
Photo: Chris Eckart

Forest Birds

Hawai‘i ‘amakihi

Hemignathus virens

SPECIES STATUS:
State Listed Endangered on Lāna‘i
State Recognized as Endemic
NatureServe Heritage Rank G3—Vulnerable

SPECIES INFORMATION: The Hawai‘i ‘amakihi is a small, generalist Hawaiian honeycreeper (Family: Fringillidae). Until 1995, the Hawai‘i ‘amakihi, and the O‘ahu (*H. flavus*) and Kaua‘i ‘amakihi (*H. kauaiensis*) were considered a single species: the common ‘amakihi (*H. virens*). Plumage of all species is similar; males are yellow-green to olive with black lores. Females are generally similar, but duller. All have decurved bills. Plumage of males is bright yellow-green above, and there is some inter-island variation, especially among females. The Hawai‘i ‘amakihi is brighter and smaller than the Kaua‘i ‘amakihi. Hawai‘i ‘amakihi are generalized foragers that glean arthropods from the leaves, blossoms, twigs, branches, and less frequently from tree trunks, ferns, and shrubs. Feeds on nectar predominately from the flowers of ‘ōhi‘a (*Metrosideros polymorpha*), māmane (*Sophora chrysophylla*), and native lobelias (Campanulaceae), but also forages on flowers of a number of other native and non-native plants. They also eat fruit from native and non-native plants, but predominately from pilo (*Coprosma* spp.). Forages alone, in pairs, in family groups, or in mixed flocks. Courtship behavior is somewhat complex and includes courtship chases, advertising displays, and courtship feeding. Pairs remain together for successive breeding seasons. Pair selects nest site; female builds an open-cup nest and lays two or three eggs. Only females incubate eggs and brood nestlings. Males deliver food to females who then feed nestlings. Fledglings are dependent on parents for up to three months. The Hawai‘i ‘amakihi usually raise two broods in a season.

DISTRIBUTION: Occurs between 300 and 2,900 meters (1,000 – 9,500 feet) on Hawai‘i, Maui and Moloka‘i; not common below 500 meters (1,625 feet). Widely distributed on Hawai‘i and Maui. Original range likely included all forested regions of the above islands as well as those on Lāna‘i, where it was last seen in 1976.

ABUNDANCE: The Hawaiian Forest Bird Survey (1976-1983) estimated the population at 870,000 ± 5,612 (95% confidence interval) birds on the island of Hawai‘i, 44,000 ± 1,786 birds on east Maui, 3,000 ± 408 on west Maui, and 1,800 ± 357 birds on Moloka‘i. Populations on Hawai‘i and Maui are probably stable; the Moloka‘i population is probably declining.

LOCATION AND CONDITION OF KEY HABITAT: A range of habitats including native shrubland and dry, mesic, and wet forests in montane and subalpine communities. Densities are highest on the island of Hawai‘i in subalpine ‘ōhi‘a scrub in Ka‘ū, and in māmane/naio (*Sophora chrysophylla* and *Myoporum sandiwicense*) forests on Mauna Kea. ‘Amakihi also are common in koa (*Acacia koa*) reforestation areas at higher elevations. On Maui, they are common in subalpine dry communities dominated by ‘ōhi‘a, māmane, pūkiawe (*Styphelia tamieameiae*)

and ʻaʻaliʻi (*Dodonea viscosa*). They also occupy some non-native tree plantations on Maui, near areas where native vegetation persists. Habitat on Molokaʻi is restricted to the ʻōhiʻa forests of the eastern half of the island. The condition of this habitat varies considerably. Much of the species' current range is under State or federal jurisdiction.

THREATS: Although populations appear stable they 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.

CONSERVATION ACTIONS: Hawaiʻi ʻamakihi likely have benefited from management actions to conserve other endangered forest birds in the Hakalau Forest National Wildlife Refuge, Hawaiʻi Volcanoes National Park, and the ʻŌlaʻa/Kīlauea Watershed Partnership. These efforts include fencing, ungulate and small mammal control, forest restoration, habitat monitoring, and studies of disease and disease vectors. Future management specific to the Hawaiʻi ʻamakihi may include the following:

- Translocate captive-bred individuals to Lānaʻi and Kahoʻolawe.
- Conduct public education and outreach.
- Continue protection and management of wildlife sanctuaries and refuges.

MONITORING: Continue forest bird surveys and habitat monitoring.

RESEARCH PRIORITIES: Research priorities for most Hawaiian forest birds include improving methods for controlling rats (*Rattus* spp.) 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. Currently, the U.S. Geological Survey's Biological Resources Division is conducting genetic analyses to determine the species' phylogenetic status and examining the relationship between genetic diversity and disease resistance. Additional research priorities include the following:

- Quantify population structure, dispersal patterns, survivorship, nesting phenology and success, especially for Maui and Molokaʻi populations.
- Determine if competition with Japanese white-eyes (*Zosterops japonicus*) occurs, and if so, its effect on Hawaiʻi ʻamakihi populations.
- Conduct translocation experiments using Hawaiʻi ʻamakihi to help reestablish this and other Hawaiian honeycreeper populations.

References:

Lindsey GD, VanderWerf EA, Baker H, Baker PE. 1998. Hawaiʻi (*Hemignathus virens*), Kauaʻi (*Hemignathus kauaiensis*), Oʻahu (*Hemignathus chloris*) and greater ʻamakihi (*Hemignathus sagittirostris*). *In* The Birds of North America, No. 360 (Poole A, Gill F, editors.). Philadelphia, (PA): The Academy of Natural Sciences; and Washington DC: The American Ornithologists' Union.

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.