

## 2024-25 PCSU POST-DOCTORAL FELLOWSHIP AT UNIVERSITY OF HAWAII AT MĀNOA

### *Advancing mosquito suppression to protect Hawaiian Forest Birds – analysis of existing data and finalizing monitoring plans*

#### **Summary:**

There is an urgent need to significantly reduce the threat of avian malaria on Hawaiian forest bird species of greatest conservation need by developing tools to control the mosquito vector, *Culex quinquefasciatus* (*Culex*). Efforts are ongoing to perfect the application of two mosquito control tools in Hawai'i: 1) the incompatible insect technique (IIT) using the cytoplasmic endosymbiotic bacteria *Wolbachia*, and 2) aerial application of biolarvicide *Bacillus thuringiensis israelensis* (*Bti*). Pilot data have been collected on both projects and efforts to standardize monitoring and data analysis frameworks and protocols are underway. PCSU seeks a post-doctoral associate to help finalize successful protocols to apply these tools in selected areas on Kaua'i and Maui, while analyzing existing and incoming data on mosquito abundance and fecundity in treatment and control areas, disease prevalence, and avian survival.

In coordination with supervisory staff at [Kaua'i Forest Bird Recovery Project](#) (KFBRP) and [Maui Forest Bird Recovery Project](#) (MFBRP), the post-doctoral associate will:

- 1) Study efficacy of Bti and IIT deployment by participating in the monitoring and collection adult mosquitoes and egg rafts in treatment and control areas
- 2) Act as a key member of the teams analyzing field data on mosquito abundance and fecundity in treatment and control areas, disease prevalence, and avian survival. Analyze and interpret Bti application and monitoring data in reports. Draft scientific papers for presentation at meetings and in peer-reviewed journals.
- 3) Work with partners to finalize data collection and analysis protocols to monitor the efficacy of the aerial application of Bti and IIT males on Kaua'i and Maui.

The fellowship will include \$40,000 for six (6) months, with possibility of extension, beginning November 2024 (*Location:* Kaua'i, with occasional travel to Maui).

**Applications for this award should be sent to ([crampton@hawaii.edu](mailto:crampton@hawaii.edu)) in electronic format as a PDF file. They are due by 5 pm HST October 15, 2022. No late submissions will be accepted. Please put PCSU POSTDOCTORAL AWARD-[APPLICANT LAST NAME] in the subject line of the email.**

#### **Eligibility:**

Applicants must have a Doctoral Degree from an accredited college or university in Entomology, Agriculture, Biology, Zoology, Conservation Biology, Ecology or related fields. Three to five (3-5) years of experience designing, leading, conducting and analyzing biological field research in entomology, invasive species management, or conservation management. The applicant must have working knowledge in the principles and techniques of conservation management, remote field operations, and invasive species biology. Working knowledge of natural history relevant to native Hawaiian wildlife, or similar environments. Proficient knowledge of techniques used to inventory and monitor insects and wildlife, and other natural resource assets, including experimental design, databases, GIS, and statistical data analysis. Able to conduct and lead

statistical and spatial data management and analysis, and demonstrated ability in publishing peer-reviewed scientific papers and in making presentations for scientific and public audiences.

**Please include:**

1. A CV of the applicant (3 pages maximum), including date of Ph.D. receipt.
2. A statement (3 pages maximum), describing any contribution the applicant has made to diversity in the sciences while also speaking on the following points:
  - Strong ability to solve logistical problems and problems related to biological threats.
  - Prior experience developing research and monitoring protocols
  - Ability to conduct and lead statistical and spatial data management and analysis.
  - conduct and lead statistical and spatial data management and analysis.
  - Ability to provide guidance, motivate, and engage field crews through effective communication and leadership.
3. Two letters of recommendation, including one from the applicant's primary Ph.D. advisor.

**Please contact [crampton@hawaii.edu](mailto:crampton@hawaii.edu) with questions. Please send all documents (excepting references, which may be sent separately) as a single PDF to [crampton@hawaii.edu](mailto:crampton@hawaii.edu). Please title the PDF as [APPLICANT LAST NAME] PCSU POSTDOCTORAL.**