

PROPOSAL FOR THE KEONE‘Ō‘IO BAY ADDITION TO THE 'AHIHI-KINA'U NATURAL AREA RESERVE

August 2019

I EXECUTIVE SUMMARY

The proposed addition of the Keone‘ō‘io Bay parcel to the 'Ahihi-Kina'u Natural Area Reserve is a strategic addition to improve management and public access to better protect the surrounding natural and cultural resources.

II INTRODUCTION (General)

The proposed addition of the Keone‘ō‘io Bay parcel TMK (2)2-1-004-068 is at the center of a vast natural and cultural shoreline resource. This parcel is .46 acres of undeveloped land with access to Keone‘ō‘io Bay (La Perouse Bay) on the southern shore of east Maui. This parcel is strategically located adjacent to the current Keone‘ō‘io Bay parking lot and includes access to fish ponds adjacent to the 'Ahihi-Kina'u Natural Area Reserve (NAR). The Keone‘ō‘io Bay parking lot is a high traffic area which allows the public to drive directly up to the shoreline, causing significant erosion and runoff onto the near shore reef. Keone‘ō‘io Bay lies directly south of the 'Ahihi-Kina'u Natural Area Reserve (NAR) and receives the overflow of visitors to the NAR. Keone‘ō‘io Bay does not currently have the same protections as the NAR and is highly impacted by visitors coming to fish, kayak, snorkel and swim. The parcel has benefited from a vegetative strip of out planted native trees mostly kou and milo along the coast. The parking lot/entrance to the seashore marks the start of the King's Highway, a trail that circumnavigated the island of Maui, originally built by Pi‘ilani and later improved by Governor Hoapili, sometimes called the Hoapili trail.

