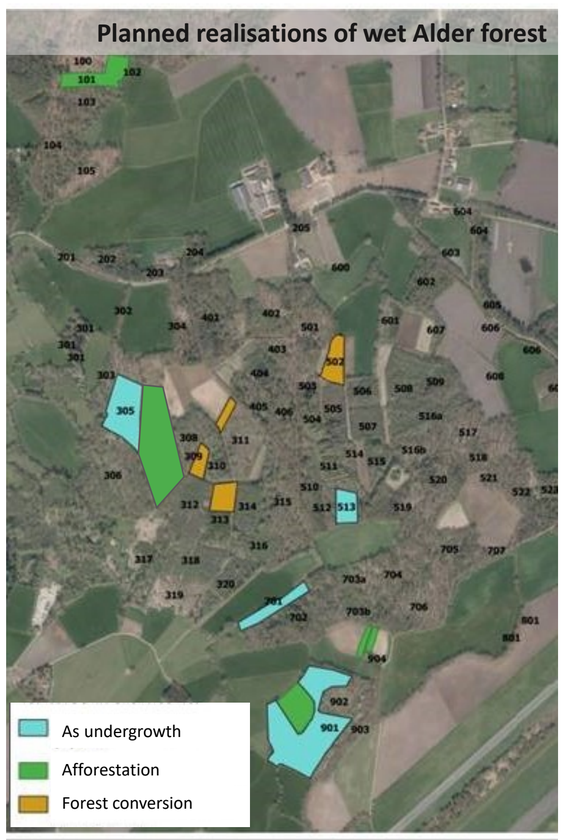
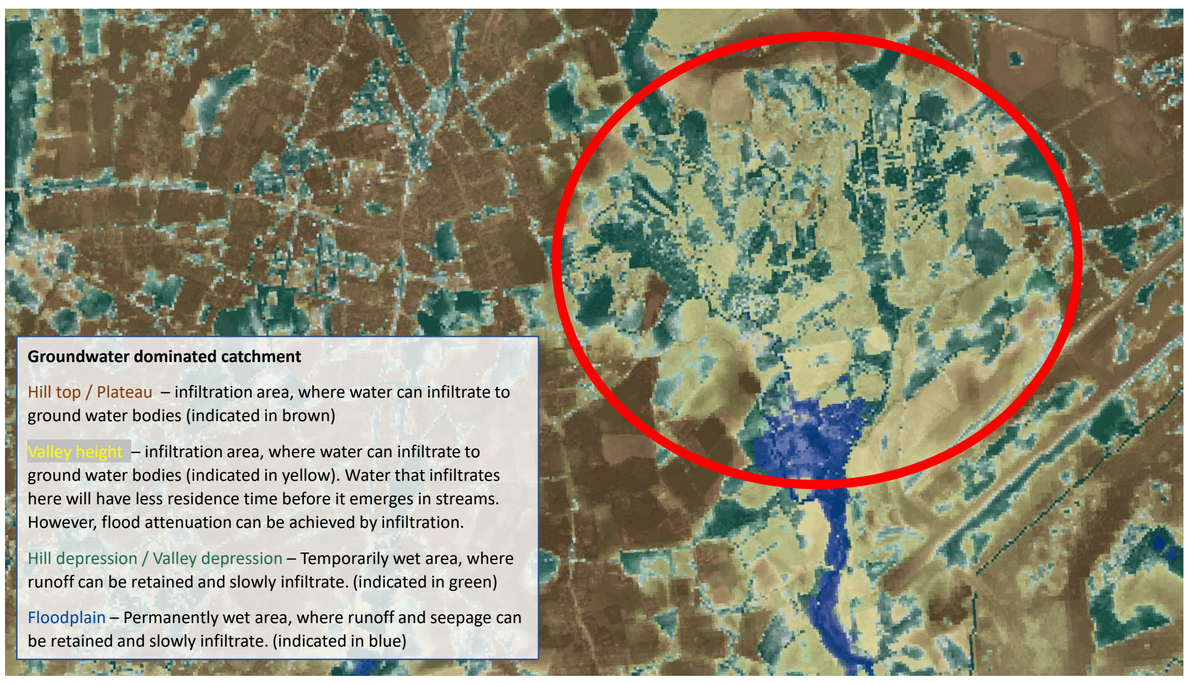
Restoring wet Alder forests for climate adaptation

