functioning over the past 18 years relative to 26 years of natural variability. The eco-survey will be repeated to quantify and understand changing biodiversity.

Impact Assessment Methodology

Performance impact estimation information

For this case-study, we have long-term data (since 1994) on river flow, calibrated hydraulic models before/after floodplain restoration and ecological data (macrophytes and macroinvertebrates) at the restored and a control site taken after the restoration. Data gathering, analysis and modelling will help identify sponge functioning over the past 18 years relative to 26 years of natural variability. We will also repeat the eco-survey to quantify and understand changing biodiversity.