

# Pu'u Maka'ala NAR

Natural Area Reserves System

## What is a **NAR**?

Natural Area Reserves (NAR) are designated and managed to protect unique natural and cultural resources for current and future generations. The Natural Area Reserves Program on the island of Hawai'i manages 8 reserves encompassing nearly 95,000 acres. Of these 95,000 acres, currently only 12,000 acres are protected with fencing (12%).



## Pu'u Maka'ala NAR

Pu'u Maka'ala NAR is 18,730 acres in size and was established in 1981 to protect unique native rainforest. Long-Term management of this forested watershed provides multiple benefits including protection of the island's water resources, undeveloped open spaces, and culturally significant areas. The reserve provides habitat for rare native plants and animals preserving the biodiversity of Hawai'i for current and future generations.

The addition of 6,600 acres of the Kūlani property to the NAR was completed in 2010. Koa and 'ōhi'a forests in this area have populations of three critically endangered forest birds and numerous rare plants.

## The Need for ACTION

**OVER THE PAST 200 YEARS HALF OF HAWAI'I'S FORESTS HAVE BEEN LOST.**

Hawai'i's forests are especially vulnerable to damage from feral ungulates (hooved animals like pigs, goats, sheep, and deer) because the forests evolved in the absence of these non-native animals. Ungulates are widespread across the state and degrade forests by trampling, uprooting, and eating native plants.



Photo by: Jack Jeffrey

The management plan proposes protection of portions of the NAR through fencing and ungulate removal in four watershed units of 4,800 acres.

Fencing has proven to be the most cost-effective and long-term method to reduce the threats of ungulates in remote forest areas.



Fenced areas are open to the public; fencing is just excluding the animals from the area. Gates and walk-overs will allow people to access these areas.



## Uakuahine, Kūlilikaua, and Kūka'ōhi'alaka

### Protectors of this realm

In Hawaiian culture each part of nature from the stars in the sky, to the winds, clouds, rains, growth of the forest and life therein, and everything in the ocean is believed to be alive. Indeed, every form of nature was a body-form of some god or lesser deity. In Pu'u Maka'ala, we find that Kūka'ōhi'alaka is a defied guardian of the 'ōhi'a growth of 'Ōla'a; Uakuahine is the body form of a goddess of the rains in 'Ōla'a; and Kūlilikaua is the god of the thick mists that envelop the forest of the upper Puna, Waiākea, and Keauhou lands.

Tradition tells us that the gods and goddesses of these forest lands were very protective of them. In olden times, travel through them was accompanied by prayer and care. Traditions tell us that many a careless traveler, or collector of resources, found themselves lost in a maze of overgrowth and dense mists as a result of disrespectful and careless actions.

Taken from: He Mo'olelo 'Āina: A cultural study of the Pu'u Maka'ala Natural Area Reserve, Districts of Hilo and Puna, Island of Hawai'i, (Maly & Maly, 2004)

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## Proposed Management Actions:

- Protect native forests and watersheds from feral ungulates by maintaining existing fences, constructing new fences, and removing ungulates from within fenced management units which includes public hunting in the initial phases.
- Remove invasive weeds.
- Restore habitat and populations of rare and endangered plants and animals including restoring 'Ālala to the wild.
- Reduce the threat of fire.
- Monitor natural resources to measure the success of management.
- Provide public access, outreach and education through development of trails, service trips, and educational programs.
- Collaborate with partners to support mission and goals.



## Hunting Pu'u Maka'ala

- DOFAW manages over 600,000 acres of public hunting area on the Island of Hawaii (Forest Reserve, Game Management Area and NAR). Approximately only 16% of the above 600,000 acres of DOFAW managed hunting area is designated as NAR.
- Immediately adjacent to Pu'u Maka'ala NAR in the Hilo-Waiākea vicinity there are over 230,000 acres of contiguous designated public hunting area.
- Public hunting will be used for the first stage of animal removal in fenced areas.

## Perpetuating Culture

The forests and mountain landscape, the native species, and intangible components therein, are a part of a sacred Hawaiian Landscape. Culturally important plants such as 'ōhi'a, maile, and palapalai are more abundant in protected areas.

**For more Information please contact Hawai'i Island NARS:**  
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