Hawaiian Hoary Bat

COMMON NAME: Hawaiian hoary bat
HAWAIIAN NAME: ʻŌpeʻapeʻa
SCIENTIFIC NAME: *Lasiurus cinereus semotus*
LEGAL STATUS: Endangered (Federal)

APPEARANCE: ʻŌpeʻapeʻa have long, dense body fur that is brown to grey and tipped with white. The white tips give the ʻōpeʻapeʻa a hoary or frosted appearance from which it gets it common name, Hawaiian hoary bat. Wings are long and narrow with a span of 10.5-13.5 inches. Females are typically larger than males.

NATIVE RANGE: Relatively little is known about the distribution and population status of ʻōpeʻapeʻa, Hawaiʻi's only native terrestrial mammal. They are endemic to the Hawaiian Islands and occur from sea level to the highest volcanic peaks.

HABITAT: ʻŌpeʻapeʻa are a nocturnal species that roosts solitarily during the day (except mothers and pups) in trees (native and non-native) or sometimes in rock crevices. Individuals begin to forage just after sunset and return to roost just before sunrise. ʻŌpeʻapeʻa may fly more than 12 miles one way while foraging over the course of a night. They usually return to their original roost but also have alternative roosts that may be located miles away from the original.

DIET: ʻŌpeʻapeʻa are insectivorous bats that use echolocation to locate night flying insects and capture them in flight. They eat native and non-native insects including moths, beetles, crickets, mosquitoes, and termites. Each ʻōpeʻapeʻa establishes several small (approximately 300 yds diameter) feeding areas within their larger home range and it is believed that individuals move between these areas in a predictable sequence each night. Research suggests that individuals may utilize these same circuits for foraging for several years at a time.

ECOLOGICAL THREATS: Habitat alteration, direct and indirect impacts of the use of pesticides, and roost disturbance are likely the primary threats to ʻōpeʻapeʻa. A reduction in tree cover is believed to be a large contributor to species decline, due to loss of roosting sites. Roosts are especially important for the growth, development, and survival of young bats and protection from the elements. Most bats use night roosts in close proximity to foraging areas. Roost disturbance can cause mothers to abandon pups. ʻŌpeʻapeʻa have been known to be injured or killed from collisions with man-made objects such as barbed wire fences, wind turbines, and other structures. The effects of pesticides and herbicides on ʻōpeʻapeʻa in Hawaiʻi, or on bats in general, is not well understood. However, the effects of pesticides on birds may provide some insight. Studies have found that birds can suffer mortality from direct contact with pesticides and from feeding on invertebrates that are unable to escape predation because of pesticide intoxication.

MCBH CONSERVATION MEASURES: While it is unknown if ʻōpeʻapeʻa utilize MCBH properties for foraging, roosting or breeding, in 2014 the HIARNG RTI, located on leased property adjacent to MCTAB, conducted Hawaiian hoary bat surveys and captured numerous bat calls. The proximity indicates that the Hawaiian hoary bat may be present, whether foraging or breeding, on at least one MCBH property. During the 2017-2021 INRMP implementation period, MCBH plans to conduct surveys to try to determine if the species is present at MCBH properties. Conservation measures that benefit ʻōpeʻapeʻa include:

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- **Habitat protection and enhancement.** ʻŌpeʻapeʻa that occur at MCBH benefit from maintaining healthy non-invasive vegetation and opportunistic and planned removal of non-native invasive vegetation.
- **Limiting disturbance.** Removal of trees greater than 15 ft tall that may be used for roosting and nesting will be monitored. MCBH will attempt to reconcile any issues associated with the Navy Landscape and Grounds maintenance contract for tree maintenance and potential impacts to roosting or nesting trees.
- **Predator control.** ʻŌpeʻapeʻa benefit from on-going mammalian predator control efforts.
- **Wildlife Friendly Lighting.** Although lighting on Base does not appear to be an issue, Natural Resources staff diligently work with Base and contract planners to incorporate International Dark-Sky lighting recommendations into all projects.
- **Monitoring for presence to help direct management activities**. Natural Resources staff will conduct surveys for and record occurrences. Consultation with USFWS will occur as needed.
- **Education and outreach.** Development and distribution of informational material including videos, fact sheets, and briefings for military personnel and civilians on Base including new arrivals, and outreach with volunteers.

For more information: MCBH Integrated Natural Resources Management Plan. 2016. Section 6 and 7.1.

PHOTOS

1. https://www.hawaii-forest.com/hawaiian_bat/