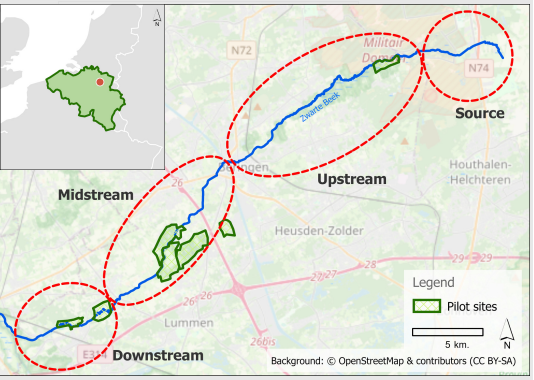
PEATLANDS FOR CLIMATE AND BIODIVERSITY
INTERREG NWE CARE-PEAT

Belgium



Valley of the Zwarte Beek

Introduction

Valley of the Zwarte Beek is a peatland valley ecosystem located in the Province of Limburg, in the North-East of Belgium. With a protected area of 1100 hectares, it is one of the larger nature reserves. A peatsoil of 800ha is preserved and is therefore the biggest peatland in Flanders. This peatland consists mainly of open, small sedge vegetation and is of utmost importance for climate and biodiversity in Western Europe. Protection of the valley focuses strongly on peatland. Also, big efforts go to protection and restoration of the infiltration zones on the slopes and higher areas. The system-scaled restoration is necessary to protect water and carbon stocks.

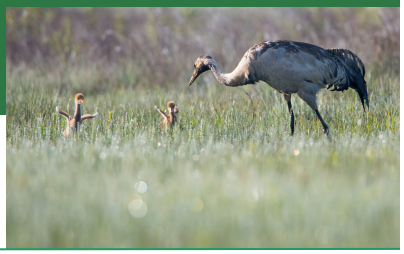
A part of this valley, located mainly in Lummen, was restored during the Care-Peat project. Before restoration, this part of the valley was deeply drained by more than 80km of ditches and waterways. Drainage was reduced by closing some ditches and trenches and relevelling crucial waterways, thus raising the water table. To quantify the climate mitigation impact of these rewetting measures, greenhouse gas measurements were done on the rewetted sites. This way we can quantify the changes in carbon and methane emission.
Adaptive management and special techniques are implemented on a daily basis which will aid peat restoration measures in the future, benefitting biodiversity and ecosystem services.

Issues & key challenges

- Ongoing drainage results in peatland degradation
- Restore nature without having a huge impact on agricultural grounds
- Keep adapting nature management to the more and more wet soil (e.g. no grazing on rewetted peatlands)
- Mitigation measures are urgently needed to preserve our thick peat layers
- Dozens of kilometers of waterways and ditches still need to be relevelled in order to completely restore the peatland
- Purchasing the last parcels in valley in order to restore the complete ecosystem
- Focus on the infiltration zones is also needed. They're importance is to stabilize water flows, prevent erosion and groundwater recharge

Outcomes & benefits

- Reduction of carbon emissions
- Prevention of floods through water buffering during peak flow events
- Prevention of droughts and optimization of nature values through water retention
- Restoration of ecohydrological conditions
- Restoration of habitats for threatened European species
  - First and only breeding area for Cranes in Belgium
  - Spotted crake
  - Red-backed Shrike



Legal Status

- VEN (Flemish ecological network)
- Protected nature reserve type 4 (Belgian protection level)
- Zwarte Beek upstream and downstream is part of Natura 2000 network, the midstream section isn't
- 90 ha in the upstream part is protected as national heritage site

Habitats and Species

- 7140: Small sedge vegetation in development. Typical plants like different Sedge species, Peat Mosses, Bogbean, Marsh Cinquefoil, Milk Parsley, Beak Sedges, Bog Arum
- 91E0: Alluvial forests with Black Alder and Ash
- Regional habitats of special interest: rbbms (mires and fens)
- An important habitat for a variety of breeding birds such as: Common Snipe, Spotted Crake, Red-backed Shrike, Common Grasshopper Warbler, Crane, Bluethroat, Stork, Nightingale

Management

- Natuurpunt
- Water managers
  - Flemish environmental agency (VMM), including the secretary's office Demerbekken (integrated water policy)
  - Watering Schulensbroek
  - Province of Limburg
- Agency for nature and environment
- Flemish land agency (VLM)
- Defence (upstream military area: Kamp Beverlo)
- Private landowners

Main highlight of good practice

- The water table stabilization is visible in time series of the piezometers.
- Indicator species are returning/expanding throughout the rewetted area.
- The adaptive management is working, soil compaction is minimized and the dominant species are declining, giving space to typical peatland species.

Lessons learnt and the future

- Future rewetting by closing the remaining ditches and releveling some more waterways, to stop drainage of the peat soil within nature reserve completely
- Close collaboration with regional stakeholders enshrined in a cooperation agreement
- Purchase some key parcels within the valley in order to be able to do ecosystem wide restoration
- The set up of an eco-hydrological study which will take 3 years, starting in 2023. It will highlight the complete valley system and its peat soil, including large areas outside the Care-Peat pilot site. A groundwater model will be developed and interaction between the urbanized areas and the peatlands will be investigated
- Involvement of all stakeholders is key in advancing quickly with restoration measures
- These steps above will continue the process of gradual progressive peatland restoration which was initiated by the Care-Peat project
- Water quality assessment will be important for future restoration

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Interreg North-West Europe Care-Peat

Care-Peat project
https://nweurope.eu/care-peat

DEFENSIE · provincie Limburg · Eurosite

Information sources

https://www.natuurpunt.be/natuurgebied/vallei-van-de-zwarte-beek-laren-lummen
https://www.natuurpunt.be/pagina/care-peat-veen-als-natuurlijk-reservoir-van-koolstof

Eurosite Factsheet
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