Photo: Jim Denny

Forest Birds

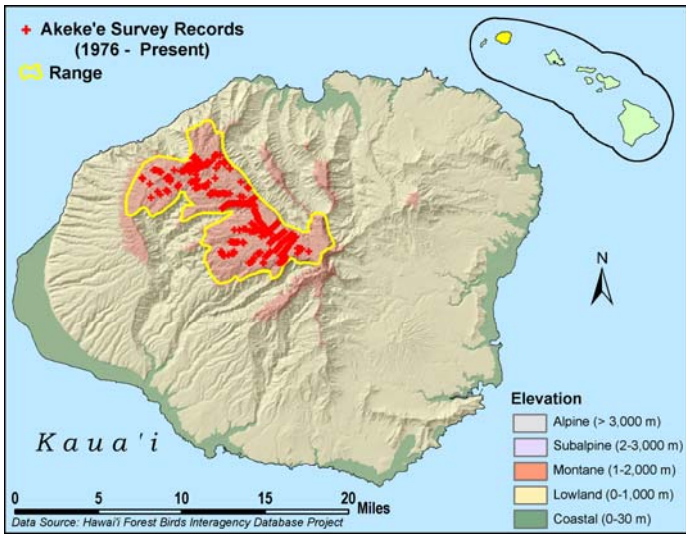
ʻAkekeʻe or Kauaʻi ʻĀkepa

Loxops caeruleirostris

SPECIES STATUS:
State recognized as Endemic
NatureServe Heritage Rank G2—Imperiled
IUCN Red List Ranking—Endangered
Draft Revised Recovery Plan for Hawaiian Forest Birds—USFWS 2003

SPECIES INFORMATION: The ʻakekeʻe, or Kauaʻi ʻākepa, is a small, slightly sexually dichromatic, insectivorous Hawaiian honeycreeper (Family: Fringillidae) endemic to Kauaʻi. Adult males and females are greenish above and yellow below with a yellow crown and a black mask; females are slightly duller than males. Unlike the similar Kauaʻi amakihi (*Hemignathus kauaiensis*), the ʻakekeʻe's bill is conical. Although not visible in the field, the lower mandible of the ʻakekeʻe is slightly bent to one side which results in the mandible tips being offset; a characteristic shared with the ʻākepa (*L. coccineus*). The ʻakekeʻe uses its bill to pry open ʻōhiʻa (*Metrosideros polymorpha*) leaves and flower buds in search of arthropods, primarily spiders, psyllids, and caterpillars. The species is an ʻōhiʻa specialist and rarely even perches on other trees or shrubs. The species' methodical probing of leaf buds is distinctive and can be used to identify the species. ʻAkekeʻe are most often observed in pairs or family groups. Only five ʻakekeʻe nests have been found and the species' breeding biology is virtually unknown, although it is likely similar to that of the ʻākepa. Based on observations from one nest, males and females participate in nest construction; in most other Hawaiian honeycreepers, only the female constructs the nest. All known nests have been located in the crowns of ʻōhiʻa trees. No information on clutch size, incubation, brooding, or parental care of young.

DISTRIBUTION: ʻAkekeʻe are widespread in native forests of the Alakaʻi swamp, upper Waimea, and Kōkeʻe regions mostly above 1,000 meters (3,280 feet) elevation. Although historically widespread, ʻakekeʻe apparently did not occur at lower elevations. Currently estimated to occupy 10-12 percent of their original range.



ABUNDANCE: In the early 1970s the island-wide ʻakekeʻe population was estimated at 5,066 ± 1,680 (SE) individuals. The Kauaʻi Forest Bird Survey (2000) estimated the population

within the Alakaʻi and Kōkeʻe region at nearly 30,000 individuals, and reported a significant population increase between 1981 and 2000. The population appears stable in its current range. Densities are highest in the interior of the Alakaʻi Wilderness Preserve.

LOCATION AND CONDITION OF KEY HABITAT: ʻAkekeʻe occur above 600 meters (1,950 feet), although populations are densest above 1,100 meters (3,600 feet), in lowland mesic and wet forests dominated by ʻōhiʻa, koa (*Acacia koa*), ʻōlapa (*Cheirodendron trigynum*), and lapalapa (*C. platyphyllum*). Most of the species' current range occurs in Kōkeʻe State Park and the Alakaʻi Wilderness Preserve.

THREATS: ʻAkekeʻe 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 ʻakekeʻe populations, the following are of particular concern:

- Habitat degradation. ʻAkekeʻe specializes on ʻōhiʻa, and the spread of non-native plants may reduce habitat suitability in the species' current range. To some degree, density patterns support this contention; however, the species still uses isolated ʻōhiʻa trees in otherwise open habitats in the Kōkeʻe region. This and the fact that its population appears stable after two devastating hurricanes suggest that the species may be tolerant of habitat degradation.
- Competition. Non-native insects, especially yellow-jackets (*Vespula pensylvanica*) and ants (*Linepithema humile*), may compete with or prey on the native arthropods on which ʻakekeʻe feed. The role of non-native insects in native Hawaiian forests is unclear.
- Predation. Although predation on adults or their nests has not been documented, rats (*Rattus* spp.), cats (*Felis silvestris*), Hawaiian short-eared owls (*Asio flammeus sandwichensis*), and barn owls (*Tyto alba*) occur throughout the forests of Kaua'i.

CONSERVATION ACTIONS: ʻAkekeʻe likely have benefited from management activities designed to conserve other endangered forest birds including the establishment of the Alakaʻi Wilderness Preserve, regular surveys of forest bird populations, monitoring of habitat conditions, studies of disease and disease vectors, control of feral ungulates through public hunting, and public education efforts featuring Kauai's endangered forest birds. In addition to these efforts, future management specific to the ʻakekeʻe may include the following:

- Aggressive ungulate control would likely improve the quality of ʻakekeʻe habitat and facilitate the recovery of degraded, but potential habitat. Control of non-native plants should be part of forest restoration efforts.
- Eradication of rats, feral cats, and barn owls from the Alakaʻi Wilderness Preserve.
- Prevent the introduction of the small Indian mongoose (*Herpestes auropunctatus*) and other predators.
- Public outreach and education.
- Continue protection and management of wildlife sanctuaries and refuges.

MONITORING: Continue forest bird surveys and habitat monitoring. 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 in native forests, determining the ecological requirements of *Culex* mosquitoes at mid- and high-elevation forests, and

developing methods to control mosquito populations. Research priorities specific to the ʻakekeʻe include the following:

- Conduct life history studies to quantify the population structure, dispersal patterns, survivorship, nesting phenology and success of this poorly known species.
- Determine the species' susceptibility to avian malaria (*Plasmodium relictum*) and avian pox (*Poxvirus avium*).
- Determine the effects of recently established non-native insects on native arthropods, especially those that are part of the species' diet.
- Determine the status of populations outside of the greater Alakaʻi swamp region.

References:

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