

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.

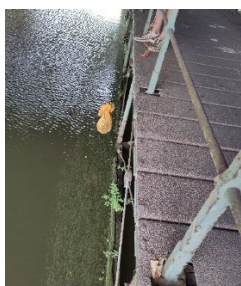
MASTER THESIS SUBJECT 2026-2027

Optimalisation of methods for the assessment of the macro invertebrate multimetric index of flanders (MMIF)

Research group: ECOSPHERE

Hosting laboratory: CGB – building U

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Summary:

All European member states have to evaluate the water quality of their surface waters in different ways, including assessment of the biological water quality by evaluating the macro invertebrate community structure. In Flanders this is done by calculating a multimetric index, called the MMIF or Multi Metric Index of Flanders. In this index five characteristics of the macro invertebrate community are assessed and combined into one final index. Generally two methods of sampling are used. In shallow wadable streams the macro invertebrates are collected with a standard hand net following a certain protocol. In deeper water such as big rivers, lakes and canals, it is impossible to collect the organisms with a hand net. For this system another approach is applied where organisms are collected applying artificial substrates that can be colonized by the invertebrates. However, uncertainty exist about the efficiency of these substrates. In this thesis the effect of different aspects of the substrates will be investigated. Factors that will be tested are among others, (1) what is the optimal number of substrates per location that should be used, (2) what is the effect of the material present in the substrates, (3) what is the optimal exposure duration. In shallow waters the substrates samples will be compared with hand net samples. In deeper water the effect of material used, number of substrates and exposure duration will be assessed.

This subject can also be chosen as IP.

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