



# UNIVERSITY OF HAWAII SYSTEM

## Legislative Testimony

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Testimony Presented Before the  
Senate Committee on Agriculture and Environment  
and  
Senate Committee on Water and Land  
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By  
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### HCR 69 HD1 – REQUESTING THE DEPARTMENT OF LAND AND NATURAL RESOURCES TO SUBMIT A PETITION TO LIST THE PUEO AS A THREATENED OR ENDANGERED SPECIES UNDER THE ENDANGERED SPECIES ACT

Chairs Gabbard and Inouye, Vice-Chairs Nishihara and Keith-Agaran, and members of the Senate Committee on Agriculture and Environment and Senate Committee on Water and Land:

Thank you for the opportunity to testify in support of HCR 69 HD1. This resolution requests the Department of Land and Natural Resources to petition the U.S. Secretary of the Interior, through the United States Fish and Wildlife Service (USFWS), to protect the pueo, also known as the Hawaiian short-eared owl (*Asio flammeus sandwichensis*) as a threatened or endangered species.

Listing the pueo as a threatened or endangered species by the USFWS would increase federal protections for the population on O'ahu. There are several considerations that must be met for the USFWS to decide to list the species. In particular, they must determine if there are significant factors that preclude the species' continued existence throughout all or a significant portion of its range.

Studies began at the University of Hawai'i at Mānoa in 2017 that will contribute to the USFWS evaluation for listing, but further studies will likely be needed, and we note that the genetics study that will begin this fall is likely critical to determine whether this is a distinct population segment. Below is a summary of the studies to date, as well as ongoing studies.

- **2017–2019 Surveys.** Developed standardized survey protocol and implemented for the island of O'ahu, where pueo are state-listed as Endangered. Trained Hawaii Division of Forestry and Wildlife personnel across islands on protocol in 2019.
- **2017–present Community Reporting Website.** Developed community-science reporting and educational website, pueoproject.com. This website allows reporting of

sightings of pueo, provides educational materials, and has been successful in increasing engagement with communities across the Hawaiian Islands.

- **2017–present Nesting Ecology.** Initial studies of nesting ecology showed pueo using diverse ecosystem types to nest, including high elevation native wet forest, estuarine wetlands, grasslands, shrublands, and agricultural lands. Limited observations also suggest a potentially high rate of nest abandonment, and impacts from feral dogs and cats to nesting success.
- **2018–present Home Range.** Used VHF transmitters to evaluate site fidelity and home range on O‘ahu. Novel results include use of urban beach parks for foraging in addition to grasslands and shrublands, with occasional forays to forested areas, roosting in trees as well as ground-roosting, and relatively small home ranges with a high degree of site fidelity compared to continental populations (though transmitter batteries have failed, re-sights of banded individuals suggest they continue to use the same area multiple years in a row).
- **2018–2020 Occupancy.** Study on Maui evaluated factors influencing pueo occupancy, including foraging resources (rodents, invertebrates, birds, bats), elevation, and vegetation height. Vegetation height influenced detection probability, and elevation and the mass of available prey influenced occupancy (though results were varied among models and relatively weak due to a low number of pueo detections).
- **2019 Mortality.** Evaluated trends in pueo mortality data from 1993 to 2018 (N = 105 records). Results are consistent with previous studies that highlighted trauma as a key source of mortality, and suggest the importance of further investigation into strategies to minimize car and wind turbine strikes, as well as potential interactions with other factors such as rodenticide, competition with invasive barn owls, and emaciation. This study also highlighted the importance of state-wide reporting and database systems to collate key information for rare and threatened species.
- **2020–present Population Trends.** eBird-based study of population trends over time in the Hawaiian Islands. Results should be ready to share by this summer.
- **2020–present Movement.** GPS transmitter study to determine movement of O‘ahu pueo within (and potentially among) islands. Study has been delayed due to need to test/develop solar transmitter attachment to address charging concerns (as well as Covid and personnel delays). GPS-VHF battery-based GPS will be arriving in March and will provide ~3 months of movement data.
- **2020 – present Biocultural Knowledge and Value.** Review of the Hawaiian newspaper articles from ~1840-1940 to identify Indigenous ecological knowledge as well as biocultural values indicated through stories, chants, religions/cultural practices, and observations. Results should be ready to share by this summer.
- **2021 (beginning in fall) Genetics.** Study will assess population genetics of pueo and phylogenetics of the global metapopulation of Short-eared owls.

We support the consideration of pueo for listing, but we note that the data needed for evaluation of both threats to existence and population status (declining, stable, or increasing) are potentially lacking, and are likely to hinder the listing decision. However,

the consideration for listing will have the advantage of bringing this issue to the forefront.