



Hawaii Invasive Species Council

“Preserving and Protecting a Native Forest”

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Transported by helicopter to a windswept leeward ridge rising from O‘ahu’s central Ko‘olau Mountains, and nicknamed “Landing Zone Lobelia,” nine individuals recently spent three days on a project whose aim is to preserve and protect one of the last intact native forests on O‘ahu. The U.S. Fish and Wildlife Service has begun a second rare plant survey and inventory, the last in 2006, of the O‘ahu Forest National Wildlife Refuge.



USFWS team prepares for its rare plant survey and inventory in the O‘ahu Forest National Wildlife Refuge.

Once habitat for 26 rare and endangered species of native plants and animals—some not documented since the early 1900s—this wildlife refuge and highly valuable watershed covers more than 4,500 acres and has an average annual rainfall of as much as 236 inches. Ten various native plant communities exist throughout the Refuge lands.

The O‘ahu Forest NWR has 38 federally listed species, including native birds, such as the ‘elepaio and honeycreepers ‘amakihi and ‘apapane, and seven species of endangered O‘ahu tree snails, or *pupu kani oe*. The Hawaiian hoary bat is there as well. Among the 29 species of endangered plant species uncovered are the ‘ōhi‘a lehua, koa, hāpu‘u fern and loulou palm. On this trip the team found new sightings of ‘ohe ‘ohe and ‘akoko, both federally endangered plants.

Composed of botanists and ecologists from the USFWS, Bishop Museum and the Hawai‘i Invasive Species Council, team members dressed in flight jumpsuits, gloves and helmets, split into three groups and were airlifted from Koa Ridge Ranch in Waipi‘o. A five-minute flight set them down on a ridge, 2,500 feet in elevation, near the Kīpapa Trail, a decades’ old trail. Pitching camp, including a modern-day teepee, the crew changed into fleece clothing and raingear to prepare for the first day’s hike.

Work in this treacherous terrain of deep gulches, thin ridgelines and misty slopes bearing as much as 90 degree inclines is necessarily slow and cautious. The crew must don spiked vinyl tabi boots to maneuver across a thin, slippery clay surface lying over a subsurface of decomposed rocks that form a soggy

deposit of earth, silt and more clay, each step supported by hanging on to the firmly rooted native sedges, or ‘uki.

This team of trained professionals uses Trimble GeoXT GPS units, hand-held computers designed to withstand extreme environmental conditions. According to Patricia Clifford, HISC ecologist and invasive weed researcher, the units use GIS mobile mapping software called ArcPad, which has land

surveying and field data collection abilities. Surveys of threatened and endangered species require very accurate collection of location points so the intricate spatial relationships can be determined and species can be located again in this rough terrain and dense vegetation. The GeoXT GPS units have sub-meter accuracy and biologists can use the units to navigate to species. Data gathered will help inform a trip planned for April.

Among the threats to this native forest refuge, presently closed to the public, are introduced invasive species of plants, such as strawberry guava and *moho*, as well as invasive animals, such as the infamous European boar and the black rat. The boars feed on invasive plant seeds and disperse the seeds throughout the native forest; wallowing activities encourage mosquitoes which have had major impacts on the native birds through avian malaria. Black rats eat native plant seeds, prey on tree snails and harshly impact birds, including their nestlings and eggs. HISC supports research aimed at controlling all rat populations throughout Hawai‘i’s forested areas, as well as offshore islets.

“We are attempting to protect and preserve what’s left of the Hawaiian native ecosystem,” said Jason Hanley, Invasive Species Strike Team Leader with the USFWS.



Call the Pest Hotline to report invasive pests.