



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

Application Deadline: June 5, 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 hydrology and stream flow in Wisconsin. Together, these programs will fund a Wisconsin Water Resources Science-Policy Fellowship in hydrology and fisheries. 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. We are primarily seeking a hydrologist with a quantitative background and desire to collaborate with ecologists and fishery managers.

The fellow will have the opportunity to collaborate with hydrologists and fisheries managers and researchers in the WDNR, 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 Drinking Water and Groundwater headquarters in Madison, WI. The fellowship mentor team will likely include: Adam Freihoefer and Dr. Carolyn Voter (WDNR Drinking and Groundwater), 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).

Project Description: Wisconsin surface waters have undergone extreme hydrological changes caused by droughts, groundwater withdrawals, and increasing precipitation and frequencies of extreme storms, resulting in myriad responses of stream flow and temperature. These responses may influence fish habitat availability and quality, along with other beneficial uses of streams. This postdoctoral fellow will help develop models to better understand the roles of water budget components in shaping stream hydrology and temperature while collaborating with fisheries managers and researchers to understand effects on fisheries. Results of these models will help refine the WDNR's approach toward environmental review of high capacity wells in fulfillment of requirements prescribed in Wis. Stat. 281.34 and Wis. Admin. Code NR 820. Through this work the fellow will help streamline the current environmental review process for new high capacity well applications by improving existing tools or developing new tools for a scientifically defensible, timely assessment of groundwater pumping impacts on surface water bodies.

Position Objectives (Hydrology):

- Update statewide streamflow model
- Review existing approaches for determining significant impacts on navigable waterways
- Establish a new or improve an existing flow-ecology relationship for navigable trout streams throughout Wisconsin
- Characterize endemic risk to aquatic ecosystems due to baseflow variation.
- Develop risk management criterion based on the effects of altered hydrologic regimes to Wisconsin stream biological functions including fisheries

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.

Additional information

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

Jennifer Hauxwell at jennifer.hauxwell@aqu.wisc.edu or

Adam Freihoefer at Adam.Freihoefer@wisconsin.gov

Eligibility

Any student or postgraduate who will have graduated between fall 2018 and summer 2020 with a degree in a relevant field for the position is eligible to apply. Specifically, it is expected that applicants will possess a strong background in hydrology, fisheries, statistics and modeling, use of R programming language, strong analytical skills; an ability to manage projects and work independently; excellent written and verbal communication skills; and an interest in conducting applied, actionable science. 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 all undergraduate and graduate student transcripts
4. Up to 4 writing samples, both formal and informal (e.g., journal articles or other technical documents, popular articles, web resources, etc.)
5. A list of two professional references with contact information, including a faculty member from your graduating institution familiar with your academic record

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.

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

June 5, 2020 – Deadline for submission of applications

Early/Mid June – Interviews

June-August 2020 (approx.) – Fellowship begins

Note: Work arrangements and timeline may need to be flexible and may evolve amid the coronavirus (COVID-19) pandemic, adhering to all University of Wisconsin-Madison and state directives and guidance.