

*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 2027

Multi-stressor interactions in migrating fish: reaching the finish line.

Research group: ECOSPHERE

Hosting laboratory: CDE, CGB

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Migration routes of diadromous fish are filled with multi-stressor experiences.

Summary

Diadromous fish migrate between freshwater and marine habitats. They can spawn in the ocean (e.g. European eel) or freshwater (e.g. Atlantic salmon) but spend most of their adult life in the opposite habitat. When migrating between both habitats, either as a juvenile or a spawning adult, they need to pass multi-stressor environments (weirs and dams, low oxygen, high temperature, low or high current, pollution...). With this study we will examine how a multitude of stressors affect migration of these fish over different life stages, starting with early life stages to mature adults. We will use real migration river data to mimic the challenges encountered by these fish on their way to their feeding or spawning grounds. Changes in salinity, temperature, oxygen levels and current; or different levels of pollution; will not only be studied individually but also combined in multi-stressor exposures and will change over exposure time as they move further in our simulated river system. Experimental work will be done in climatized rooms in the lab at CGB (early life stages) or in artificial rivers at our Mesodrome at CDE.

- 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: