

U.S. FISH AND WILDLIFE SERVICE – SPOTLIGHT SPECIES ACTION PLAN

Common Name: Palila

Scientific Name: *Loxioides bailleui*

Lead Region: Region 1

Lead Field Office: Pacific Islands Fish and Wildlife Office

Species Information:

Status: E

Recovery Priority Number or Listing Priority Number: 1

Recovery Plan or Candidate Assessment Form: Revised Recovery Plan for Hawaiian Forest Birds, September 22, 2006.

Most Recent 5-year Review: July 31, 2009

Other: None

Threats: Habitat loss and modification, avian disease, and predation by introduced mammals have caused the palila population to become endangered, and these factors continue to limit the palila population today. Heavy browsing by feral sheep during the first decades of the 1900's lowered tree line and reduced tree density in some areas on Mauna Kea, and although the substantial populations of feral sheep were reduced significantly, ungulate browsing by feral sheep, goats, mouflon sheep (*Ovis musimon*), and browsing and rooting by feral pigs on Mauna Kea continues to seriously negatively impact māmane trees and saplings and reduce habitat quality. Habitat modification by introduced non-native plants and grasses, increased fire threat, and introduced non-native invertebrate species that eat native insects used as food by palila are also significant threats.

Target: Species decline halted by targeted habitat protection and management and reintroduction.

Measure: Annual population surveys indicate population is no longer declining.

Actions:

1. Develop a comprehensive ungulate management plan for Mauna Kea that includes a fencing plan for all palila critical habitat.
2. Continue fence construction and removal of feral ungulates from palila critical habitat on Mauna Kea through implementation of the ungulate management plan.

3. Protect and restore māmane/naio forest at Kanakaleonui on the east slope of Mauna Kea.
4. Continue long-term restoration and management of mitigation parcels at Pu`u Mali on the north slope of Mauna Kea and Kaohe parcel on the west slope, and key critical habitat on the southwest slope.
5. Design a fire-management plan for the Mauna Kea/Saddle Road area.
6. Continue basic research on palila biology and māmane/naio forest ecology.
7. Investigate best methods to re-establish wild palila populations by release of captive-raised birds and/or translocation of wild caught birds.
8. Continue releases of captive bred and translocated birds at Pu`u Mali and begin at least one additional release at Pu`u Lehua or Kanakaleonui if habitat is ready.
9. Continue predator control program (primarily removal of feral cats).

Identify responsible parties for the actions: U.S. Fish and Wildlife Service, Ecological Services; State of Hawai`i, Division of Forestry and Wildlife (DOFAW); Department of Hawaiian Homelands (DHHL); U.S. Geological Survey, Biological Resources Division (USGS); Zoological Society of San Diego (ZSSD); Federal Highway Administration (FHWA); Hawaii Department of Transportation (HDOT); Department of Defense (DOD); Kamehameha Schools (KS); and private research institutions and non-profit organizations.

Estimated costs of the actions:

Action	Ecological Services	Partners
1. Develop a comprehensive ungulate management plan for Mauna Kea that includes a fencing plan for all palila critical habitat.		\$100,000
2. Continue fence construction and removal of feral ungulates from palila critical habitat on Mauna Kea through implementation of the ungulate management plan.		\$500,000
3. Protect and restore māmane/naio forest at Kanakaleonui on the east slope of Mauna Kea.		\$100,000
4. Continue long-term restoration and management of mitigation parcels at Pu`u Mali on the north slope of Mauna Kea and Kaohe parcel on the west slope, and key critical habitat on the southwest slope.		\$500,000
5. Design a fire-management plan for the Mauna Kea/Saddle Road area.		\$100,000
6. Continue basic research on palila biology and māmane/naio forest ecology.		\$200,000
7. Investigate best methods to re-establish wild palila populations by release of captive-raised birds and/or translocation of wild caught birds.		\$50,000
8. Continue releases of captive bred and translocated birds at Pu`u Mali and begin at least one additional release at Pu`u Lehua or Kanakaleonui if habitat is ready	\$200,000	\$100,000
9. Continue predator control program (primarily removal of feral cats).		\$200,000

Role of other agencies: The Hawaiian Forest Bird Recovery Team is comprised of individuals with a wide range of experience affiliated with several universities, zoological institutions, the National Park Service, the U.S. Geological Survey, and the State of Hawaii, Division of Forestry and Wildlife. The Recovery Team in cooperation with the Palila Working Group provide guidance for recovery implementation. Other agencies and private land owners include DHHL and KS that provide oversight and some funding for actions on lands they manage. The FHWA and DOD in coordination with HDOT provide funding to minimize or mitigate effects of their actions on palila and/or designated critical habitat. The ZSSD rears and releases captive-raised birds into the wild.

Role of other ESA programs: ESA section 7 provides internal consultation on the issuance of 10(a)(1)(A) recovery permits and consultation with the DOD and FHWA for actions that affect palila and/or designated critical habitat. Section 6 provides the State of Hawaii funding for Mauna Kea forest restoration programs. Recovery provides overall project coordination on fundraising assistance and field assistance.

Role of other FWS programs: The Service's Partners Program provides outreach and funding and fund raising assistance. The National Wildlife Refuge System provides outreach and logistic coordination.

Additional funding analysis: The actions described above cannot be undertaken nor the stated target reached without the estimated funding from the Service and outside sources described above. Important actions including construction of ungulate fencing and ungulate removal and implementation of the fire management cannot be undertaken without major additional funding. Additional funding of \$3,000,000 to \$5,000,000 would allow the construction of new fencing protecting the entire south and east slopes of Mauna Kea and connecting to the already fenced northeast section at Puu Mali. Being able to complete the south and east fences rapidly would enable more timely reduction of ungulates to low numbers and accelerate mamane forest recovery benefiting palila.