

| SITE: Watersmeet Estate

| SIZE: 670 Ha

| LOCATION: Exmoor

| DATE: 2023 >

| CLIENT: West Exmoor National Trust

| DESIGN TEAM: SMALL WORLD CONSULTING

Project Description

Wild Exmoor Carbon Sequestration Project is one of six pioneering projects across England to receive Government funding to trial the most effective ways to capture carbon and mitigate the impacts of climate change. The National Trust has been awarded almost £1 million to create a wetter and wilder landscape by restoring and protecting coastal woodland, heathland habitats, species rich grassland and wood pasture.

Approach to Low Carbon

The aim of this project is to increase carbon sequestration through the restoration and expansion of natural habitats with careful consideration of site specific conditions.

Carbon Calculations

Airborne LiDAR and drone-based photogrammetry used to map biomass. Soil cores for organic C stocks at 0–30 cm depth (biennial sampling). Automated CO₂/CH₄ flux chambers in heath patches to capture GHG exchange.

Links

<https://www.rewildingbritain.org.uk/rewilding-projects/wild-exmoor>

https://www.exmoor-nationalpark.gov.uk/_data/assets/pdf_file/0028/138727/SWC-Exmoor-Land-Use-Targets-Summary-241220-v5-FINAL.pdf



THINK LIFECYCLE

- Watersmeet Estate is part of the Exmoor National Park and this project aims to protect and enhance the carbon stocks of this existing legacy landscape.
- Monitoring methodologies enable the ongoing analysis of carbon sequestration highlighting the most effective nature restoration methods for each area.
- Adaptive management means that the rewetting of land and expansion of specific habitat types can be used to maximise carbon sequestration.

PROTECT CARBON STORES

- The restoration of coastal woodland is demonstrating the highest above ground carbon accumulation with a biomass increase of 4 to 6 tonnes of CO₂e per Ha per year.
- The rewetting of heathland and acid grassland shows an accumulation in soil carbon with peaty upland soils increasing by 1 to 2 tonnes of CO₂e per Ha per year.

DESIGN RESPONSIVELY

- Allowing natural tree regeneration alongside targeted grazing by cattle, pigs and water buffalo has led to a 10 to 15% increase in soil organic carbon after 2 years.
- The integration of large herbivores has enhanced natural systems through trampling, rooting, dung deposition and seed dispersal that supports and enhances carbon retention.
- Agriculture on this site and across the wider Exmoor National Park is undergoing a transition towards regenerative practices, and in particular the introduction of agroforestry .

LESS HARD, MORE SOFT

- This 670 Ha site is practically all soft and the intention is to maximise biomass where appropriate.
- Human interventions, including mechanised roads and buildings are kept to a minimum across this site.

SPECIFY LOW CARBON

- The aim is to make this as much of a self-sustaining landscape as possible, as such new planting relies partly on natural regeneration supplemented with planting of native species of local provenance.
- The predominance of nature based solutions supports the project's low carbon approach.