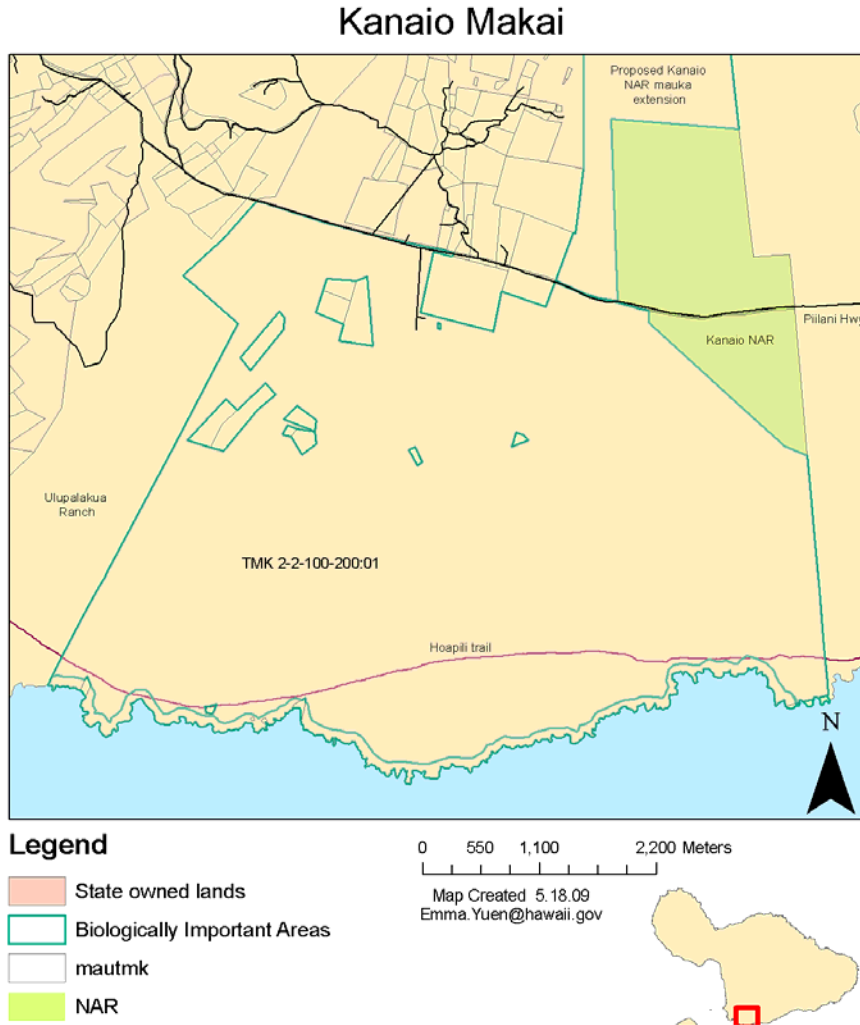


# KANAIO MAKAI BIOLOGICALLY IMPORTANT AREA PROPOSAL

May 2009

## I INTRODUCTION (General)

This area encompasses around 6,000 acres of unencumbered State land makai of Kanaio NAR.



## II BACKGROUND AND HISTORY

### *Past Land Use*

This area was originally proposed for inclusion in the Kanaio NAR. There are reports of unexploded ordnance makai of Puu Pimoe.

The Army National Guard received a right of entry to train in the area in 1997. In 2000, the national guard fenced around 21 acres in the southeast portion for protection of the only Maui population of *Sesbania tomentosa* var. *arborea*, and ouplanted 5 more endangered/rare Maui dryland species. A ordnance removal effort occurred in 1998. The right of entry for the national guard has expired. In 2000, the National Park surveyed the area to determine its suitability as a park, and recommended that the resources were not of national significance, but of state significance and needing increased management. That report recommended the area be a state park and a marine protected area.

Critical habitat has been designated in the coastal zone for *Vigna o-wahuensis*, and in the northeast area for *Columbrina oppositifolia*, *S. tomentosa*, *Bonamia menziesii*, and *Melicope adscendens*.

#### *Present Land Use and Access*

This area is unencumbered State land with inholdings in the northwest portion, and a few small coastal inholdings.

The Hoapili trail, maintained by Na Ala Hele, intersects the area near the coast and provides access from La Perouse Bay. A very rough 4WD road from the Piilani Hwy on the eastern portion of the area leads to the coast, and follows the coast east for around  $\frac{3}{4}$  of a mile.

#### *Cultural/Recreational Uses*

The Hoapili trail is an important historical, cultural and recreational feature. The National Park survey located 34 individual archeological sites with over 1,000 features, with over half being burial platforms (USDOJ, 2003). The area is in the State Archeological District.

Other uses besides hiking include camping, fishing, four-wheeling, snorkeling/diving/kayaking. Some uses that are problematic are increasing uses by motorcyclists, bikers, and uncontrolled poaching.

#### *Previous Studies*

Surveys include the 2000 National park survey, which examined botanical, marine, and archeological resources in detail (USDOJ, 2003). Other references include the Environmental Assessment for the Kanaio Training Area fence, and a 2007 survey of coastal flora which indicated the statewide importance of the coastal area, as well as its connectivity with lowland dry ecosystems (Warshauer, et. al., 2008).

## IV JUSTIFICATION (Specifics)

#### *Scientific Value*

40 native coastal species were recorded in area, and it is one of very few sites of coastal connectivity with lowland dry areas (Warshauer, et. al., 2008). Lowland dry areas also have significant rare species, such as the tree form of *Sesbania* and *Vigna*. The area also has anchialine pools containing *Halocaridina rubra*, and endangered *Metabetaous lohena*. The cave ecosystem in lava tubes may have unique arthropod communities.

