OPTAIN : Wimbe River Basin [Belgium]

Year of issue

2025

Summary

The Wimbe basin is about 112 km2 in size and is classified as a continental bioregion. The basin consists of the water bodies LE8-10. The municipalities within the basin are Daverdisse, Wellin, Beauraing, Gedinne and Rochefort. The basin’s land use is 2% urban, 21% arable, 11% pasture and 66% forest. The region where the stream flows is representative of the Famenne schisteuse and the landscape is open. The region is vulnerable to both floods and low flows. The area is also vulnerable to nitrate concentration in water that is exceeding or is likely to exceed 50 mg/l, may have undergone or likely to undergo eutrophication.

The OPTAIN project will support the case study team with identifying and developing efficient land management strategies and small technical solutions to improve the soils’ infiltration and water holding capacities as well as its capacity to filter, buffer and transform pollutants.

Photo Gallery



Location

50.067272, 5.226663

Project

OPTAIN

National ID

BE_05

Sector

Agriculture

Contact

Ghent University

Overview

Country

Belgium

NUTS2 Code

Prov. Namur

Sponge measures implemented in the case study

Buffer strips and hedges

Wetland restoration and management

Maintenance of forest cover in headwater areas

Forest riparian buffers

Involved partners

Authority type	Authority name	Authority role	Comments
NGO	Natagriwal	Determination of design details of the measure	They advise farmers, land owners related to implementing the measures, also support related to the administrations, regarding the design, yes to some extent they do this. They are “A non-profit association or ASBL
NGO	Natagora	Implementation	They implement the measures to some extent, or help in implementing the measure. They also maintain the measures that they implement.
NGO	CRLesse	Implementation	They implement measures via the funding given to them by the government. They are “A non-profit association or ASBL. Their role is to bring together all water users with the aim of maintaining or restoring good ecological status of the water, through concerted management, each within the framework of their responsibilities."

Site Information

Precipitation

844.00 mm

Temperature (°C)

9.80 °C

Evapotranspiration

405.00 mm

Runoff

331.00 mm

Elevation range

250-299 m.a.s.l.

Slope range

Whole catchment: Max=18.6%, Mean=9.9%, Min=0.01%, stddev=9.2%

Soil type

Cambisols

Groundwater level

35m (deepest)

Vegetation class

The agricultural area (~35%) is mainly cultivated with grasses. Maize and grains are also cultivated aside from the grasses.

WFD Ecological status

Good

WFD Chemical status

Failing to achieve good

Financing

Financing authorities

Authority name	Type of funding	Comments
CAP Pillar 2	EU-funds: Rural development funds	EU funds
Wallonie government	Sub-national funds	regional funds

Policy and Governance

Policy description

The Wimbe basin is vulnerable to both flooding and low flow events. Agricultural activity within the watershed has impacted the quality of the water, particularly through erosion. The area is also vulnerable to groundwater nitrate pollution, with concentrations that can potentially exceed 50mg/L in certain areas.

The project will be implemented in coordination with the following stakeholders: Contrat de rivière Lesse; Parc Naturel de l’Ardenne Méridoniale; Natagriwal; Natagora; Fédération Belge du Secteur de l’eau Belgaqua; Public Service of Wallonia (SPW) Agriculture, Natural resources, Environment; Fédération Wallonne de l’Agriculture; Province Namur Cellule Cours d’Eau, Commune de Daverdisse, and local farmers.

Land ownership

around 70% of agricultural land are rented

Policy targets

Erosion Control

Pollutants Removal

Peak-flow reduction

Requirement directive

Requirement directive
Common Agriculture Policy
Nitrate Directive (NiD) 91/676/EEC
European Natura 2000 Network

Part of a wider plan

Yes

Wider plan

Wider plan type
Regional

Public consultation

No

Has contractual arrangements

No

Impacts and Monitoring

Monitoring System

Presence of formal monitoring system

yes

Lessons Learned

Barriers

Barrier type	Barrier role	Comments
Other	Main barrier	loss of land, economic loss
Other	—	administrative burden

Drivers

Driver type	Driver role	Comments
Other	Main driver	landowners, land users
Organisation committed to it	Main driver	Policy makers and advice of experts to policymakers

Success factors

Success factor type	Success factor role	Comments
Available support tools	Main factor	Incentives
Existing staff and consultant knowledge	Main factor	Assistance from non profit organizasation
Existing regulations	Main factor	Legislation