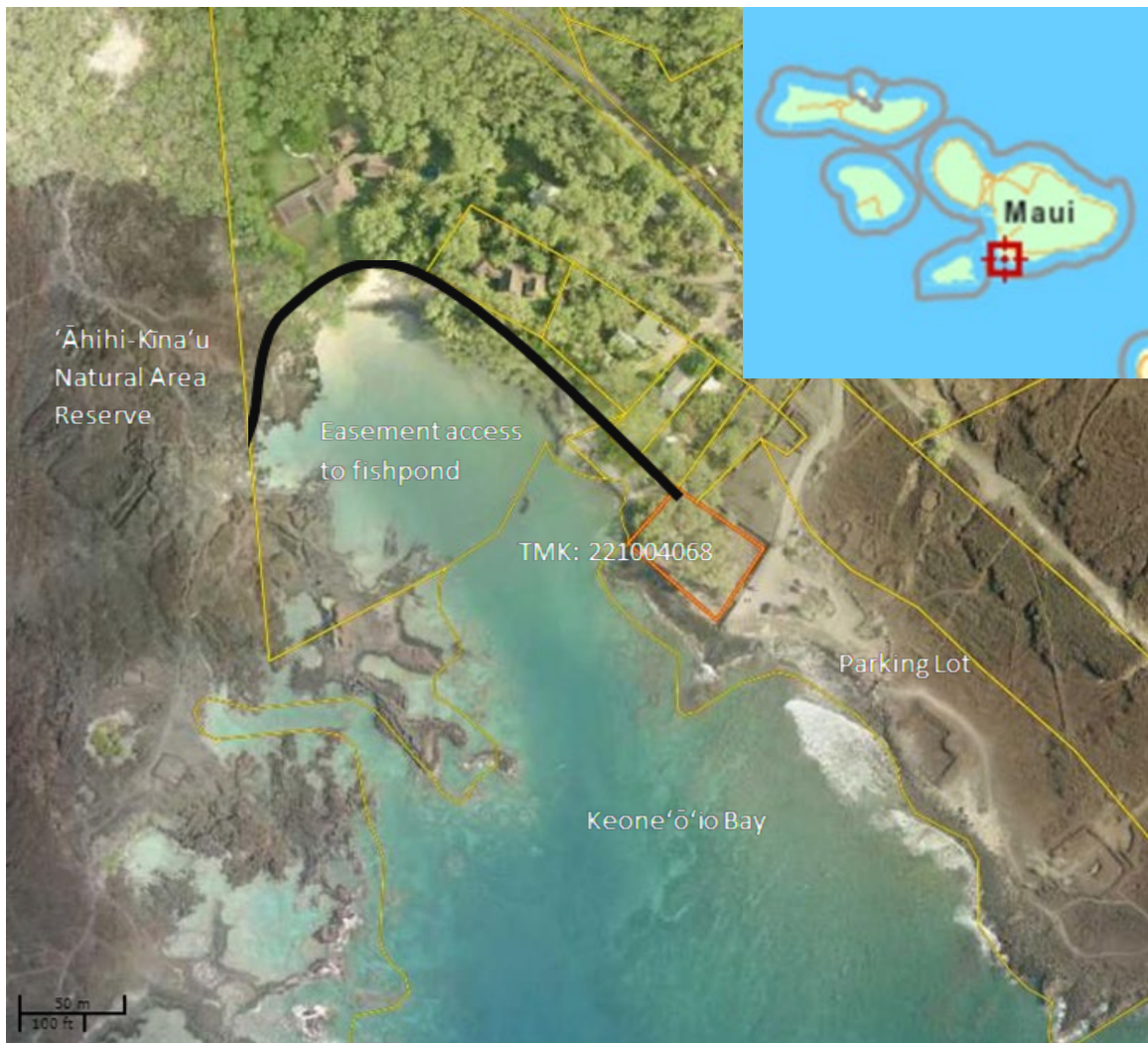


Figure 1: Map of proposed Ahihi Kinau Natural Area Reserve addition..



Figure 2: Wall currently blocking public access

III BACKGROUND AND HISTORY

Past Land Use, Previous Studies, and Conservation History

This property is adjacent to the Keone‘ō‘io /La Perouse Archeological District, and is the scene of Haleakala's last lava flow, estimated to have occurred in the 1790's. In 1786 J.F.G. de La Perouse, the first westerner to set foot on Maui, noted, "During our excursion we observed four small villages of about ten or twelve houses each, built and covered with straw..."

Between 2004 and 2008, the Hawaii Tourism Authority (HTA) also funded several studies to inform management planning and action. Hawaii Wildlife Fund (HWF) was funded to conduct several different human usage studies annually from 2004 to 2007. A Cultural Resource Management Plan (CRMP) was completed in 2007 (Desilets et al. 2007). The purpose of the CRMP was to recommend actions to protect cultural sites in specific high use corridors only. The survey concluded that as a whole, most sites are in relatively good to excellent condition, however high use of the trails to Kalaeloa (also known as “Aquarium”) and Mokuhā (also known as “Fishbowl”) resulted in near complete disintegration of some archaeological features. It also noted evidence that sites were being used as toilets.

Three marine assessments were conducted by Hawai‘i Institute of Marine Biology (HIMB) and funded by the HTA grant: Human Impact Evaluation on Nearshore Environments (Rogers et al. 2008); Compilation of Existing Information on the Marine Environment (Rogers et al. 2008); and Biological Assessment of the Reserve (Rogers et al. 2009).

Present Land Use and Access

Keone'ō'io Bay is the historic gateway to the six miles of South Maui's pristine coastline. This area has cultural significance recognized by locals and visitors alike. As the growth of southwest Maui spread from Kihei south to Wailea and then down to Makena, Keone'ō'io became the destination for an ever-increasing number of visitors. These visitors come seeking outdoor recreation experiences. From June through December 2001, the Friends of Keone'ō'io, a local organization active in promoting stewardship for study area resources, conducted a survey of visitors to the coast and waters of Keone'ō'io Bay. Survey results, based on daily visitor counts taken over the six-month period, projected the average number of monthly visitors at Keone'ō'io to be 13,719, or more than eight percent of the total monthly visitation to Maui. The daily counts taken in July showed as many as 805 visitors and as many as 339 vehicles entering Keone'ō'io. Nearly all of the visitor use, both resident and non-resident, takes place along the shoreline of Keone'ō'io Bay, an area particularly rich in Hawaiian archeology.

