

Forest Birds

For photo see:

<http://www.birdinghawaii.co.uk/AnnotatedListExtinct2.htm#KAMAO>

Kāma'ō or Large Kaua'i Thrush

Myadestes myadestinus

SPECIES STATUS:

Federally listed as Endangered

State listed as Endangered

State recognized as Endemic

NatureServe Heritage Rank GX

– Known only from historical occurrences

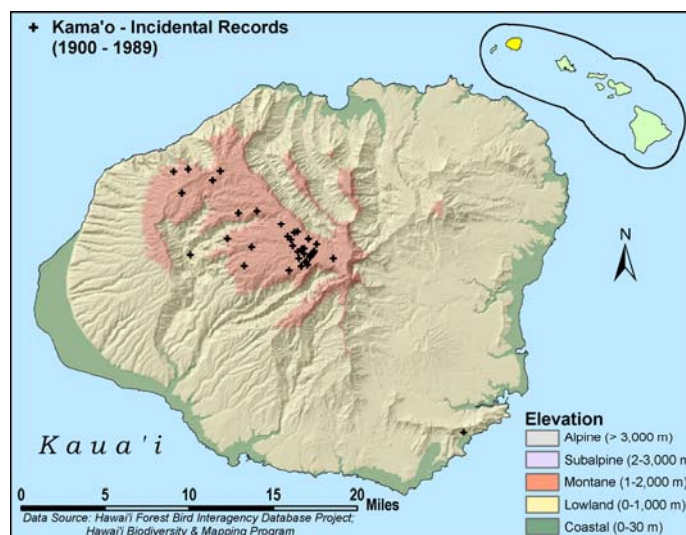
IUCN Red List Ranking – Critically endangered

Draft Revised Recovery Plan for the Hawaiian Forest Birds – USFWS 2003

SPECIES INFORMATION: The kāma'ō, or large Kaua'i thrush, is one of two Hawaiian solitaires (family: Turdidae) endemic to Kaua'i. The kāma'ō was often noted for flying upward, singing a few loud notes, and then suddenly dropping into the understory. Like all adult Hawaiian solitaires, the kāma'ō has olive-brown and gray plumage, but it lacks the white-eye ring and pinkish legs of the smaller puaiohi or small Kaua'i thrush (*M. palmeri*). The species' complex song is composed of a melodic series of liquid warbles, trills, and whistles, and is often heard before dawn and after dusk. The diet of the kāma'ō is reported to consist of fruits and berries, particularly the bracts of 'ie'ie (*Freycinetia arborea*). The species' life history characteristics are mostly unknown, but are presumed similar to the 'ōma'ō (*M. obscurus*). Breeding is thought to occur in the spring, although no nest has been described.

DISTRIBUTION: Since the mid-1960s the kāma'ō has not been observed below 1,100 meters (3,500 feet) elevation. If the species persists, it is concentrated in the uppermost regions of the Alaka'i Wilderness Preserve. Historically the kāma'ō was found in moist forests near sea level on northern Kaua'i as well as upland, interior mountain forests.

ABUNDANCE: Possibly extinct. The Hawaiian Forest Bird Survey (1981), estimated the population at 24 ± 30 (SE) individuals. The last kāma'ō was observed in 1989, and it was not observed during the 2000 Kaua'i Forest Bird Survey. Historically, the kāma'ō was extremely common.



LOCATION AND CONDITION OF KEY HABITAT: Most recent kāma'ō sightings have been in open canopy forests of 'ōhi'a (*Metrosideros polymorpha*) and 'ōlapa (*Cheirodendron* spp.). Based on the diet and life history of the 'ōma'ō, a diverse understory including epiphytes, tree ferns, and fruiting plants such as 'ie'ie, 'ōhā wai (*Clermontia* spp.), and 'ōhelo (*Vaccinium* spp.) would likely be high quality kāma'ō habitat. However, because 'ie'ie, an important food plant, does not do well in high elevation forests, if this species persists it may be restricted to marginal habitat. The area where the species was last observed is managed by the State of Hawai'i as a Wilderness Preserve.

THREATS: Kāma'ō 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 kāma'ō populations, the following are of particular concern:

- **Disease.** Mosquito-borne disease is probably the most important factor in the decline of the kāma'ō. Pox lesions (*Poxvirus avium*) were noted on this species in mid-19th century.
- **Habitat degradation.** The presence of native forest with abundant fruit-bearing plants below the species current range demonstrates that habitat degradation cannot entirely explain the species extirpation from lowland areas. However, several invasive plants and feral pigs (*Sus scrofa*) have degraded the understory of many native forests.
- **Competition.** Non-native birds, especially ecologically similar species (e.g., white-rumped shama [*Copsychus malabaricus*]), may have contributed to the species' decline.
- **Predation.** If kāma'ō, like many solitaires, are cavity or low platform nesters their nests would be very susceptible to rats (*Rattus* spp.).
- **Non-native arthropods.** Recently introduced non-native insects, especially yellow jackets (*Vespula pensylvanica*) and Argentine ants (*Linepithema humile*), may compete with the kāma'ō's native arthropod prey or disrupt the pollination of the species' food plants. Introduced herbivorous insects also could reduce the abundance of food plants.

CONSERVATION ACTIONS: If the species persists, it likely benefits from management efforts designed to conserve other endangered forest birds on Kaua'i, including 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. In addition to these efforts, future management specific to the recovery of the kāma'ō may include the following:

- Aggressive ungulate control would likely improve the quality of kāma'ō 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 and feral cats (*Felis silvestris*) from the Alaka'i Wilderness Preserve.
- Prevent introduction of the small Indian mongoose (*Herpestes auro-punctatus*) and other possible 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 (*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 is likely extinct there are no research priorities specific to kāmaʻo.

References:

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Wakelee KM, Fancy SG. 1999. ʻOmaʻo (*Myadestes obscurus*), kamaʻo (*Myadestes myadestinus*), olomaʻo (*Myadestes lanaiensis*), and ʻamaui (*Myadestes woahensis*). In *The Birds of North America*, No. 460 (Poole A, Gill F, editors.). Philadelphia, (PA): The Academy of Natural Sciences; and Washington DC: The American Ornithologists' Union.