

Cal Poly Humboldt Sponsored Programs Foundation

Job Announcement

This is not a state position

Postdoc in Avian Agroecology and Pest Control Department of Wildlife Cal Poly Humboldt, Arcata, California

Application review begin date: September, 1 2022 (applications solicited until position is filled). Start date: January 9, 2023. Location: In-person at Cal Poly Humboldt, Arcata, California and in the field in Napa Valley, California.

SUMMARY:

We are seeking a Postdoctoral Researcher with expertise in avian ecology and agroecology to join [Matt Johnson's lab](#) in the [Department of Wildlife at Cal Poly Humboldt](#) (formerly Humboldt State University) in Arcata, California. The position is funded for 2.5 years (through June 30, 2025; contingent on adequate performance).

The postdoctoral researcher will join a collaborative team of researchers assessing the potential for nest boxes to attract songbirds capable of removing insect pests from winegrape vineyards in Napa Valley, California. The postdoc will be based at Cal Poly Humboldt but collaborate closely with scientists at UC Davis (Dr. Daniel Karp) and UC Riverside (Drs. Erin Wilson-Rankin and S. Houston Wilson). Cal Poly Humboldt is a predominantly undergraduate institution with several Master's programs (including in Wildlife), a strong commitment to teaching, a diverse student body, and an emphasis on inclusive student success; we have been a Hispanic Serving Institution since 2013. Thus, this position also includes an opportunity to develop and co-teach a new course, and we especially invite applicants interested in strengthening their experience working with students at a minority-serving university.

Integrated pest management (IPM) often focuses on enhancing the control of pests by arthropod natural enemies (i.e., predators/parasitoids), but less work has focused on vertebrate predators of pests. In California, winegrapes are a key crop that may benefit from bird-mediated pest control of insect pests (e.g. sharpshooters [Cicadellidae spp.] carrying Pierce's disease). Insecticide use by California winegrape growers has increased over time, with ~45M lbs applied in 2018. Birds could provide growers with an alternative, especially on organic fields where fewer insecticides can be applied. Despite the potential for birds to contribute to IPM, more research is needed to understand and harness their benefits for winegrape growers. Several previous studies have confirmed that nest boxes can attract Western Bluebirds (*Sialia mexicana*) and Tree & Violet-green Swallows (*Tachycineta bicolor* & *T. thalassina*) to California vineyards, initial diet analysis has been completed, and sentinel pest experiments have shown high rates of prey removal. What this means for actual rates of pest consumption, however, is unclear. Field experiments with nest boxes and sampling bird diets in the places/times when pests are common are needed to assess the potential for cavity-nesting songbirds to contribute to IPM in vineyards.

This project will combine visual bird censuses (point counts), nest box occupancy studies, animal tracking, insect pest sampling, and molecular diet analysis to quantify how nest boxes, local habitat features, and surrounding landscapes affect interactions between birds and pest insects in California vineyards. The project will build upon an established network of organic vineyards in Napa Valley, California. The lead data collection responsibilities for the postdoctoral position will be the point counts, nest box surveys, insect sampling, and fecal sample collection. Collaborators at UC Riverside (working with Rankin-Wilson) will conduct the diet analyses, and a PhD student at UC Davis (working with Karp) will focus on tracking bluebirds and swallows. The postdoc at Cal Poly Humboldt, under the supervision of Johnson, will take responsibility for the following activities:

- Be the lead coordinator of the project, which has field seasons from May-July of 2023 and 2024. This

includes coordinating meetings and maintaining communication with farmers, collaborators, and students; purchasing supplies; coordinating field season logistics; collecting and storing samples; and curating data.

- Hire, train, and supervise two field technicians in each field season and several undergraduate assistants processing insect samples in the lab during the academic year.
- Conduct statistical analyses, including Bayesian N-mixture models for point counts and generalized linear mixed models to examine effects of nest boxes on the abundance insects.
- Prepare academic manuscripts, including lead and co-authorship responsibilities.
- Work with partners, especially Wild Farm Alliance, to disseminate results to farmers via field days, informational videos, and virtual workshops.
- Attend scientific conferences to present results.
- Prep and co-teach (with Johnson) a new course (likely in Spring 2025) on Conservation in Working Landscapes with an undergraduate research component.

QUALIFICATIONS:

- A Ph.D. in Ecology or a closely related field.
- Strong interpersonal and communication skills and an ability to work both independently and collaboratively with researchers and practitioners from different backgrounds.
- Demonstrated ability to follow through on project deliverables and communicate findings in high quality peer-reviewed journals.
- Experience designing, planning, and executing research projects.
- Experience with ornithological field methods (most importantly, point counts)
- Strong quantitative skills and demonstrated proficiency with R (most importantly, N-mixture models).
- Demonstrated commitment to diversity, equity, and inclusion in science

The following qualifications are preferred but not required:

- Prior experience working in agroecosystems and/or interacting with growers.
- Prior experience sampling and/or identifying insects
- Managing field projects and mentoring students

SALARY:

\$55,000 per year with a benefits package including group health, dental, and vision consistent with Cal Poly Humboldt's Sponsored Programs Foundation policy.

TO APPLY:

Please apply by preparing: (1) your CV inclusive of publications, awards, and field experience, (2) a cover letter discussing your qualifications, research interests, and motivations for this position, (3) a statement about your commitment to diversity and inclusion in science, (4) contact information for 3 references. Send materials to matt.johnson@humboldt.edu with the subject line: "***Avian Agroecology Postdoc Application.***" Applicants will also need to submit a [SPF Self-Identification Form for Job Applicants.](#)

Cal Poly Humboldt Sponsored Programs Foundation is an Equal Opportunity/Affirmative Action 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](#). For assistance with the application process, please submit an Accommodation Request Form, which can be [found here](#) or contact ADA Coordinator at 707.826.3626 or confidential fax at 707.826.3625. For more information regarding accommodation, visit the Cal Poly Humboldt Human Resources website at <https://hraps.humboldt.edu/reasonable-accommodation>. Individuals in need of a telecommunications relay service may contact the California Relay Service at 877.735.2929 TTY.