

1 PhD student in the research education subject: Biology with specialization Ecology

Scales of density-dependence of salmonid fishes in a river environment

The Department of Aquatic Resources of the Swedish University of Agricultural Sciences is seeking a PhD-student to investigate the scale and mechanisms of density-dependence in a river environment in salmonid fishes, and implications for population assessment. The scale at which density-dependence operates and its role in regulating populations are fundamental questions in ecology. This project would explore the implications of density-dependence for inference about the relationship between spawning stock size and recruitment, population assessment and what types of data should be collected and how. The PhD project aims to analyse large volumes of existing data (electrofishing densities, adult and smolt counts, etc.), with the opportunity to conduct experiments in a controlled environment.

Tasks can be matched to some extent with the candidate's skills and interests but could include: performing experiments to investigate the spatial scale of density-dependence in juvenile fish, developing methods for linking fish density observations to riverine habitat quality, evaluating sampling designs for collection of juvenile fish density observations, improving models of juvenile fish recruitment in rivers and assessing the potential for use of density observations in population assessment. The project will directly address key knowledge gaps that have been identified in ICES' working group on Baltic salmon and sea trout.

Qualifications

The candidate should have an MSc degree or equivalent in Biology/Ecology/Environmental Sciences/Statistics with proven quantitative skills. Experience in ecology and population dynamics modelling is preferred. Experience with Bayesian statistics, large data sets and an interest in conducting experimental work and fieldwork are considered advantageous. We are seeking a highly-motivated and dedicated student. The candidate should have good communication skills, a strong work ethic, and be a good team player.

Forms for funding or employment

Employment as PhD student 4 years

SLU is an Equal Opportunity Employer.

A person has **basic eligibility for third level education** if he or she has taken a second level qualification or has completed course requirements of at least 240 higher education credits, including at least 60 higher education credits at second level.

Selection among applicants meeting the requirements is made with reference to written application including curriculum vitae, copies of degrees and transcripts of academic records, one copy of the dissertation for masters or undergraduate degree, a list of at least two references familiar with the applicant's qualifications, certified knowledge of the English language and an interview.

Read more about the PhD education in [the Handbook for postgraduate students](#)

Read about the PhD education at SLU at www.slu.se/en/education/programmes-courses/postgraduate-studies/

Use this [APPLICATION FORM](#)

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Applications, marked with **ref no SLU ua 4102/2016**, must have arrived at the Registrar of SLU, P.O. Box 7070, S- 750 07 Uppsala or registrator@slu.se no later than **2016-11-27**.