

Management of the European eel, degree projects (bachelor or masters) / research training or internship

Background

The European eel, *Anguilla anguilla*, is red listed as critically endangered due to a steep population decline. Knowledge on everything from behaviour and physiology to development of stock assessment parameters are needed to improve the situation. The national data collection program is handled by the Institute of Freshwater Research at Drottningholm – Stockholm. We have a great variety of degree projects and research training/internship related to management and data collection of the European eel.

Project examples:

- Tagging and tracking of eels in river systems, lakes and in the sea. Students can be involved in the tagging and tracking procedures. The data is used to estimate survival (fisheries induced survival, hydropower induced mortality), movement, long distance migration, etc.
- Improve data collection programs. To monitor the eel stock, data is collected on a number of variables, such as landings, individual length, parasite prevalence, age, etc. Since data collection is time consuming and costly it is important that it is efficient. Any improvements that can be made to the monitoring programs are highly valuable.
- Make use of existing data series. We have a large database that can be used to answer questions related to effects of fisheries, growth, effects of parasites, differences between areas, etc. We have long-term data series some dating back to 1900 (i.e., more than 100 years of data) that can be used to answer questions in line with the students' interests.
- Testing eye-recognition software as a non-invasive tool for individual identification of fish. Fish will be collected, held at the laboratory, and photographed over time. The photographs will be analysed with iris-recognition software to evaluate the method. According to the 3R principle for ethical use of animals (replace, reduce, refine), non-invasive methods should be used whenever possible, and the need to develop new techniques is evident.

The work will be supervised by Dr Josefin Sundin. Depending on the project, the student should have an interest in fish ecology, behavioural ecology, fisheries science, data analysis, statistics, and scientific writing.

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SLU page:

<https://www.slu.se/en/ew-cv/josefin-sundin/>

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