

Combatting The Invasion of Miconia in The Nanawale Forest Reserve



Volunteers document miconia infestations and remove the invasive weed from the forest reserve.

Nanawale Forest Reserve is one of the last remaining native lowland rainforests located in lower Puna on Hawaii Island. Surrounded by residential developments over the past several years, the 1,900-acre forest reserve is subject to many stresses familiar to modern Hawaii: the pervasive encroachment of humans, domestic animals, and the invasion of alien species of plants, such as the tropical tree, Miconia (*Miconia calvescens*).



The Nanawale Forest Reserve is one of the few remaining lowland rainforests in Hawaii, and is infested with miconia and other invasive weeds.

Challenge:

Introduced to Hawaii in 1959 as an ornamental from Central America, this alien tree has spread aggressively and was declared a noxious weed in Hawaii in 1992. Experts at the Smithsonian believe that Miconia could destroy the Hawaiian forest. The tree is a fast growing plant that often reaches heights of 50 feet and produces 100 percent shade, smothering the more fragile native forest.

Miconia spreads rapidly, with each mature tree producing millions of sand-grain sized seeds each year. Miconia seeds are clustered in berries, which are a favored food for birds that disperse the seeds throughout an area. The seeds, viable in the soil for at least eight years, are also spread by humans and other animals throughout the forest by adhering to clothing, shoes, and fur. Miconia currently infests over 55,000 acres on the Big Island. If left unchecked, the invading plant could within a short time, occupy more than one million acres on this island alone.



Miconia shades out native ferns and other forest floor vegetation native to the island.

Solutions:

Controlling Miconia can be compared to fighting a wildfire: a controlled perimeter must be maintained. Big Island Invasive Species Committee (BIISC) crews search for and destroy Miconia in some of the most rugged and remote areas of the state. Miconia is killed by uprooting when possible and hanging the plant upside-down in other vegetation, so it doesn't re-root or by using a small amount of herbicide near the base of the trunk. Control efforts are documented using GIS database and mapping tools. Field crews composed of BIISC personnel; partner agencies such as the U.S. Forest Service, Hawaii State Division of Forestry & Wildlife, Hawaii Community College's Forest TEAM students, and community volunteers monitor and treat miconia invasions on an ongoing basis.

Result:

Nearly 25% of the threatened and endangered species in the U.S. are native Hawaiian species. Experts agree that the biggest threats to the survival of these Hawaiian species are invasive animals and plants such as Miconia. BIISC hopes to slow the spread of these marauders through its continued efforts in monitoring, control and management strategies, and community outreach education meetings.



Learn More:

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