



Sveriges lantbruksuniversitet  
Swedish University of Agricultural Sciences

Department of Soil and Environment



## MSc projects in Stream Water Quality, Ecology and Remediation

**Credits:** 30 credits  
**Level:** Master  
**Subject:** Environmental Science  
**Start:** Anytime

### Background

Streams draining agricultural landscapes are heavily polluted and modified yet have a potential to provide important environmental functions such as flood and drought control, regulation of nutrients, erosion, and biodiversity. Ongoing research in our group investigates the role of agricultural streams in regulating water quality, the impact of catchment and stream remediation on water quality and ecology, the impact of climate change on stream flow and water quality. We use state-of-the-art field (e.g., in situ water quality sensors and analysers), laboratory (e.g., denitrification and P sorption assays) and numerical (e.g., advanced statistics, stream and catchment models) methods in our research. Our group has experience in supervising MSc projects with 17 students supervised since 2017.

### Projects' suggestions

We encourage prospective students to use the following suggestions for MSc projects as templates for their own projects, for example by combining aspects of several projects, different methods and adding your own ideas and interests. Each project should include literature review and report writing and either focus on field and laboratory measurements to collect new data or statistical analysis of existing data hosted by our group.

- Strategies for reducing diffuse pollution and erosion and their effect on water quality
- Identifying locations for placing mitigation measures on small catchment scale
- Using benthic macroinvertebrates as an indication of stream remediation success
- Groundwater impacts on eutrophication pressures in agricultural streams
- Exploring existing water quality datasets to understand stream function
- The role of nutrient legacies in controlling water quality and effect of remediation
- Carbon and nitrogen interactions in agricultural streams

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**Website:** <https://www.slu.se/en/ew-cv/magdalena-bieroza/> here you can find examples of past MSc projects supervised by our group and learn about what we do.