



Seeking postdoctoral and post-master's applicants for the Wisconsin Water Resources Science-Policy Fellowship in Fisheries Management

Application Deadline: March 23, 2020

The University of Wisconsin Water Resources Institute (WRI) in partnership with the Wisconsin Department of Natural Resources (WDNR) seeks postdoctoral and post-master's candidates interested in tackling science and policy challenges related to water resources and fisheries management in Wisconsin. Together, these programs will fund a Wisconsin Water Resources Science-Policy Fellowship in Fisheries Management. This fellowship will provide a unique educational and career opportunity for recent graduates who are interested both in aquatic resources and in the policy decisions affecting those resources in Wisconsin. This program places a recent master's or doctoral graduate within a state program full-time for one to two years, with the Fellow bringing technical skills to benefit water issues and challenges and receiving valuable real-world science-policy experience from the resource professionals who will serve as mentors. This mutually beneficial partnership will result in advancing science to support policy decisions as well as valuable training opportunities for new professionals entering the work force.

The fellow will have the opportunity to collaborate with fishery managers and researchers in the WDNR and UW-Madison's Center for Limnology and with hydrologists and water quality biologists in the WDNR, at UW-Madison, and at U.S. Geological Survey. The fellow will be appointed by the UW-Madison Aquatic Sciences Center (home to the University of Wisconsin Water Resources Institute), and stationed primarily in the WDNR Bureau of Fisheries Management headquarters in Madison, WI. The fellowship mentor team will likely include: Dr. Alex Latzka (WDNR Fisheries Management), Dr. Greg Sass (WDNR Fisheries Research), Dr. Titus Seilheimer (Wisconsin Sea Grant Fisheries Specialist) and Dr. Jennifer Hauxwell (UW-Madison Aquatic Sciences Center Associate Director).

WDNR has identified the following priority areas in which we are seeking assistance. While the bulk of the fellow's work will focus on the research and modeling, there will be opportunities to assist with field projects, attend trainings and conferences, participate in policy discussions and work groups, and generally collaborate with DNR staff. The candidate will be expected to produce at least one lead-authored manuscript and contribute to internal DNR reports, and may be able to develop interactive tools via R Shiny related to their work.

1) Effects of altered hydrologic regimes on Wisconsin fisheries (*preferred*)

Wisconsin surface waters have undergone extreme hydrological changes in recent years, including major droughts, groundwater withdrawals, and increasing precipitation and frequencies of extreme storms, resulting in myriad responses of stream and lake water levels, temperature, and other limnological attributes. These responses may influence fish habitat availability and quality, predator-prey interactions, and ultimately fishery outcomes. This postdoctoral fellow will bring together data and existing models to better understand the role of hydrological drivers in structuring fish populations via intermediary effects on stream discharge or lake water levels, water temperature, physical habitat, and water chemistry (BOD and dissolved oxygen, allochthonous inputs, water clarity, etc.). The fellow may construct models that predict responses of stream trout populations, stream discharge, and temperature across a range of hydrological conditions including high or low precipitation, flooding, groundwater withdrawals, and more (*this project is preferred, if well-suited to the candidate's skills and interests*). Alternatively, the project could focus on the effects of lake-level fluctuations on physical habitat availability (cobble, coarse woody habitat) and water chemistry to understand fishery consequences particularly in seepage lakes. Results of these models will inform the Department of Natural Resources' fishery management strategies including fish habitat restoration projects, fishing regulations, and fish stocking.

2) Evaluation of trout habitat projects on water quality, habitat, and trout communities.

Trout habitat projects are conducted statewide to improve physical habitat for trout (physical cover, hydraulic heterogeneity, etc.), but are not consistently evaluated quantitatively. Recent digitization of habitat project records allows for analyses of habitat and fishery metrics before and after habitat projects across the state. We would be interested in testing the short and near-term effects of these projects on stream habitat (substrate, cover, dissolved oxygen, temperature, velocity, etc.) and brook trout and brown trout populations.

3) What are the best management practices for Wisconsin reservoir water level management?

Water drawdowns at dams can influence water quality, including stranding of littoral habitat, altering biogeochemical pathways and balances, and introducing and mobilizing nutrients and sediment. What are the implications of these changes for reservoir and downstream fisheries, and how can water-level manipulations best be managed to protect fish habitat while meeting infrastructural needs? This project could involve lake-level modeling and simulations to estimate effects on habitat and limnological parameters, informing potential outcomes for fisheries.

Additional information

More detail on the fellowship is below. If you have any questions, please contact:

Dr. Jennifer Hauxwell at jennifer.hauxwell@aqu.wisc.edu or (608) 263-4756 or

Dr. Alex Latzka at Alexander.Latzka@wisconsin.gov or (608) 264-6028

Eligibility

Any student or postgraduate who will have graduated between fall 2018 and summer 2020 with a degree and experience and skills in fisheries research, statistics and modeling, and/or hydrology and limnology, and an interest in conducting applied, actionable science is eligible to apply. Fellows must have completed all degree requirements before starting the fellowship.

Stipend and Expenses

Annual stipends are dependent on the Fellow's academic background, with post master's Fellows earning \$40,000 and postdoctoral Fellows earning \$55,000, both with additional benefits (see - <http://www.ohr.wisc.edu/benefits/new-emp/grad.aspx>). Fellows will be allotted up to \$2,000 to cover fellowship-related travel and can include conferences. Additional travel associated with the fellowship may be covered by the host agency at the agency's discretion.

Application Requirements

Application packages should be sent to jennifer.hauxwell@aqu.wisc.edu at the University of Wisconsin-Madison Aquatic Sciences Center and should include:

1. A cover letter that describes your background and abilities, your expectations from the fellowship experience and how this experience fits with your career goals. (2 pages or fewer)
2. Curriculum vitae with relevant educational, professional and volunteer experience. (no length limit)
3. Copies of undergraduate and graduate student transcripts. Scanned copies are acceptable.
4. Two letters of recommendation, including one from the applicant's major professor; if no major professor exists, another faculty member at the same institution, familiar with your academic record, may be substituted. References should email letters directly to jennifer.hauxwell@aqu.wisc.edu.
5. Up to 4 writing samples, both formal and informal (e.g., journal articles or other technical documents, popular articles, web resources, etc.)

Please use the naming convention "Last name – description of file" for all files associated with the application (e.g. "Smith – cover letter", "Smith – cv", "Smith – transcripts", etc.).

Selection Process

WRI and WDNR staff will identify a short list of candidates for interviews. Interviews will be conducted by a panel of WRI and WDNR staff members to determine the best fit for the position. It is expected that applicants will possess a strong background in fisheries research, statistics and modeling, and/or hydrology and limnology, strong analytical skills, an ability to manage projects and work independently, and excellent written and verbal communication skills.

Length of Assignment

The length of assignment is one year (with a possibility of an extension) with an anticipated start of May 2020. This timeline may be adjusted to accommodate academic semester needs or the needs of the candidates or funding institutions.

Timeline

March 23, 2020 – Deadline for submission of applications

April – Interviews

May 2020 (approx.) – Fellowship begins