Results of changes implemented to the ‘Oostmalle’ site by Pidpa

In Oostmalle, Pidpa works on the restoration of wet Alder forest, in close collaboration with the land owner



The planting of Alder Trees in what used to be a coniferous forest patch (as coniferous trees hold on to water in their canopy and do not allow much infiltration of rainwater)



The water system map, applied to the demonstration site. The red circle highlights the larger area of the demonstration site. The green and blue areas highlight locations with a high potential to restore wet nature, such as wet Alder Forest.

UNDERSTANDING THE CATCHMENT

In Oostmalle, the integrated water company Pidpa developed the Interreg 2 Seas PROWATER site ‘Oostmalle’ to demonstrate how the region can adapt to the consequences of climate change through Ecosystem-based Adaptation measures. The demonstration site is located in the Central Campine region, which is characterised by the presence of sandy soils, naturally allowing easy infiltration of rainwater to groundwater bodies (in areas with healthy and non-compacted soils). Pidpa abstracts groundwater in Oostmalle for drinking water purposes.

IDENTIFYING & ENGAGING STAKEHOLDERS

Within Oostmalle, drinking water users of Pidpa (through consumption charges) and European citizens (through public funding provided by the Interreg 2 Seas programme) can be perceived as buyers of the targeted ecosystem services in Oostmalle on privately owned land. The targeted ecosystem services that these buyers receive in return is a more secure water provisioning, increased biodiversity, and more resilient natural environment. From this perspective, the private land owner is acting as seller. The Agency for Nature and Forest (evaluating the environmental permit application) and a consultancy company acted as broker.

PRIORITISING LOCATIONS FOR CLIMATE ADAPTATION MEASURES

The site is situated in an area where water can be held in a low lying environment adjacent to a river system. The water system map (developed by the University of Antwerp) shows that the sub-sites selected in ‘Oostmalle’ are suitable for the development of wetlands, that would naturally be present in the area (indicated in green on the water system map below). Pidpa will restore 10 hectares of wet Alder forest in collaboration with the landowner. This and other measures aim at rewetting the area, adapting existing forests (e.g. introducing alder in poplar plantations) and strenghtening the Alder forests by linking separated forests (more robust forest core).

The targeted ecosystem services resulting from implemented measures in Oostmalle include increased water retention and delayed infiltration. Storing more water locally for a longer time, reduces the risks of flooding downstream in wet periods and of low river flow in dry periods. At the same time it increases the amount and the quality of the groundwater in the abstraction cone for drinking water production, which is important to meet climate change objectives and maintain the existing equilibrium between groundwater extraction and feeding of the aquifer.

MONITORING & EVALUATION

With the PROWATER experiences, Pidpa gained more theoretical knowledge and practical knowledge needed to implement EbA measures efficiently into the landscape. This helps to further streamline the engagements of Pidpa in Oostmalle as well as other areas in the province of Antwerp, resulting also in an increased quantity and quality of the groundwater and a climate proof ‘water loving’ environment. First examinations have already been done to explore the potential for future realisations of similar EbA measures within Pidpa’s groundwater abstraction sites.

Using the yearly groundwater abstraction taxes to fund and realise EbA measures, as demonstrated by PROWATER is currently not possible. This requires legislation to be adjusted, to generate more available funding for targeted EbA measures and help maximise the climate change adaptation capacity of our regions.

FOR MORE INFORMATION:

- **www.pro-water.eu/output-library**
- **https://www.pro-water.eu/oostmalle-be**

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 that 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.