



Baden-Württemberg

MINISTERIUM FÜR ERNÄHRUNG, LÄNDLICHEN RAUM UND VERBRAUCHERSCHUTZ

Az.: 12 - 0305.3 (0823) 3505

Stuttgart, 20.05.2021

Job specification: Fisheries scientist for the ecological modelling of fish populations and their responses to environmental impacts in Baden-Württemberg

A five-year research post is offered at the Fisheries Research station of the Agricultural center for cattle, grassland, dairy, game and fisheries of Baden-Württemberg (LAZBW) in Langenargen, Germany.

Project outline:

River engineering works, such as water power plants or alterations for flood control, heavily impact freshwater ecosystems and fish populations. In addition, climate change, new fish diseases, and invasive species offer further challenges to native fish stocks. For these reasons, it is becoming more and more challenging to conserve or establish self-sustaining populations of highly endangered fish species but also to preserve relatively intact fish stocks at natural levels that support fisheries and maintain ecosystem functions. It is thus imperative to identify and rank effective and long-lasting fisheries management options.

This is where the outlined project jumps in, and the researcher is required to apply advanced ecological modeling techniques to address two main objectives. First, extensive time series of fishing records and accompanying environmental information should be analyzed to identify management options that support and improve populations of long- and mid- distance migratory fish species, especially Atlantic salmon. Afterwards, this ranking should be used as a blue print to evaluate possible protection measures for other endangered migratory fish species in the area. Second, population and ecosystem modelling should be used to evaluate the effects of invasive species in selected systems. A rich time series dataset describing fish population and other ecosystem characteristics is available to support this effort.

The results will be used to support local fisheries managers in their efforts to protect endemic fish species as well as to preserve a sustainable use of the local fish stocks for commercial fishermen and anglers.

The study aims to answer the following questions:

- What environmental factors impact and restrict selected migratory fish species in the current situation and under future climate change scenarios?
- What restoration measures, be it habitat improvement, stocking programmes, increasing connectivity, etc., might effectively improve conservation?
- What dynamics in the development of selected invasive species could be expected in future and what are the related consequences for the native fish community and the local fisheries?

Results will be submitted in a final project report. Intermediate results should be published in scientific literature and also be presented regularly at scientific and public meetings.

Responsibilities:

- Reworking preexisting data to fit/inform modelling of migratory fish stocks and the impact of environmental changes and management actions.
- Design of additionally needed monitoring surveys (e.g. redd counts or additional stock assessments).
- Evaluating the applicability of existing population models for local use.
- Developing state-wide numerical models to unravel impacts on target fish species.
- Applying results in a decision analysis framework to inform future management.
- Communicating the results of both scientific and applied fishery management elements of the study.

Expected qualifications:

- Master degree or equivalent in fisheries and wildlife sciences, ecology, biology or related fields with an emphasis on fish biology; fish ecology; fishery management or related subjects

- PhD in fisheries science or fish ecology with an emphasis on ecological modeling, ideally focused on population modeling and stock assessment
- Five-year work experience in applied fishery research and/or fish stock management
- Several publications as first author in Q1 journals (SCImago Journal Ranking)
- Advanced experience with quantitative methods and advanced ecological modelling (e.g., maximum likelihood and/or Bayesian estimation, time series analysis, and integrated modeling)
- Excellent understanding of project relevant statistical methods
- Experience with relevant software (R, JAGS, STAN, ADMB, TMB) to create scientific and user-friendly models is essential
- Knowledge of native fish fauna in Baden-Württemberg or from regions with similar fish communities is desirable
- Strong capacities for teamwork and ability to closely collaborate with project partners (e.g. fisheries administration, angling clubs, local scientists)
- Excellent knowledge of spoken and written English
- Knowledge of or desire to learn German is an asset but not required

Salary:

Remuneration will be according to the public sector salary regulations for the state of Baden-Württemberg's (TV-L), and depends upon personal experience and qualifications according to the TV-L 14 pay scale (€4419 – €5027 monthly). Full benefits are included in accordance with the German public service system, such as 30 days annual vacation, health insurance, and inclusion in Germany's state retirement system.

Start date:

Work will commence as soon as possible.

What we offer:

- Attractive work location on the shores of Lake Constance with plentiful recreation opportunities nearby (swimming, skiing, cycling, sailing, etc.)
- Interactive work environment with a team of dedicated scientists
- Collaborations with the University of Constance and other renowned research institutions
- Assistance acquiring residence and work permits for non-EU residents

About the workplace:

The position will be located at the Fisheries Research Station in Langenargen, a town on the shores of Lake Constance. The town has full amenities and several larger cities nearby offer more access to shopping, cultural experiences, and travel hubs. The research station currently has a team of around 20 scientists and technical workers, including several postdoctoral researchers and PhD students. As a state research agency, efforts are focused on basic and applied research that can directly inform the conservation and management of fishery resources. Further information about recent research carried out at the institution, including a list of publications, can be found at <https://www.researchgate.net/profile/Alexander-Brinker>.

Equality and Diversity:

- The state ministry (Ministerium für Ernährung, Ländlichen Raum und Verbraucherschutz) is actively seeking to improve gender balance and women are explicitly encouraged to apply.
- There is potential for the post to become a part time position.
- Applicants with severe disabilities will be favored in cases of equal qualification.

We look forward to receiving your application. Review of applications will begin on **25.06.2021**. Please send applications (full academic CV, preferably: names of three reputations, one or two representative publication) marked with the relevant reference number **0823/LAZBW/3505** to:

Ministerium für Ernährung, Ländlichen Raum und Verbraucherschutz
Baden-Württemberg
- Personalreferat -
Postfach 10 34 44,
70029 Stuttgart

or via email, with the relevant reference number **0823/LAZBW/3505** as the e-mail subject ([as one document formatted as pdf or tif, max. 3 MB](#)) to: bewerbungen@mlr.bwl.de.

For further information, you are welcome to contact: Alexander Brinker, PD Ph. D.
(Fon: 0049 7543 9308324; E-Mail: Alexander.Brinker@lazbw.bwl.de)

gez.: Dr. Florian Gibis
Head of human resources department