University of Antwerp
Faculty of Science

ECOSPHERE

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 2024-2025

Unravelling factors that control blooms of midges

Research group: ECOSPHERE

Hosting laboratory: CDE

Promotor(s): Prof. dr. Jonas Schoelynck

Daily supervision: Tom Maris (tom.maris@uantwerpen.be)

Study site Groot Schoor: a restoration site with many midges living on these mudflats

- **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: Many tidal wetlands are being restored along the Scheldt river. Although they naturally belong to the estuary, sometimes in this newly created nature there is a massive appearance of midges. These are little stinging flies that, when very abundant, can cause nuisance for people living nearby these areas, which may underpin societal support for this type of nature restauration. Probably these outbreaks of midges are only a temporal phenomenon of an ecosystem that is not in equilibrium yet. In the estuary itself and in natural tidal flats these midges also appear, but seemingly less abundant, although there abundance there seems to increase. An improved water quality and warmer summers could promote midges blooms.

To effectively manage the population, we need to know where they are exactly, and how large and dynamic the population is. Not only the adults, but especially the larvae will be focus of this thesis. Although midges are already recorded along the Schelde more than 100 years ago, still little is known about their habitat preferences. In this thesis you will investigate the preferred habitat of the larvae. Where do they appear? What abiotics factors influence these larvae? Is the density of larvae always corelated with the number of adult midges?

In this thesis you will be monitoring adult midges using traps with UV-light. Larvae will be sampled on mudflats, together with the monitoring of abiotics factors. Only for students who are not afraid of some mud!

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