

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

Forest restoration in a changing world: to plant or not to plant?

Research group: ECOSPHERE

Hosting laboratory: CDE, building C

Promotor(s): prof. Tobias Ceulemans – tobias.ceulemans@uantwerpen.be

Daily supervision: Judith Fremout – Judith.fremout@uantwerpen.be



Planted trees at Chartreuzenberg (Holsbeek), suffering from summer drought (September 2026).

- 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

In 2019 the [Green Deal](#) formulated the aim for 3 billion extra trees in the European Union by 2030 as compared to 2019. Forest restoration in Flanders is currently commonly achieved by active tree planting; 7 million trees have been planted since 2019 ([bosteller](#)). Alternatively, regeneration may also occur through natural regeneration, which is less costly and less labor intensive, but much less applied in Flanders.

The student will do a literature search on the advantages and disadvantages of assisted and natural reforestation, and will investigate how both approaches are currently applied in Flanders. This includes the investigation of decision making on tree species, legislation regarding reforestation and 'forest compensation' ([boscompensatie](#)), and analyze existing data from '[bosteller](#)'. The student will conduct fieldwork during spring and/or summer, visiting about 100 young forest sites spread over Flanders to collect data on survival rate and to compare the tree species with the map of potential nature. The student needs a driver's license B.

The goal of this thesis is to evaluate the value of current reforestation approaches for nature restoration, to highlight potential pitfalls and to formulate recommendations to achieve more successful ecosystem restoration in the context of reforestation.

- 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: