

Bern, April 2021



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**UNIVERSITÄT
BERN**

Aquatic Ecology & Evolution
Institute of Ecology &
Evolution
University of Bern

3 Postdocs, 1 tech positions: fish ecology, ecological niche modelling and aquatic conservation, University of Bern, Switzerland

Four positions are available for three Postdocs and a field work technician (each 2-3 years) in the Aquatic Ecology & Evolution group of Ole Seehausen at the University of Bern, Switzerland.

With the Wyss Academy for Nature, we are starting an ambitious freshwater conservation biology project with a focus on fish. Working initially at the scale of the largest Swiss catchment, the Aare, home to more than 60 different species of fish, we want to go all the way from field ecology, niche modelling and projections of range shifts under climate change to identifying priority areas for biodiversity conservation, and designing measures to mitigate predicted and recover past losses. As implementation partner, the Swiss Fisheries Competence Center will develop applications of such measures initially in a test region. The project is supported by the Wyss Academy for Nature at the University of Bern in partnership with the Canton of Bern and the Swiss Federal Office for the Environment (FOEN/Bafu). If successful, the project may continue for up to eight years, with the goals of upscaling projections to other catchments of Switzerland and a fully fledged mitigation program.

The Aare catchment contains several of the large perialpine lakes, each of which has endemic species of coldwater fish, several of which have already gone extinct. It also has many mountain rivers with environmental gradients stretching from the arctic-alpine to the temperate climate zone, including one of the most pristine braided rivers left on the North face of the Alps. We have an extensive data set on distribution records for most species of fish in Switzerland and many environmental variables. Our goal is to complement this data with additional dense sampling of fish and environmental variables across the entire Aare catchment. Our recent work has uncovered old cryptic species as well as postglacial ecological species within the broad category of taxonomic "species" currently in use in management. Whenever possible we will do niche modelling and change projections at the level of these evolutionary significant units (ESUs). We will work with and add to our large collection of voucher specimens and tissue samples covering many populations of most Swiss fish species. We will develop data rich niche models for all species/ESUs of fish and also for some key aquatic invertebrates. We will combine the niche models with locally resolved climate and land-use change projections to predict habitat gains and losses and identify hotspots of expected biodiversity loss. We will use the results to develop mitigation strategies, components of which will be explored initially in a test region, in close collaboration with the Swiss Fisheries Competence Centre, the Wyss Academy for Nature, the Canton Bern office for the environment (LANAT) and the Federal Office for the Environment (FOEN).

We are looking to fill the following profiles:

1. Fish ecologist, evolutionary or conservation biologist to lead the field work with emphasis on sampling, identification, integrative taxonomy, and ecology of fish. Employment at Postdoc/senior Postdoc level depending on experience. Qualifications: PhD in ecology/taxonomy/systematics with excellent knowledge of fish, fieldwork, population genetics, phylogenetics, good understanding of integrative taxonomy and excellent analytical

skills. Social skills are required for interactions with stakeholders – some knowledge of German/Swiss-German is an asset.

2. Aquatic ecologist, evolutionary or conservation biologist to co-lead the field work with emphasis on ecological and environmental data collection and invertebrates. Employment at Postdoc/senior Postdoc level depending on experience. Qualifications: PhD in aquatic ecology/taxonomy/systematics with excellent knowledge of aquatic systems beyond fish and excellent analytical skills. Social skills are required for interactions with stakeholders – some knowledge of German/Swiss-German is an asset.
3. Ecologist or evolutionary biologist with strong modelling skills to lead the niche modelling and projection of population dynamics and range shifts under climate and land-use change. Employment at Postdoc/senior Postdoc level depending on experience. Qualifications: PhD in ecology, conservation or evolutionary biology with strong background in ecological niche modelling and/or projections of biodiversity under climate change scenarios.
4. Field technician in charge of all sampling. This includes electrofishing and snorkelling in streams, netfishing, diving and ROV operations in lakes, processing of samples and genetic lab work (barcoding and RAD sequencing) and obtaining sampling permits. Employment as technician/senior technician. Qualifications: MSc or PhD in fish biology with relevant field experience and technical skills. Social skills and proficiency in German/Swiss-German are required for interactions with fisheries administrations and stakeholders.

Provided appropriate skills, one senior Postdoc is expected to take on the responsibilities of overall project management. The project is part of the Hub Bern of the Wyss Academy for Nature (<https://www.wyssacademy.org/>). It will be implemented in close collaboration between the Institute of Ecology & Evolution's division of Aquatic Ecology & Evolution (<https://www.iee.unibe.ch/>), the Swiss Fisheries Competence Centre, the Canton Bern office for the environment (LANAT), the Federal Office for the Environment (FOEN), and the Eawag Department of Fish Ecology & Evolution.

The group of Seehausen is based at the Institute of Ecology & Evolution of the University of Bern and at the Eawag Centre for Ecology, Evolution & Biogeochemistry in Kastanienbaum (Lucerne). The group works on the ecology, evolution and conservation of freshwater fish with a strong focus on the fish of the Alpine region and the African Great Lakes. The Postdocs and Technician will function as a project team within a much larger team of ecologists, evolutionary biologists and conservationists. The group's working language is English and fluency in speaking and writing is required. Knowledge of German is required for the field technician and is an asset for the Postdocs. Salary will be according to University of Bern salary scheme and commensurate with experience and job profile (e.g. responsibilities as project leader).

Supervisor: Prof. Dr. Ole Seehausen, Institute of Ecology and Evolution

The positions are available from **May 15, 2021** and at least until the end of 2023.

Review of applications starts on May 1, 2021 and continues until the positions are filled.

Please direct inquiries to Prof. Dr. Ole Seehausen, ole.seehausen@iee.unibe.ch.

Applications: One pdf file only, with CV, letter of motivation, publication list, clear statement which of the position(s) you apply for (1, 2, 3 or 4) and contact details of three referees should be sent by email to Alexandra.depeyer@iee.unibe.ch