PROWATER: *Protecting and Restoring Raw Water Sources through Actions at the Landscape Scale*

Interreg 2 Seas Mers Zeeën PROWATER

Project Background

Climate change, together with existing pressures on our freshwater ecosystems and groundwater bodies, population growth and a need for increased drought resilience, is impacting the availability of water resources in the South East of England. Rivers and groundwater bodies, including rare chalk streams, are already impacted by over-abstraction, as well as a degradation of the catchments around them, making them less resilient to current and future pressures. This also increases risks to water quality and flood risk. PROWATER aims to provide a landscape-scale approach to restoring ecosystems to make them and the water resources they provide more resilient to climate change (Ecosystem-based Adaptation) in Southern England, Belgium and the Netherlands.

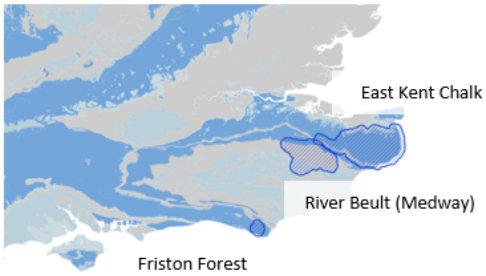
Duration: Sept 2018 – Mar 2023

Key Outputs

- GIS-based targeting and impact quantification tool for nature-based solutions for water resources
- 3 pilot catchments with demonstration sites
- Framework for investment (e.g. Payments for Ecosystem services)
- Policy recommendations on nature-based solutions and investment in them

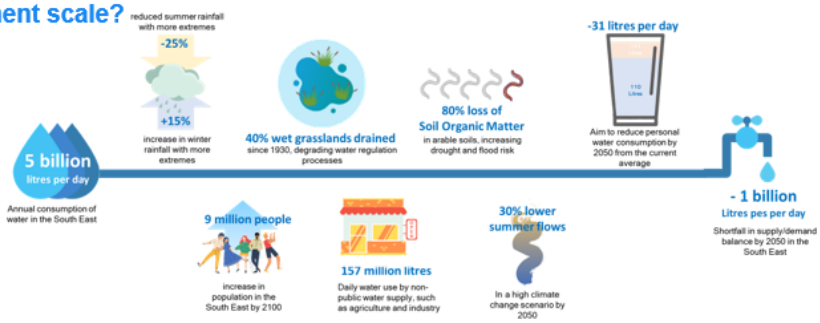
Regional Partners:
South East Rivers Trust
Kent County Council (incl. Kentish Stour CP)
South East Water

Regional Observers:
Southern Water
SES Water
Affinity Water
Natural England

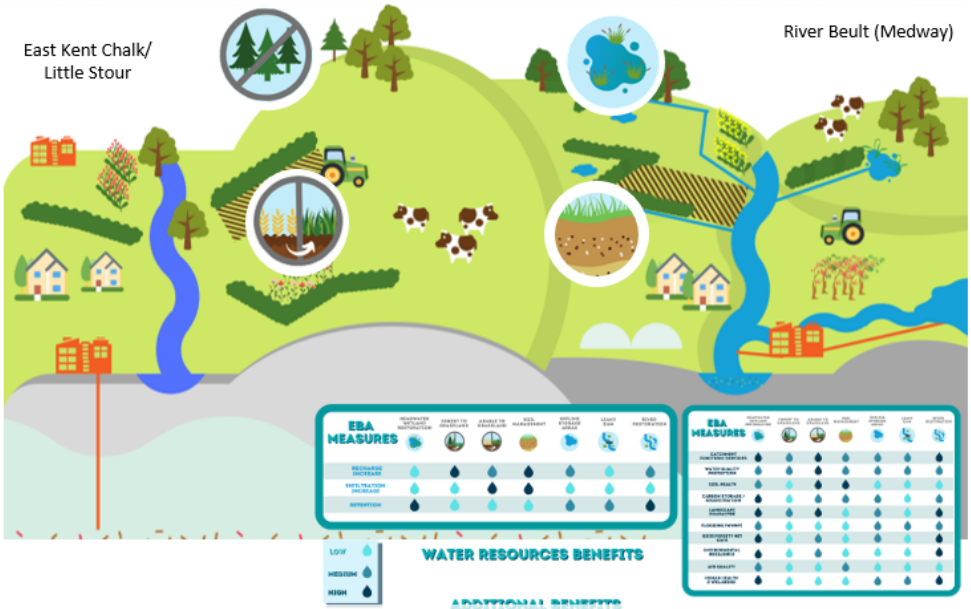


South East England – Ecosystem-based Adaptation for Water

What are pressures on water resources, and how can EbA address them on a catchment scale?



A range of pressures combine to create lack of water in the future (see above): weather extremes from climate change impacting rainfall and flow patterns, a loss in natural habitats & soils able to provide water and other ecosystem services, population growth. Nature-based solutions need to be based on an understanding of catchment natural processes, opportunities in the landscape and predicted impact of measures (see below).



A portfolio of EbA measures exists that can be used to increase the availability of water and create catchment resilience, including addressing flood risk, carbon storage and biodiversity loss. We are trialling a number of these measures on the ground on demonstration sites (soil management, wetland restoration and habitat conversion), and quantifying their impact on a catchment scale using established models such as InVEST, with site monitoring to ground-truth our assumptions.

Where are different measures most suitable?

Water Systems Maps created by the University of Antwerp support targeting to suit the natural processes predicted in the catchment, identifying headwater wetlands, floodplains and other locations of importance.

What is the scale of the opportunity for delivering EbA for water resources in our catchments?

We are estimating the area of opportunities across a catchment scale of where ecosystem-based adaptation measures are suitable and likely to make the biggest contribution by combining water systems maps with a natural asset register accounting for locations and habitats of importance for water resources, and condition assessments based on spatial data and local stakeholder knowledge.

For example, focusing on priority locations for groundwater recharge within the Little Stour catchment, steep slopes under agricultural management are a key opportunity for increasing infiltration. Improving soil condition on 30% of the area would mean 670ha of improved infiltration. Using established methods to estimate impact on runoff/infiltration allows us to estimate an increase in recharge of up to 557 Megalitres per year (enough for over 10,000 people's annual water use).

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