University of Minnesota
Water Resource Sciences Graduate Program
Graduate Research Assistant Position Description
Start date: Aug 2023
Location: St. Paul, Minnesota

We are recruiting a MS or PhD-level graduate research assistant to start August 2023 to work on predicting occurrences of aquatic invasive species within the Upper Mississippi River Basin (UMRB). The successful candidate will work as part of a collaborative team to evaluate several questions regarding which predictors (physical, chemical, biological, anthropogenic, and geographic) work best in modeling the presence of AIS in the UMRB. The project also seeks to highlight species of concern and areas of high risk and high resilience. This project builds upon work done by the US Geological Survey (USGS) on horizon scanning and has co-PIs from USGS and University of Minnesota. Initial project work will be focus on meeting with an advisory panel; gather and understanding the data (including any data cleaning); and learning the statistical model framework (i.e., boosted regression trees). The results of the model will highlight areas for future research as well as provide meaningful information for management agencies focused preventing AIS in the UMRB. The project calls for outreach activities, including multiple workshops to be taught to interested collaborators and stakeholders as well as outreach with the Bell Museum of Natural Science, the graduate student would play a lead role in both. There is the possibility to start working on the project (paid) in Summer 2023. Students from underrepresented groups and/or with diverse backgrounds are highly encouraged to apply.

Responsibilities will include:
• Collation and organization of data from state, federal, and tribal agencies to support synthesis and data analyses.
• Meeting with collaborators and data keepers.
• Application of the modeling frameworks to the data and conducting statistical analyses.
• Lead data analysis, visualization, publishing manuscripts, and presenting/communicating results to a wide range of audiences.
• Assist with quantitative workshops.
• Contribute to report writing and budget management.

Qualifications:
Successful candidates must possess (by the position start date) a bachelor's degree in biology, ecology, fisheries science, limnology, statistics, mathematics, or a related field. Strong preference will be given to candidates who have experience using boosted regression trees and analysis of large datasets. A strong work ethic, good communication skills, attention to detail, interest in fisheries science with management implications, and the ability to work both collaboratively and independently are critical. Interest or experience in quantitative modeling (using R), database management, and data visualization are required.

Stipend and Benefits:
Graduate research assistants receive a stipend of $25,968 annually as well as tuition remission and health benefits. More information on benefits can be found here: https://shb.umn.edu/health-plans/gahp-home

To apply: Interested candidates should send an email with subject "predicting AIS in UMRB" including a one-page cover letter describing their qualifications and interest along with their CV to Dr. Lynn Waterhouse (lwater@umn.edu). Feel free to copy Dr. Nick Phelps (phelp083@umn.edu) – but he is currently on sabbatical for Fall 2022.

Applications will be accepted through the WRS graduate program's online application system following preliminary review of candidates. Formal applications to the graduate program are due December 1st and more information can be found here: https://wrs.umn.edu/prospective-students