



The [ECOSPHERE research group](#) aims to study aquatic and valley ecosystems that are continuously challenged by natural and anthropogenic stressors. The research focuses on acquiring fundamental and applied knowledge at different levels of structural and functional organisation in order to underpin environmental management decisions.

MASTER THESIS SUBJECT 2025-2026

Catching the Ghost Part III. Effects of sewer overflow on aquatic plant diversity and performance

Research group: ECOSPHERE

Hosting laboratory: CDE

Promotor(s): Prof. dr. Jonas Schoelynck

Daily supervision: Jonas Schoelynck (jonas.schoelynck@uantwerpen.be)



Sewer overflow brings in excessive nutrients to rivers. These may harm the aquatic plant diversity.

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- This topic mostly contains ☒ literature study, ☒ lab work, ☒ field work, ☒ experimental work, ☐ GIS, ☐ numerical modelling, ☐ other:
 - Possession of driver's license B is ☒ needed, ☐ recommended, ☐ not needed
 - Possession of certificates needed: ☐ FELASA C, ☐ other:

Summary: Sewer overflows represent a significant pressure on freshwater ecosystems, as they introduce high nutrient loads, organic matter, and pollutants into receiving waters. These disturbances can alter aquatic plant diversity and compromise plant performance, with potential cascading effects on ecosystem functioning.

This study investigates the ecological impacts of sewer overflow on aquatic vegetation in two Flemish rivers, the Desselse Nete and the Zwarte Nete. Water quality parameters will be monitored over time to assess spatial and temporal variation upstream and downstream of sewer overflow points. In addition, a transplantation experiment will be conducted using selected aquatic plant species, planted both upstream and downstream of the overflow. Plant performance will be evaluated through survival, growth, and physiological indicators.

By combining water quality assessment with experimental transplantation, the research aims to clarify how sewer overflow influences aquatic plant communities and to provide insights for river management and ecological restoration.

This topic is in collaboration with the Flemish Environment Agency and Province of Antwerp.

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