



PhD Graduate Research Assistantship: eDNA Monitoring and Co-Occurrence Patterns of Imperiled Species & Invasive Predators in North Carolina Rivers

Description: The federally listed Carolina Madtom & Neuse River Waterdog have declined across their historical ranges in the Tar–Neuse river basins of North Carolina. The invasion of non-native Flathead Catfish is one of the primary factors hypothesized to impact these imperiled species. This project will develop joint sampling & monitoring approaches using environmental DNA (eDNA) & occupancy modeling to detect & predict occurrences of these three priority species across the Tar–Neuse river systems, with the ultimate aims of 1) clarifying species distributions, 2) testing species–environmental relationships, 3) evaluating co-occurrence patterns, & 4) integrating eDNA monitoring into agency frameworks. The PhD student will work directly with Dr. Corey Dunn (USGS NC Cooperative Fish & Wildlife Research Unit, NC State University), Dr. Nadya Mamoozadeh (NC State University, Molecular Ecology Lab) & management biologists while learning in-demand skills transferable to broader applications in conservation such as lab development & field application of eDNA surveillance methods, occupancy modeling, habitat assessment, & imperiled species management.

Qualifications: Completed bachelor's degree (master's degree preferred) in biology, natural resources, or closely related field before start date. Prior experience with molecular applications, quantitative methods, & aquatic conservation. Candidates should have interests in both lab & field research, species distribution modeling, R programming, & science communication.

Salary & benefits: Graduate Assistantship >\$30,000 per year (Research x 3.5yr, Teaching x 0.5yr) + health insurance, tuition waiver, computer, professional travel, federal safety training.

Start date: Anticipated start date of July 2026 (preferred).

Apply: Apply here (<https://forms.gle/5dmdTxDAQi5aRNou8>) by uploading a single, merged PDF: (1) brief cover letter describing experiential background, career goals, & project interest; (2) resume/CV with GPA; (3) unofficial university transcripts; (4) email & phone numbers for three professional references (we will ask before contacting references); (5) optional (but encouraged) writing example from research or coursework. Applications will start being reviewed March 20; position closes April 5, 2026. Email inquiries about this position are welcome (corey_dunn@ncsu.edu; nrmamooz@ncsu.edu).

Helpful links:

Lab webpages: https://bit.ly/riverine_fishes; <http://www.mamoozlab.com/>

Department of Applied Ecology at NC State: <https://cals.ncsu.edu/applied-ecology/>

