



Photo: Mark Collins

## Forest Birds

# Hawai'i 'elepaio

*Chasiempis sandwichensis*

### SPECIES STATUS:

State Recognized as Endemic

NatureServe Heritage Rank G3 – Vulnerable

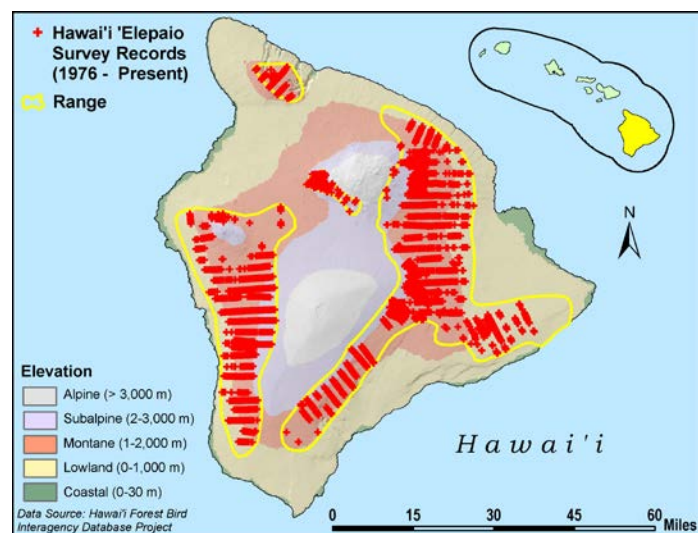
IUCN Red List Ranking – Vulnerable

Revised Recovery Plan for Hawaiian Forest Birds – USFWS 2006

**SPECIES INFORMATION:** The Hawai'i 'elepaio is a small, adaptable monarch flycatcher (Family: Monarchiade) endemic to the island of Hawai'i. 'Elepaio also occur on Kaua'i (*C. sclateri*) and O'ahu (*C. ibidis*); the latter is federally listed as endangered. Some scientists recognize three subspecies on the island of Hawai'i (*C.s. sandwichensis*, *C. s. ridgewayi*, and *C. s. bryani*). Adults are dark brown above and white below with variable amounts of brown streaking; males have black throats and females have white throats. The bird's name is derived from its primary song which is a shrill whistle given only by males. 'Elepaio forage in the air, on the ground, logs, rock crevices, snags, and all parts of trees. They use a diversity of foraging maneuvers likely dependent on habitat type: they capture arthropods by flycatching, glean while perched or hovering, and in direct pursuit, and may prefer 'ōhi'a (*Metrosideros polymorpha*) and kāwa'u (*Ilex anomola*) for foraging. Pairs remain together year-round, and long-term pair bonds are common; one pair was together for 11 years. Unlike Hawaiian honeycreepers, both males and females participate almost equally in all aspects of rearing. Finely woven cup nests are built in 'ōhi'a and in other trees in proportion to their availability. Clutch size is usually two, and second nests are attempted, often while fledglings from first are still being fed. Young are fed by parents for at least a month, but remain on their natal territory for up to ten months.

**DISTRIBUTION:** Occurs in most forested areas above 600 meters (2,000 feet). Isolated populations occur in Kohala and on the western slope of Mauna Kea. Historical distribution likely included all forested areas of the island.

**ABUNDANCE:** The Hawaiian Forest Bird Surveys (1976-79, 1983) estimated the statewide population of all subspecies at more than 270,000 birds. The island of Hawai'i contains three populations (150,000 birds) of *C. s. ridgewayi*, plus one population each of *C. s. sandwichensis* (63,000) and *C. s. bryani* (2,500).



**LOCATION AND CONDITION OF KEY HABITAT:** A variety of forest types and elevations, but most common in wet or mesic forests at higher elevations. Highest densities occur in 'ōhi'a or mixed 'ōhi'a-koa (*Acacia koa*) forests above 1,100 meters (3,600 feet). Much of the current range is managed by State and federal agencies or private conservation partnerships.

**THREATS:**

- Predation. On O'ahu, predation by black rats (*Rattus rattus*) has been implicated in the loss of nests and death of adult females, and rat control in these populations resulted in large increases in nest success and in the survival of adult females.
- Disease. Avian pox reduces nesting success and adult survival. On O'ahu, annual survival and reproductive success of birds with active pox lesions are lower compared to healthy birds; no information is available on the effect of avian malaria.
- Habitat loss and degradation. Historical habitat loss and degradation, especially at low elevations, is a major cause of declines. In Hakalau Forest National Wildlife Refuge, population densities are lower in degraded, open forests than in intact, dense forests.

**CONSERVATION ACTIONS:** Hawai'i 'elepaio likely have benefited from management actions to conserve other endangered forest birds species at Hakalau Forest National Wildlife Refuge, Hawai'i Volcanoes National Park, Pu'u Lā'au, and the 'Ōla'a/Kīlauea Watershed Partnership. These efforts include fencing, ungulate and small mammal control, forest restoration, habitat monitoring, and studies of disease and disease vectors. In addition to these efforts, future management specific to the Hawai'i 'elepaio may include the following:

- Protect and restore high elevation native forests and eliminate feral ungulates and non-native invasive plants.
- Conduct public education and outreach about the benefits of rodent control.
- 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 and feral cats in native forests, determining ecological requirements of *Culex* mosquitoes at mid- and high-elevation forests, and developing methods to control mosquito populations. Research priorities specific to the Hawai'i 'elepaio include the following:

- Continue to screen birds for disease resistance. If resistant birds are identified, translocation and/or captive propagation of these birds may help recover populations.
- Continue to develop techniques for captive propagation.

**References:**

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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.

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VanderWerf EA. 1998. 'Elepaio (*Chasiempis sandwichensis*). In *The Birds of North America*, No. 344 (Poole A, Gill F, editors.). Philadelphia, (PA): The Academy of Natural Sciences; and Washington DC: The American Ornithologists' Union.