

## Forest Birds

**‘Akeke‘e***Loxops caeruleirostris***SPECIES STATUS:**

State recognized as endemic  
Hawaii Natural Heritage Ranking G2—Imperiled globally

**SPECIES INFORMATION:** The ‘akeke‘e, or Kaua‘i ‘akepa is a small, slightly sexually dichromatic, insectivorous, Hawaiian honeycreeper endemic to Kaua‘i island. ‘Akeke‘e have a slight crossbill, or laterally-curved lower mandible, which allows them to feed by prying apart leaf and flower buds in the terminal clusters of ‘ohi‘a (*Metrosideros polymorpha*) trees. Their foraging is methodical, thorough, and characteristic of the species. Diet consists primarily of spiders, psyllids and caterpillars. Little is known about the breeding biology of this species as just five nests have been found, but it is presumed to be similar to the closely related Hawai‘i ‘akepa. Courtship displays precede copulations. At one nest observed, male and female participated equally in nest construction. Nests are located in terminal crowns of ‘ohi‘a trees. No specific information about clutch size, incubation, brooding or parental care of young is available.

**Distribution Map**

**DISTRIBUTION:** ‘Akeke‘e occur in native forests above 1000 meters (3280’). Densities are highest in the remote Alaka‘i, but they are also found in Waimea and Koke‘e. Historically ‘akeke‘e were considered common in higher elevation forests.

**ABUNDANCE:** A single island-wide census (1968-1973) estimated  $5066 \pm 1680$  (95% CI) individuals. The Hawaiian Forest Bird Survey (1981) estimated a population of  $1674 \pm 336$  ‘akeke‘e in the central Alaka‘i region. For this area, the estimate from the earlier survey was  $526 \pm 338$  birds. The population appears to have remained stable during the last 35 years despite declines of other Kaua‘i forest birds and the impact of two hurricanes.

**LOCATION AND CONDITION OF KEY HABITAT:** ‘Akeke‘e occur in montane forests above 600 meters, though populations are densest above 1100 meters (3600’). Forest types occupied include lowland mesic and wet forests. The most common tree species in these forests are ‘ohi‘a (*Metrosideros polymorpha*), koa (*Acacia koa*), ‘olapa (*Cheirodendron trigynum*) and lalalapa (*C. platyphyllum*). ‘Akeke‘e are considered ‘ohi‘a specialists; thus the spread of alien plant species that displace ‘ohi‘a degrades their habitat. Small mammalian predators, predatory social insects and introduced bird species all occur in ‘akeke‘e habitat. These animals may reduce reproductive success and survival, or compete for food resources with ‘akeke‘e. Much of the species’ current range lies within Koke‘e State Park or the Alaka‘i Wilderness Preserve. Although the condition of these forests varies from intact to degraded, management can be considered stable.

**THREATS:** 'Akeke'e are susceptible to the same threats as other native Hawaiian forest birds. These include loss and degradation of habitat, predation by introduced mammals, and avian disease. Of particular concern for this species are the following:

- Development in the Koke'e region reduces available habitat and increases potential mosquito breeding sites.
- Population is likely limited primarily by disease.
- Food resources may be limited by alien insects, which prey on the native arthropods that are the primary food source of 'akeke'e.

**CONSERVATION ACTIONS:** No actions specifically target 'akeke'e, but actions taken for endangered forest bird species on Kaua'i almost certainly benefit 'akeke'e as well. These efforts include fencing and ungulate control, small mammal control, forest restoration, monitoring and disease research. Additional specific actions recommended include:

- Protection and restoration of high elevation native forests. This must include elimination of both feral ungulates and introduced plant species in native habitats.
- Prevent further introductions of noxious plants, animals or disease vectors.
- Control of introduced predators and parasitoids of native arthropods.
- Mosquito control in areas of degraded habitat where breeding sites for mosquitoes are plentiful.
- Public education and outreach\*\*.

**MONITORING:**

- Continue population and habitat quality surveys of forest birds on Kaua'i to assess efficacy of habitat management efforts.

**RESEARCH PRIORITIES:**

- Basic research on demography, life history and breeding biology.
- Effects of avian disease on this species. Identification of disease resistant individuals may aid future reintroduction and conservation efforts for this species.
- Effects of possible competition with introduced bird and arthropod species for food resources.
- Information on viability of isolated populations.

**References:**

Lepson, J. K., and H. D. Pratt. 1997. 'Akeke'e (*Loxops caeruleirostris*). In *The Birds of North America*, No. 295 (A. Poole and F. Gill, eds.). The Birds of North America, Inc. Philadelphia, PA.