Marine resources immediately offshore of area include 38 recorded species of coral, 112 species of macroinvertebrates, 138 species of fish (3 introduced), and two listed species – the threatened honu (*Chelonia mydas*), and endangered monk seal (*Monachus schauinslandi*).

#### *Natural Communities and their Status*

Most of the area is aa substrate, and some patches of cinder substrate (HIARNG, 1999). Natural communities found in the area besides the marine component include the aalii lowland dry shrubland, mixed coastal shrubland/herbland, akoko coastal dry

shrubland, low salinity anchialine pool, alien shrubland/grassland/herbland, kiawe forest/savannah, and a cave ecosystem (TNC, 1993).

This may be one of the few last remaining stretches of lowland dry shrubland/forest remaining on Maui (Medeiros, 2008). However, it is highly impacted by goats and invasive plants, especially grasses, kiawe, and haole koa.

#### *Biological/Ecological Design*

This area represents the westernmost extent of the largest remaining tract of lowland dry shrubland/forest on Maui (Medeiros, 2008). Immediately northeast is the Kanaio NAR. Protection of this area could preserve one of the only dry coastal to lowland dry to mesic to montane mesic strips remaining in the State (Warshauer, 2009).

#### *Location and Size*

TMK 2-1-2:1 is 5948 acres. The biologically important area also includes a few parcels that follow the coastline to 100 meters mauka, which makes up around 150 acres. The coastal area below the Hoapili trail is 871 acres. The segment of the Hoapili trail that passes through this BIA is 7.4 km (4.6 mi) long.

#### *Threats (Human/Biological)*

Threats include very high goat populations, and invasive dryland plant species such as kiawe and haole koa.

Humans have misused area by littering/dumping, and driving over coastal vegetation and archeological sites. Motorcyclists, ATV users, and bikers erode and denude areas. There are also been reports of fences being broken in adjacent lands.

#### *Present Level of Protection*

The northern part of the area is in the State Agricultural district, and the rest is within the State Conservation District. Below the Hoapili trail is in the "Resource" subzone.

*Long-term Ecological Viability and Environmental Consequences of No Action/Urgency*  
Staff observations have indicated high levels of recent goat damage to coastal vegetation, as well as continuing damage to lowland dry shrubland. As this area is one of the few core lowland dry areas (although still significantly disturbed), it is important for preservation and increased management as an imperiled example of a native ecosystem.

## V. RECOMMENDATIONS

Based on past recommendations and discussions, below are lists of various recommendations and issues they seek to address. These recommendations do not represent the positions of the agencies/organizations listed, only suggestions from various staff or members.

#### *Threats Requiring Management*

Fence high priority coastal areas near Kanaio beach (Hobdy, 2009).

Fence should not block the road as people will damage the fence – perhaps have goat guards (like cattle guards) instead of gates. It is difficult to fence lava rock

areas, but has been done in Ahihi Kinau.

Remove animals from entire area (Warshauer, 2009).

This would help protect both coastal ecosystem but also the contiguous rare lowland dry communities, and have protection all the way to Kanaio NAR, and above. This may be the only opportunity for this makai-mauka community strip to be protected or represented in Maui or in the entire State.

Increase public hunting (DOFAW, 2009).

This would help address goat overpopulation and provide recreational opportunities.

Increase enforcement of area (DOFAW, 2009).

This would help prevent public misuse of area, especially off-road driving.

Don't allow public use (DOFAW, 2009).

Areas should not be open to the public if they have unexploded ordnance.

Fence northwest portion (DOFAW, 2009).

This would allow public use in areas outside of inholdings in the northwest part of the parcel, so the public would not trespass on private property. This could prevent the need for an expensive survey.

Find more information on extent of dryland forest (NARSC, 2008).

#### *Administrative*

Recommend the area to be managed by the State Historic Preservation Division (DOFAW, 2009).

This would help to bring attention and management to the archaeological sites, but perhaps SHPD does not have the funding to manage the area. Unfortunately there is no such thing as a "cultural reserve."

Recommend the area become a State Park (USDOJ, 2003).

It has state-significant archeological and biological resources. However, State Parks is at a situation where they are cutting out parks, so probably would not have the current capacity to add more.

Recommend the entire area to become a low-elevation Forest Reserve (DOFAW, 2009).

This would allow the area to become a public hunting area, and allow more flexibility than a GMA. If the goats are out of control after the public has had the chance to hunt them, staff could also do control work, but this would be a last resort. It doesn't have to be a NAR to be protected.

Recommend the area below the Hoapili trail to become a NAR (DOFAW, 2009).

This would encompass the most important coastal area, and exclude the trail from NAR designation, which is desirable. With a land swap, this could be an

extension of Ahihi Kinau NAR. This would help represent coastal community and perhaps facilitate fencing of area. However, current public use of area would not be consistent, as there is camping occurring.

Recommend the entire area become a NAR (NARSC Enhancement Subcommittee, 2008).

This could connect with Kanaio NAR and represent makai-mauka dry/mesic vegetation communities. However, some of the areas are not appropriate for NARS because they are in bad condition, and are totally converted to kiawe and koa haole. Public use also an issue.

Recommend a portion of the marine component to become a NAR.

Coordinate with the Division of Aquatic Resources and other conservation agencies and organizations to determine what would be appropriate boundaries and management objectives for marine areas.

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