

Tree planting and wetland restoration for climate adaptation

Results of changes implemented to the 'Clinton Devon Estate' site by Westcountry Rivers Trust



UNDERSTANDING THE CATCHMENT

The Clinton Devon Estate is near the village of Colaton Raleigh, in the groundwater dominated Otter catchment. There are three subsites where PROWATER interventions have been implemented to demonstrate how the region can adapt to the consequences of climate change. These three subsites are located on extensively (not intensively) used agricultural land.

The Otter catchment hosts regionally important aquifers (groundwater bodies) which are extensively exploited for both public and private water supplies. The catchment is considered to have some of the most vulnerable soils combined with farm practice that creates a compaction-runoff problem. Ecosystem-based Adaptation (EbA) measures could be implemented within the catchment to reduce the risk of flooding and improve the resilience of the groundwater supply for drinking water.

IDENTIFYING AND ENGAGING BUYERS, SELLERS AND BROKERS

The basic idea behind the PES financing model is that investments made by 'buyers' in specific measures (including EbA measures) result in the targeted provision of ecosystem services provided by the 'sellers'.

- Buyers: EU citizens, through Interreg 2 Seas public funding
- Sellers: Landowner (& farmers/land managers) of the Clinton Devon Estate
- Brokers: Local catchment partnership (Westcountry Rivers Trust)

PRIORITISING LOCATIONS FOR CLIMATE ADAPTATION MEASURES

Implemented EbA measures increase the sponge effect of the area, creating more stable base flows. When it rains water is stored through increased water retention capacity (in temporary wetlands) and increased infiltration capacity (through breaking up soil compaction in tree planting sites and delayed infiltration in temporary wetlands).

