

Position: M.S. Student Assistantship – Klamath River eDNA Research



Closing Date: First review 1 November, open until filled.

Location: Cal Poly Humboldt, Department of Fisheries Biology, Arcata, California, 95519

Description:

This project will focus on the Klamath River, which is currently undergoing the largest river restoration project in the United States with the removal of four mainstem dams. The removal will open over 400 miles of river that have been inaccessible to migratory fish for nearly a century. This project aims to monitor the migration of fishes as they ascend the river beyond the former dam sites, with a particular emphasis on ESA-listed coho salmon, as well as fall- and spring-run Chinook salmon, and steelhead.

The project will employ environmental DNA (eDNA) methods to complement SONAR-based enumeration of all salmonids passing the restored sections of the river. Specifically, eDNA techniques will be used to apportion species observed in the SONAR data, providing critical insights into the species composition and timing of salmonid migration.

We are seeking to fill a M.S. Student Assistantship to support the application of eDNA methods, including targeted approaches such as quantitative PCR and metabarcoding. The student will conduct weekly water collections at the SONAR site and participate in fish sampling using tangle nets to compare with eDNA data. Laboratory responsibilities will include performing DNA extraction and utilizing quantitative PCR and metabarcoding techniques to identify and quantify salmonid species. Data analysis will involve comparing species apportionment data obtained from eDNA and tangle net methods and evaluating the effectiveness of eDNA in determining relative salmonid abundance and migration timing at the SONAR site. The student will also engage in regular meetings with project collaborators, including CalTrout, the California Department of Fish and Wildlife, National Marine Fisheries Service, and the United States Fish and Wildlife Service, and contribute to project reports and presentations.

Qualifications:

- B.S. in fisheries, natural resources, marine biology, biology, ecology, statistics, or related fields.
- Qualified for acceptance to M.S. program in Natural Resources - Fisheries Concentration at Cal Poly Humboldt.

Preferred Qualifications:

- Research experience
- Strong organizational, writing, and communication skills
- Genetics laboratory experience
- Ability to conduct field work in challenging conditions
- Strong quantitative and statistical skills; experience with R (or demonstrated capacity to learn)

The selected student will enroll in the [Natural Resources graduate program](#) at Cal Poly Humboldt and work to obtain their M.S. degree within the [Fisheries Biology Department](#).

Expected start date is January 2025.

Salary: \$2500/mo x 30 mos

Tuition: \$4373/sem x 5 semesters, 6% annual increase

The student will be advised by Dr. Andrew P. Kinziger, a faculty in the Department of Fisheries Biology, Cal Poly Humboldt and Dr. Nicholas A. Som, faculty in the Department of Fisheries Biology, Cal Poly Humboldt and Unit Leader for the California Cooperative Fish and Wildlife Research Unit..

About Cal Poly Humboldt

Cal Poly Humboldt is a small to medium sized university located in a relatively remote area of Northern California. It sits near Humboldt Bay, 5 minutes from the beautiful coastline, nestled by

majestic redwood forests. The university has numerous facilities, including the Telonicher Marine Lab located in Trinidad (15 minutes from the main campus). Learn more about the university and location [here](#).

Cal Poly Humboldt is a Hispanic-Serving Institution (HSI) that strives to foster an equitable and inclusive community that supports our students of diverse backgrounds. Cal Poly Humboldt is a Title IX/Affirmative Action/Equal Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, age, sex including sexual orientation and gender identity, national origin, disability, protected Veteran Status, or any other legally protected status. More information about Cal Poly Humboldt SPF's Equal Employment Opportunity hiring can be found [here](#).

Instructions

Please email a cover letter, resume or CV, transcripts (unofficial are acceptable; official are preferred), and contact information of 3 references to Andrew.Kinziger@humboldt.edu. If available, applicants should also submit their GRE scores. If requested, you will send a formal application to the Graduate School.

Point of Contact

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