

Photo of Maui Parrotbill

Forest Birds

Maui Parrotbill

Pseudonestor xanthophrys

SPECIES STATUS:

Federally Listed as Endangered

State Listed as Endangered

State recognized as indigenous

Hawai'i Natural Heritage Ranking G1-Critically Imperiled

SPECIES INFORMATION: Insectivorous Hawaiian honeycreeper, feeds by using its hooked bill to dig, tear, crack, crush, and chisel the bark and fruits of native shrubs and trees such as 'alkali, kanawao, and 'ohi'a . Larvae and pupae of beetles and moths are preferred.

Monogamous, non-migratory and defend year-round territories averaging 5.7 acres. Found in family groups due to 5-8 month rearing of fledglings. Nest sites, built by the female out of lichens and pukiawe twigs, are selected by both sexes and found 40 feet above ground in a forked branch just under outer canopy foliage. Females incubate (16 days) and brood, while males obtain food.

DISTRIBUTION:

Found only on Haleakala Volcano in East Maui, in 19 square miles of wet montane forests from 4,000 to 7,700 feet that arches from Waikamoi Drainage west of Ko'olau gap to Haleakala National Park lands in Kipahulu Valley and the Manawainui Drainage. Historical ranges included dry leeward forests and low elevations on East Maui as well as Moloka'i.

Map of distribution and abundance of Maui Parrotbill

ABUNDANCE: Estimated populations are 500 (+/-230) with an average density of 10 birds per .386 square miles.

LOCATION AND CONDITION OF KEY HABITAT: Survives in mid-to-upper elevation montane wet forests in East Maui dominated by 'ohi'a and a few mesic areas dominated by 'ohi'a and koa, with an intact, dense, diverse native understory and subcanopy of ferns, sedges, epiphytes, shrubs, and small to medium trees. Topography is steep and characterized by deep gulches and narrow ridges. Climate is montane year round with clouds, mist, and rain. Limited to high elevation areas with little alteration by feral ungulates, nonnative vegetation, and absence of disease carrying mosquitoes. Key habitats are currently managed by the National Park Service, Natural Area Reserve, Forest Reserve, The Nature Conservancy, and private entities such as the Hana Ranch and the East Maui Watershed Partnership. As a result of this active management, current condition of key habitats can be considered as stable.

THREATS: Due to the very low reproductive rate of this species, the following threats are of particular concern.

- Introduced diseases by mosquitoes may be limiting the population to its current high-elevation range. Despite the availability of suitable habitat below 4,500 feet, parrotbill are not found in these areas, which are high in mosquito populations.
- Predation by rats, found in high densities in the Hanawi area where much of the parrotbill population currently occurs, is suspected to have a high impact on nests and adults.
- Habitat loss from logging and ranching resulting in lower levels of koa found historically to be preferred.
- Habitat degradation by invasive species. For example, damage to understory vegetation by feral pigs may contribute to reduced food availability and low reproduction. Habitat degradation may hinder ability of the habitat to provide protection from severe weather events.

CONSERVATION ACTIONS: The goals of conservation actions are to not only protect current populations, but to also establish further populations to reduce the risk of extinction. Past actions have included efforts to create protected areas, increase food availability, fencing, research, ungulate management, and captive breeding. In addition to common state-wide and island conservation actions, specific actions include:

- Fencing and protection (e.g. ungulate control) of lower elevation areas from Hanawi Natural Area Reserve to Waikamoi. This action will allow development of diverse native subcanopy vegetation to occur and provide not only habitat, but food sources as well;
- On the southern and western exposures of East Maui, establish a continuous corridor of suitable forest around the mountain. This will include restoration and reestablishment of koa in these areas. Of particular interest is a site of remnant mesic koa forests on State Forest Reserve and Department of Hawaiian Home lands in the Kahikinui region of southern Haleakala;
- Increase disease free areas for habitation;
- Begin public outreach about the importance and benefits of rodent control.

MONITORING:

- Continue surveys of population and distribution in known and likely habitats;
- Conduct vegetation surveys, particularly those species such as 'ohi'a and koa;
- Conduct surveys evaluating presence of feral ungulates, rodents, mosquitoes and non-native vegetation;
- Monitor those areas with fencing and other active management components against areas currently unmanaged to determine effects on populations.

RESEARCH PRIORITIES:

- Survey of mosquitoes and disease prevalence in lower elevations to assess potential habitat for reintroduction;
- Identification of disease resistant individuals to understand genetic markers linked with resistance;
- Identify areas suitable for repopulation;

DRAFT: Maui Parrotbill, January 19, 2005

- Develop better understanding of predation and its effect on populations. A good pilot project is to monitor the intensive rat control at Hanawi NAR to examine its effect on parrotbill populations.

References:

U.S. Fish and Wildlife Service. 2003. Draft Revised Recovery Plan for Hawaiian Forest Birds. Region 1, Portland, OR. 428pp.