

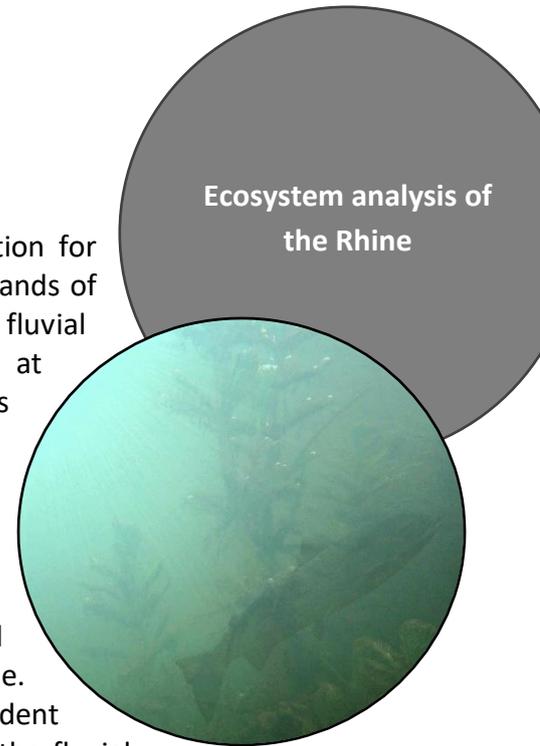


## B.Sc. / M.Sc. Topic

Ecosystem analysis of the Rhine

## Background

Fluvial ecosystems are marked by many legacies such as channelization for navigation purposes or the use of rivers for hydropower. Today, thousands of river restoration projects worldwide attempt to repair damage to fluvial ecosystems through legacies, where many restoration projects aim at maximizing habitat benefits for some target aquatic species. This thesis integrates into a German-Chinese research collaboration and investigates aquatic species and the ecosystem of the Upper and Middle Rhine compared with the Yellow River. The objective is to rediscover lost ecological treasures (e.g., extinct fish or plant species) and to determine hydraulic preferences of endangered species. Ultimately, this thesis will establish a qualitatively-quantitatively valid design scheme for restoration activities on the Upper and Middle Rhine. To this end, we are looking for a motivated, curious, and proactive student who creatively, systematically, and structurally elaborates features of the fluvial ecosystem beyond the literature. It is also possible to complete this project as a Master's Thesis, with a significantly larger scope of a literature study on the Yellow River and the development of a detailed case study for the implementation of the restoration scheme at the Rhine. The student can build on an existing database and literature summary.



## Thesis Overview

1. Review literature on native fish and plant species of the Upper and Middle Rhine (Master Thesis: elaborate contrast to the Yellow River, China).
2. Extract relevant data (e.g., species preferences regarding hydraulics, substrate, chemical components, climate, or geographical aspects).
3. Draft, establish and fill a scheme to list and organize relevant species and their preferences.
4. Out of the box: Consider the application of findings to restoration efforts.
5. Master's Thesis only: Develop a detailed case study to implement the restoration scheme.
6. Discuss and conclude relevant findings for restoration efforts and the Yellow River.



**Apply now!**

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The thesis can be written in German or English.

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