

## Forest Birds



Photo: Bishop Museum

### 'Ō'ū

#### *Psittirostra psittacea*

##### SPECIES STATUS:

Federally listed as Endangered

State listed as Endangered

State recognized as Endemic

NatureServe Heritage Rank G1 – Critically imperiled

IUCN Red List Ranking – Critically endangered

Draft Revised Recovery Plan for Hawaiian Forest Birds

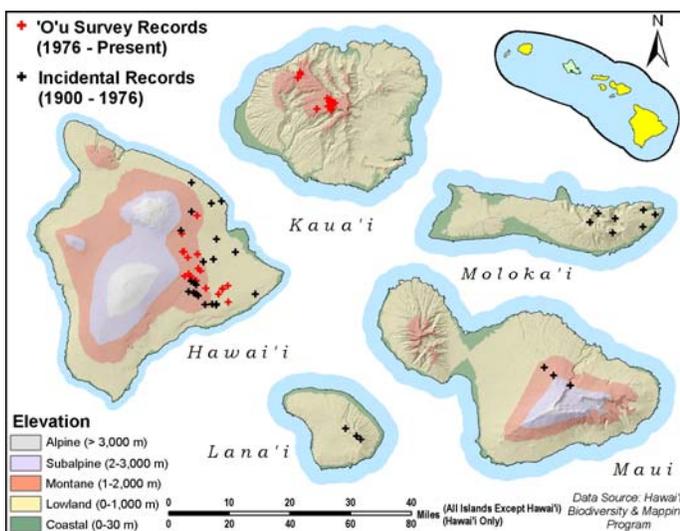
– USFWS 2003

**SPECIES INFORMATION:** The 'ō'ū is a heavy-bodied Hawaiian honeycreeper (family: Fringillidae) with a distinctive thick, pink, parrot-like bill. Adults are overall olive-green with whitish undertail coverts; males have a bright yellow head. Early naturalist noted that 'ō'ū had a strong musky odor, which is retained in museum specimens. Like several of Hawaii's nectivorous birds, 'ō'ū are strong fliers and ranged widely in search of fruit. 'Ie'ie (*Freycinetia arborea*) inflorescences apparently are an important part of the species' diet, although 'ō'ū also feed on the fruits of *Clermontia* spp. as well as other native fruits. Geometrid caterpillars are an important food item during the breeding season. Little is known of the species life history and its nesting and breeding habits have not been described.

**DISTRIBUTION:** Possibly extinct. 'Ō'ū occupy forests between 900 and 1,500 meter (3,000 and 5,000 feet, respectively) elevations on the islands of Kaua'i and Hawai'i. Historically widespread, 'ō'ū formerly occurred on all the Main Hawaiian Islands in low- to high-elevation forests. They are now presumed extirpated on every island except possibly on Kaua'i and Hawai'i.

**ABUNDANCE:** Possibly extinct. The Hawaiian Forest Bird Surveys (1976-1981) estimated the population at  $400 \pm 300$  (95% CI) individuals on the island of Hawai'i and nine or fewer individuals on Kaua'i. 'Ō'ū have not been detected during more recent surveys, although unconfirmed sightings are occasionally reported.

**LOCATION AND CONDITION OF KEY HABITAT:** Although 'ō'ū are known from a wide range of forest types, all recent observations have occurred in mid-elevation mesic to wet 'ōhi'a (*Metrosideros polymorpha*) forests with an understory of 'ie'ie (*Freycinetia arborea*), tree ferns



(*Cibotium* spp.), 'ōlapa (*Cheirodendron* spp.), kāwa'u (*Ilex anomala*), kolea (*Myrsine* spp.), and pilo (*Coprosma* spp.). All recent sightings of 'ō'ū have occurred on lands managed by the State of Hawai'i.

**THREATS:** 'Ō'ū are likely susceptible to the same factors that threaten other native Hawaiian forest birds, including: loss and degradation of habitat, predation by introduced mammals, and disease. For 'ō'ū populations, the following are of particular concern:

- Habitat degradation. Pigs (*Sus scrofa*) degrade the understory of wet forest destroying food plants.
- Disease. 'Ō'ū primarily occurred in low- to mid-elevation forests where the effects of mosquito-borne diseases was most severe. The species' foraging movements may have increased their exposure to disease.
- Predation. In addition to potentially depredating nests, rats (*Rattus* spp.) may also compete with 'ō'ū by reducing the availability of fruits.
- Natural disasters. In 1984, a large portion of the Upper Waiākea Forest Reserve was inundated by a lava flow from Mauna Loa. This flow occurred in an area where the most recent observations of the species were noted and destroyed high quality 'ō'ū habitat. In 1982 and 1992, two strong hurricanes struck Kaua'i, devastating native forest habitat. The 'ō'ū, has not been observed on Kaua'i since 1992.
- Population size. Small populations are plagued by a variety of potentially irreversible problems that fall into three categories: demographic, stochastic, and genetic; the former are usually most problematic. Demographic factors include skewed sex ratios and stochastic factors include natural disasters. Habitat fragmentation exacerbates demographic and genetic problems.

**CONSERVATION ACTIONS:** If the species persists, it likely benefits from management efforts designed to conserve other endangered forest birds on the island of Hawaii and Kaua'i. On Hawai'i, these activities have included fencing, ungulate and small mammal control, forest restoration, habitat monitoring, and studies of disease and disease vectors. On Kaua'i these activities have included the establishment of the Alaka'i Wilderness Preserve, regular surveys of forest bird populations, monitoring of habitat conditions, studies of disease and disease vectors, and public education efforts featuring Kauai's endangered forest birds. Should this species be rediscovered, the Rare Bird Recovery Protocol outlined in the USFWS Draft Recovery Plan for Hawaiian Forest Birds would be implemented, and management in anticipation of that possibility should include:

- Continue protection and management of wildlife sanctuaries and refuges.

**MONITORING:** Continue forest bird surveys and habitat monitoring on the islands of Hawai'i and Kaua'i. This information is needed to assess the efficacy of habitat management efforts.

**RESEARCH PRIORITIES:** Research priorities for most Hawaiian forest birds include developing improved methods for controlling rats and feral cats (*Felis silvestris*) in native forests, determining the ecological requirements of *Culex* mosquitoes at mid- and high-elevation forests, and developing methods to control mosquito populations. Given that this species may be extinct, there are no research priorities specific to 'ō'ū.

**References:**

- Scott JM, Mountainspring S, Ramsey FL, Kepler CB. 1986. Forest bird communities of the Hawaiian islands: their dynamics, ecology and conservation. Lawrence, (KS): Cooper Ornithological Society.
- Snetsinger TJ, Reynolds MH, Herrmann CM. 1998 'O'u (*Psittirostra psittacea*) and Lana'i hookbill (*Dysmorodrepanis munroi*). In *The Birds of North America*, No. 335-336 (Poole A, Gill F, editors.). Philadelphia, (PA): The Academy of Natural Sciences; and Washington DC: The American Ornithologists' Union.
- U.S. Fish and Wildlife Service. 2003. Draft revised Recovery plan for Hawaiian forest birds. Portland, (OR): U.S. Fish and Wildlife Service. 428 pp.