

Department of Aquatic Resources

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Estimating recreational fishing effort in Lake Mälaren

Master project in biology, SLU Aqua, 30-60 hp.

Background

Recreational fishing is a popular activity with several human benefits. Excessive fishing can however have negative effects on fish stocks. In many areas in Sweden, fishing with handheld gears is open access, meaning that anyone can fish. The lack of registration poses challenges for estimating recreational fishing pressure, a key variable for a sustainable fisheries management. To increase our knowledge on recreational fishing in Sweden, the Department of Aquatic Resources conducts yearly surveys of recreational fishing.

This research project will use data collected during the summer of 2020 in Lake Mälaren. The field study focused on the pikeperch (*Sander lucioperca*) trolling fisheries, and consisted of two parts. The first part was an intercept creel survey, where local fishers were counted and intercepted during fishing for interviews regarding gear, effort and catch. The creel survey covered three larger areas sampled on a subset of days. To complement the creel survey, continuous counting of effort was conducted at selected sites using time-lapse cameras. The two surveys thus covered i) large areas – few occasions and ii) small areas – many occasions. By combining the two survey techniques, the aim is to estimate total recreational fishing effort and provide advice for optimisation of future surveys.

Depending on whether the student wishes to do a 30 or 60 hp thesis, the project can focus on either or both of the two data collection methods.

Method

This project requires an interest in survey design and estimation statistics. Practical work will consist of digitizing the data, including counting effort from the cameras and statistical analysis. The work can be performed online or at the Institute of Freshwater Research, Drottningholm, under the supervision of Dr Göran Sundblad and Dr Nuno Prista (stationed at the Institute of Marine Research, Lysekil).

The student should have an interest in data analysis and statistics. Some knowledge of recreational fishing is advantageous but not necessary. The work can commence at any time.

