Regenerative Agriculture Practices in Upper Thames, United Kingdom

Year of issue

2026

Summary

Sponge Scapes case study UK 07

Regenerative agriculture aims to improve the sponge function of the soil.

One location compares permanent grazing (perennial ryegrass) by cattle or sheep, including mob grazing, against mature broadleaf woodland (mix of native species including ash, sycamore and hawthorn) with low density grazing by deer. A second location compares different arable practices on silty clay soils over Chalk geology. In this case, one site uses a diverse crop rotation, with controlled traffic, min till and cover crops; the other site uses a grass ley in the crop rotation, along with min till during the cropped period.

Photo Gallery





Location

51.4951, 0.573

Project

SpongeScapes

Sector

Agriculture

Overview

Location of the project

The Thames regenerative agriculture sites which we are studying are predominantly located on farms in Oxfordshire and Berkshire, UK. One location compares permanent grazing (perennial ryegrass) by cattle or sheep, including mob grazing, against mature broadleaf woodland (mix of native species including ash, sycamore and hawthorn) with low density grazing by deer. Both of these sites are on slowly permeable loamy/clayey soils over a Mudstone geology. A second location compares different arable practices on silty clay soils over Chalk geology.

Sponge measures implemented in the case study

Buffer strips and hedges

Objectives

Innovative focused monitoring will be performed during the 4-year period of the project, including surveys of soil physical and hydraulic properties and use of the latest technology (e.g., Cosmic Ray Neutron Sensor stations and rovers). Results from these monitoring efforts will be used to provide guidance on how to further broaden the evidence-base of sponge measures by such innovative agricultural management techniques and inform better selection, design, monitoring, maintenance and ultimately effectiveness of measures and strategies. Special attention will be paid to the analysis of longevity of the measures, the need for monitoring and maintenance and co-benefits and trade-offs, particularly in terms of changes in soil organic matter for the Thames regenerative agriculture sites.

Involved partners

Authority type	Authority name	Authority role	Comments
Private property owners	—	Other	Private landowners and farm businesses.
Other	British geological Survey	—	The British Geological Survey is a world-leading geological survey and global geoscience organisation, focused on public-good science for government and research to understand earth and environmental processes. They are the UK’s premier provider of objective and authoritative geoscientific data, information and knowledge to help society to use its natural resources responsibly, manage environmental change and be resilient to environmental hazards.
Other	Natural England	—	Natural England is an executive non-departemental public boby linked to the Department for Environment, Food and Rural Affairs.

Authority type	Authority name	Authority role	Comments
NGO	UK Centre for Ecology and Hydrology	—	The UK Centre for Ecology & Hydrology (UKCEH) is a leading independent research institute dedicated to understanding and transforming how we interact with the natural world.
Research institute / University	Rothamsted Research	—	Rothamsted Research is a world-leading, non-profit research centre focusing on strategic agricultural science for farmers & society worldwide.
Research institute / University	James Hutton Institute	—	James Hutton Institute is a world-leading independent scientific research organisation for land, crops, water and the environment.
—	Agrimetrics	—	Agrimetrics provides data and tools to agrifood businesses, researchers and policy-makers to address our most pressing global food challenges.
Other	Agrii	—	Agrii is a leading provider of agronomy services, technology and strategic advice and provide UK's farmers with expertise and support.
Other	Emorsgate Seeds	—	Producer of wild seeds in the British Isles.
Other	Indigro	—	Indigro is an agricultural consultancy business.
—	Syngenta	—	Syngenta Group's seeds, crop protection and nutrition products, agronomic solutions and digital services help farmers provide the world with healthy food, feed, fiber and fuel, while conserving natural resources and protecting the environment.

Site Information

Climate Zone

Cool temperate moist

Design and Implementation

Project scale

Micro

Project area

10

Project area specifications

0,1 km² agriculture plot

Policy and Governance

Part of a wider plan

Yes

Public consultation

No

Has contractual arrangements

No

Impacts and Monitoring

Monitoring System

Monitoring parameters

The Thames regenerative agriculture sites have a wealth of soil hydrological and meteorological data collected by previous and ongoing research projects (including LANDWISE over 2021, COSMOS-UK since 2013, UK-GHG-Flux-Network since 2017, and the UKCEH neutron probe database).Innovative focused monitoring will be performed during the 4-year period of the SpongeScapes project, including surveys of soil physical and hydraulic properties and use of the latest technology (e.g., Cosmic Ray Neutron Sensor stations and rovers). Results from these monitoring efforts will be used to provide guidance on how to further broaden the evidence-base of sponge measures by such innovative agricultural management techniques and inform better selection, design, monitoring, maintenance and ultimately effectiveness of measures and strategies. Special attention will be paid to the analysis of longevity of the measures, the need for monitoring and maintenance and co-benefits and trade-offs, particularly in terms of changes in soil organic matter for the Thames regenerative agriculture sites.