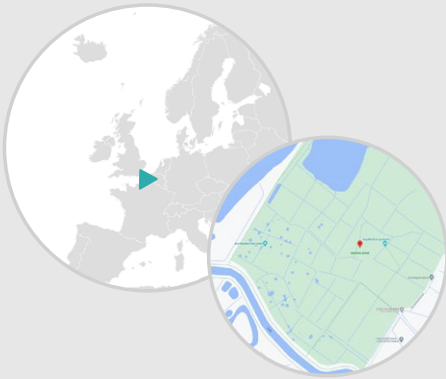


NATURAL CLIMATE BUFFER



Belgium



Legal Status

Nature reserve

Habitats and Protected Species

Variety between grasslands and marshes, with pollarded trees, sedges, marshland, pools, and old bomb craters that form an important habitat for various amphibians such as crested newts

An important habitat for numerous breeding birds: Storks, Bluethroat, Robin, Kingfisher, Teal, Silver Heron.

Management

Natuurpunt (NGO)

Flemish government: ANB (Agency for Nature and Forest) & VMM (Flemish Environmental Agency)

Information sources

<https://www.natuurpunt.be/pagina/wetlands4cities>

<https://www.natuurpunt.be/natuurgebied/mechels-rivierengebied-mechels-broek-barebeekvallei-mispeldonk>

<https://www.mechelen.be/bos-en-natuurgebieden/mechels-broek>

<https://curieuzeneuzen.be/waar-we-meten/tuin/>

Mechels Broek

Introduction

The Mechels broek is a Nature Reserve of more than 100ha located along the Dijle river east of Mechelen. The area consists of wet grasslands, ditches, bomb pits, pollard willows and wood edges and is an example of a 'natural climate buffer' where the green natural space plays a significant role in a climate resilient city. The area also includes a large pond which is an important resting place for many (migratory) birds. Management is partly done by Galloway cattle that provide a diverse landscape.

The area increasingly suffers from drought, causing pools and ditches to run dry during long dry spells in spring and summer months. One of the reasons for this is, unlike in the past, the area is no longer connected to the Dijle river that runs alongside it, so it is currently only fed with rainwater. The project aims to let water from the Dijle back into the area to make it more resistant to long dry periods. The wetland also has an important role to play as a breeding ground for (migratory) birds. As a water buffer, but also as a biodiversity hotspot located next to the centre of Mechelen, the wetland area serves as a so-called blue-green space.

The LIFE Wetlands4Cities (2022-2027) project puts the focus on wetland restoration and citizen engagement through a continuation of curiosity research that focuses on heat and drought measurement using specially designed sensors. These sensors were placed in the nature reserve and measure soil and surface temperature, and moisture. For the past two years they have given us interesting data on the wetland area.

To restore the wetlands, we choose to reconnect to the Dyle, allowing river water to flow back into Mechels broek. By raising the water level, the wetland can serve as a carbon sink. We are also installing natural filters to remove excess nutrients from the river water. The VMM will work on a more natural layout and level management of the nearby Vrouwvliet. The restoration and increase of wetlands will reduce the heat island effect. The wetlands then serve as a green airco.

Lessons learnt and the future

- A good ecohydrological study as base for decent wetland restoration
- 5 years of citizen science research on the effects of heat and drought (CurieuzeNeuzen)

We aim to involve 50 cities in developing urban wetlands as a means of making cities and living environments resilient to the extremes (drought and heat) of climate change.

We will further publicise the concept of nature as a solution to climate-resilient cities and, by engaging policymakers and citizens, increase support for wetland restoration and expansion.

Issues & key challenges

- Countering habitat loss, fragmentation and degradation
- Reconnecting wetlands to watercourses to increase the water buffer for dry summers
- By using citizen science, creating citizen involvement and involving residents in softening and watering projects
- Using wet nature to keep the city livable during hot summer days and also provide space for residents who do not have their own garden or green spaces available

Outcomes & benefits

- Prevention of floods through water storage and buffering peak flow events
- Prevention of droughts and optimisation of nature values through water retention
- Restoration of ecohydrological conditions
- Restoration of habitats for threatened European species
- Decrease of the heat island effect
- Citizen engagement and natural space in densely populated areas



CARBON SINK



GREEN AIRCO



BLUE-GREEN SPACE

More info



VLAAMSE MILIEUMAATSCHAPPIJ



AGENTSCHAP NATUUR & BOS



Co-funded by the European Union

Eurosite Factsheet

Wetlands and Climate Change

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