



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 2026-2027

Effect of floating wetlands on the physico-chemical and biological quality of rivers and ponds

Research group: ECOSPHERE

Hosting laboratory: CGB– building U

Promotor(s): Lieven Bervoets lieven.bervoets@uantwerpen.be

Daily supervision:



- 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 The water quality of many aquatic systems is insufficient. Mainly the levels of nutrients (phosphates, nitrates, ammonia), but also micro pollutants such as metals and PFAS, are often exceeding the Flemish water quality standards and impairing the biological water quality. In some aquatic systems (e.g. the Dijle “binnen Dijle” in Mechelen) floating wetlands are deployed in order to extract nutrients and micro pollutants hopefully improving the water quality.

The aim of this subject is to assess the physico-chemical and biological quality in the direct vicinity of the floating wetlands at different time points and compare with the quality at reference sites and/or before the installation of the wetlands.

Physico-chemical variables that will be assessed are dissolved oxygen, acidity, conductivity, nutrients such as nitrate, nitrite, ammonium, phosphate, sulfate and chloride. Besides the physico-chemical assessment also the biodiversity of the macro-invertebrates will be assessed applying the multi metric index of Flanders (MMIF). Samples will be taken at several locations. Samples will be taken from July until December and beyond.

If feasible, also the fish community will be assessed at different locations before and after the installation of the floating wetlands.

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