OPTAIN : Tetves [Hungary]

Year of issue

2025

Summary

The study site is the sub catchment of Tetves, is considered a priority area in terms of water protection. The size of the study site is 68 km2. 49% of the total catchment area is forest, 39% is arable land, 1% orchards, 1% vineyard, 1% is grassland and 2% is urban.

The study site is sensitive to nutrient and nitrate loss. Extreme weather events, the presence of loose parent material and a lack of best management practices in some part of the study site increase soil degradation, especially gully erosion. The water and nutrient management of this small catchment affects water quantity and quality of Lake Balaton. Extreme weather events will increase the environmental and social conflicts in the region.

The most pressing issues recognized in the study site are: revise the aspects considered for the delineation of soil erosion prone areas, wider application of measures that efficiently decrease soil erosion and nutrient load, and implementation of integrated water resources conservation.

OPTAIN project aims to identify effective combination of the NSWRMs and optimize their allocation, in order to improve water and nutrient retention in the soil and the catchments. Emphasis will be put on suitable options to foster the resilience of agricultural production to climate change.

Photo Gallery



Location

46.67319, 17.7764

Project

OPTAIN

National ID

HU_08

Sector

Hydromorphology

Implementation status

Modeled

Contact

Agártudonmányi Kutatóközpont (ATK)

Overview

Country

Hungary

NUTS2 Code

Dél-Dunántúl

Sponge measures implemented in the case study

Ponds and scrapes

Afforestation

Controlled traffic farming

Buffer strips and hedges

Forest riparian buffers

Minimum tillage

Peak flow control structures

Documents

11_Tetves_ATK_OVF_0.pdf (1.75 MB)

Site Information

Precipitation

633.00 mm

Temperature (°C)

10.30 °C

Elevation range

106-295 m a.s.l.

Design and Implementation

Project scale

Micro

Project scale specifications

Catchment of Tetves Stream, which belong to the catchment of Lake Balaton.

Project area

The size of the modelled catchment is 72 km²

Financing

Total cost

216000.00 €

Policy and Governance

Policy description

Lake Balaton is a key resource in Hungary, providing not only freshwater but also a source of economic development associated with tourism and recreational activities. It is also of environmental importance for the region. Poor land management practices, particularly in agricultural lands, have resulted in soil erosion issues. Changing weather patterns are susceptible to produce more frequent flash floods, soil erosion and nutrient loads, negatively impacting the water quality of Lake Balaton.

In order to change land management practices on landscapes within the watershed the following stakeholders will be involved in the development and implementation of the project: General Directorate of Water Management, Local farmers, Balaton Limnological Institute, Lake Balaton Development Council, Hungarian Young Farmers Association (AGRYA), Hungarian Chamber of Agriculture (NAK), AGRO PROFI, and WWF Hungary.

Policy targets

Runoff control

Pollutants Removal

Erosion Control

Oher Societal Benefits

Part of a wider plan

Yes

Public consultation

No

Has contractual arrangements

No