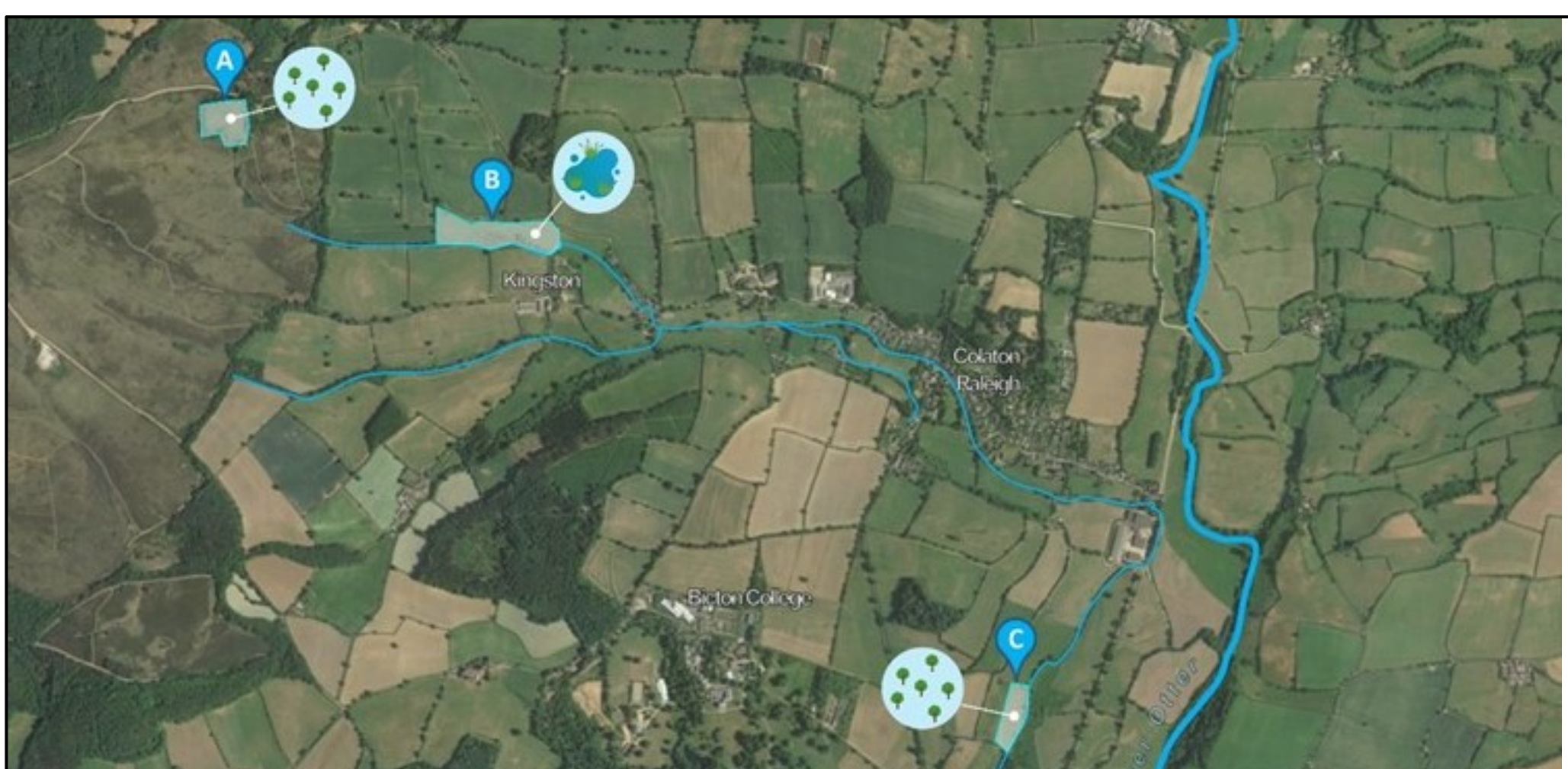
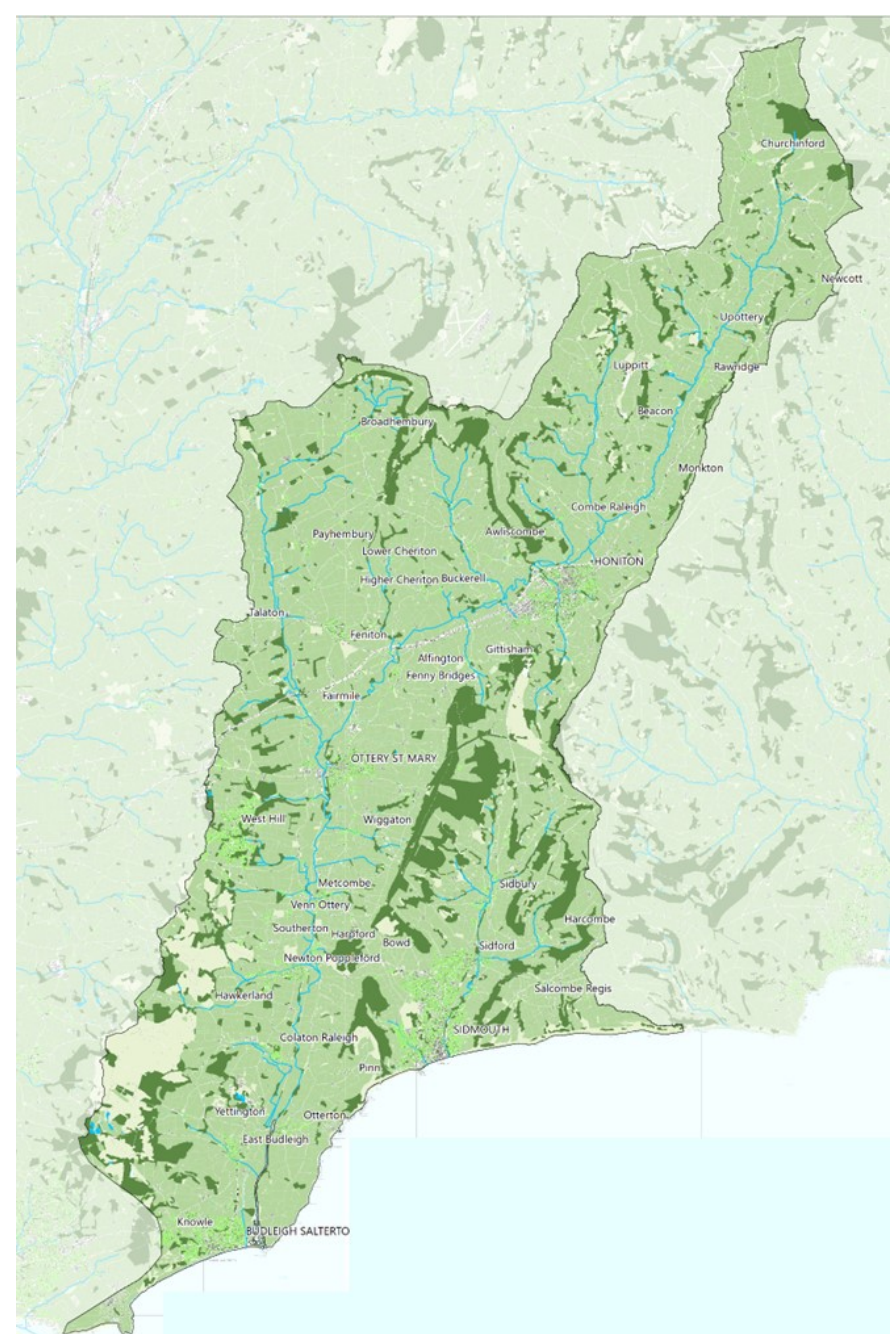
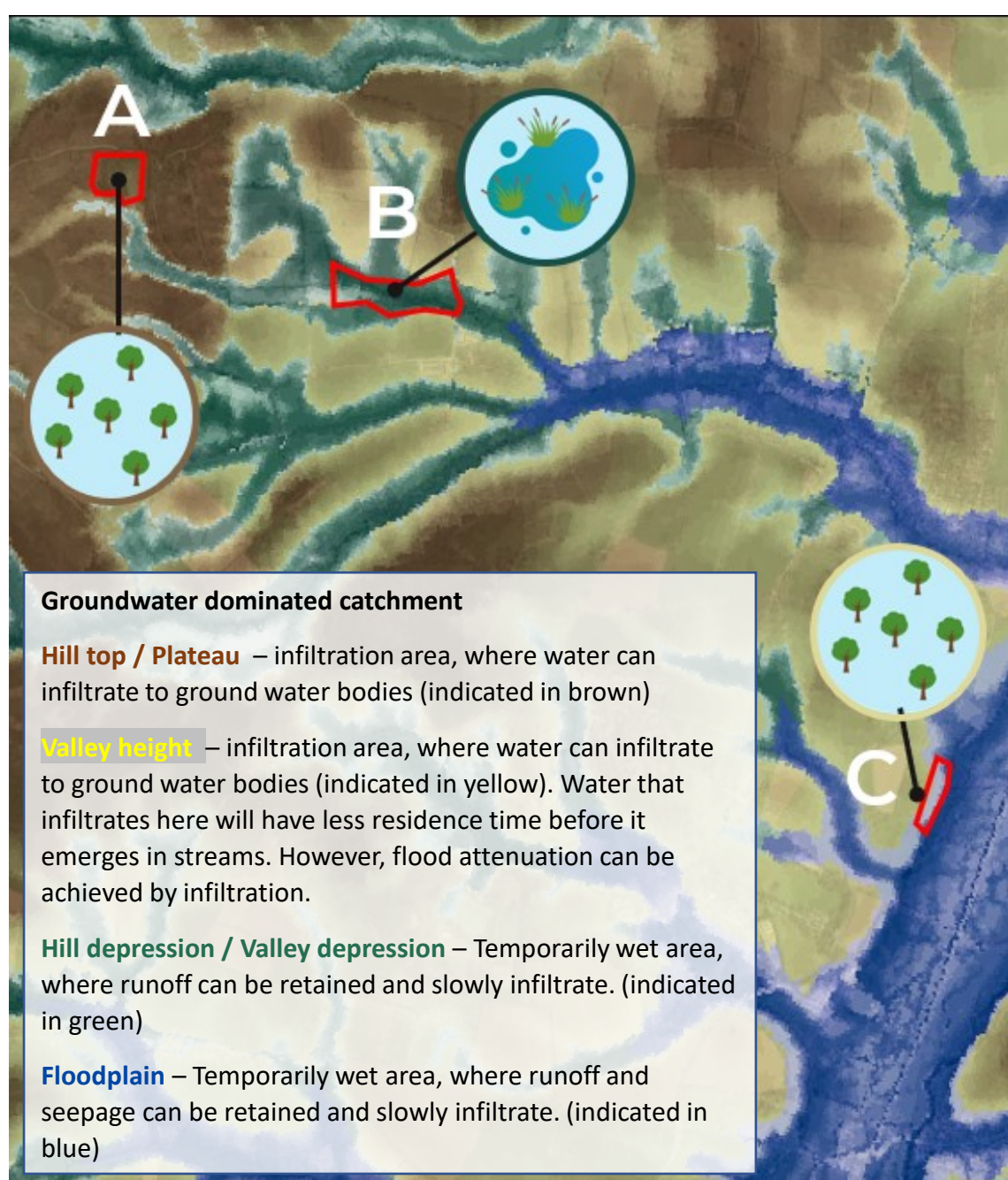
- Site A: Hilltop - recharge area, 0.5 Ha tree planting
Increasing surface roughness, promoting infiltration, and slowing the movement of water throughout the catchment for stable base flows.
- Site B: Hilltop depression – temporary wet area, wetland creation
Maintaining base flows throughout the year by storing and releasing water slowly, increasing groundwater recharge.
- Site C: Valley elevation - recharge area, 0.5 Ha tree planting
Increasing surface roughness, promoting infiltration, and slowing the movement of water throughout the catchment for stable base flows.

MONITORING & EVALUATION

Fixed point photography will be used to monitor the establishment of the demonstration sites. In situ monitoring equipment was not deemed suitable due to the small scale of each of the interventions across the sites.

For more information:

- www.pro-water.eu/output-library
- <https://www.pro-water.eu/west-east-devon-uk>



A cross-border cooperation

From November 2017 to March 2023, 10 partners from Flanders, the Netherlands and the United Kingdom work together on PROWATER. The project has a budget of more than 5.5 million euros. In each country, water production companies, governments and research institutes as well as land managers are involved in order to achieve a supported vision for Ecosystem-based Adaptation (EbA).

The project PROWATER receives 3.315.974 € through the Interreg 2 Seas fund, co-funded by the European Regional Development Fund (ERDF), to work on climate change adaptation and to increase resilience against droughts and extreme precipitation based on ecosystem services.

