

Master Thesis in Fish Ecology and Management

Bubbles to help the lost traveler: Guiding migrating Atlantic salmon

(30 or 60 credits)



Description

Migration barriers in regulated rivers used for hydropower production is a well-known problem for diadromous species such as the Atlantic salmon (*Salmo salar*). Mortality from turbine passage occurs also at hydropower plants with available fish ways due to the problem of salmon finding the entrance to the fish way. Different types of guiding structures are today used to lead the salmon towards the fishways, these are however often associated with high costs in terms of installation and maintenance. An alternative method of guiding fish in a preferred direction is to use air bubbles forming a curtain that visually blocks a specific part of the river.

Earlier pilot studies have showed significant effects from bubbles to divert downstream migrating juvenile salmon (smolts) in a stream water aquarium and the aim of this project is to scale this up to a real river setting. The study will be conducted in River Umeälven in May/June close to the Stornorrfors hydropower plant and to track fish movement in their natural environment we will use acoustic telemetry. The candidate will assist with installing and removing equipment in field and also analyzing the data collected with the acoustic telemetry. Field experience and skills in R is a plus.

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