The impacts of this large volume of visitors takes its toll on the natural and cultural resources. Several of the archeological features here show evidence of being disturbed and damaged by visitor activities. In some places, stacked rocks appear to have been removed from nearby walls and enclosures to make campfire rings and windbreaks. Campsite remains, including left-behind trash, are in evidence inland of the bay.

Particularly visible here are the "Hawaiian graffiti"--places where visitors have created messages by taking white coral rocks from the shoreline and placing them on the dark lava to form some sort of "message." Four-wheel drive vehicles creating their own "roads" in this roadless area to access favorite fishing and camping spots have been particularly damaging to the archeological features. The four-wheel drive vehicles may also be damaging the few species of native plants found in the area.



Figure 3: Current parking lot and shoreline

Cultural/Recreational Uses

Keone‘ō‘io was once the site of thriving Hawaiian communities. Renowned for its rich fishing grounds, fish ponds and shark lore, historic accounts and descendants of the area offer rich insights into the marine environment. As an example, the fishponds of Keone‘ō‘io were credited to high chief Kauholanui-mahu (of the island of Hawai‘i), whose ‘aumakua (family god), a benign shark, entered the pools via an underground passage bringing with him schools of fish (Sterling 1998). Traditional and modern fishing practices are still conducted in the area though the fishponds are currently under private ownership.

Recreational use is abundant as the area offers a diverse set of recreational activities including hiking on the popular Hoapili trail, snorkeling, diving, surfing, and kayaking.

IV JUSTIFICATION (Specifics)

Scientific Value

The Keone‘ō‘io parcel is a launching area for historical, terrestrial and marine scientific study. The parcel is a valuable location to stage studies critically endangered species, as well as monitor efforts at species conservation.

Representativeness

The Keone‘ō‘io parcel will help to increase protections of the cultural and aquatic resources at 'Ahihi-Kina'u. Hawai'i Revised Statutes Chapter 195 established the NARS "to preserve in perpetuity specific land and water areas which support communities, as relatively unmodified as possible, of the natural flora and fauna, as well as geological sites, of Hawai'i." The 'Ahihi-Kina'u reserve was established to protect the rare and fragile anchialine ponds, and lava fields from the last eruption of Haleakala 200-500 years ago.

Natural Communities and their Status

The parcel has benefited from a vegetative strip of out planted native trees mostly kou and milo along the coast. The parcel edges on Keone‘ō‘io bay which is rich in marine resources. The marine resources of Keone‘ō‘io are significant and nearly pristine. This is particularly noteworthy for such an exposed coast and for an island that is quickly being exploited and developed, including areas just proximate to Keone‘ō‘io. At present the area is protected by sea conditions, limited access and no development east of Keone‘ō‘io. This area of the South Maui coastline has ecotones, or habitat transition zones, that were very close together which provided for a high diversity of fishes and invertebrates. Several places in Keone‘ō‘io have extremely high coral cover -- approximately 60-80%. These high percentages of coral cover, relative to other areas in the Main Hawaiian Islands are only found in a few areas off West Hawai'i and in Hanauma Bay, Oahu. (Basch, 2002) A total of at least 112 species of macro-invertebrates (not including corals) have been recorded from the area. The majority of them echinoderms, particularly sea urchins (9-10 species), sea cucumbers (minimum 5 species) brittle stars (minimum 2 species) and four species of sea stars, including the coral-eating species *Acanthaster planci* and *Culcita novaeguineae*, as well as *Linkia guildingi* and *L. multifera*. A total of 138 species of marine fishes have been observed in the area.

Rarity

Appendix 1 lists some of the plant and wildlife species that have been recorded in the area the green sea turtle or honu (*Chelonia mydas*), a listed species, can be found on the shores on and in the offshore waters of the property. In Early 2019, a Hawaiian monk seal (*Neomonachus schauinslandi*) born a few hundred yards down the shoreline used the

area as a juvenile for hunting and resting grounds for a two-month period. The green sea turtle and the Hawaiian monk seal are listed endangered species.



Figure 4: Hawaiian monk seal (*Neomonachus schauinslandi*) Endangered



Figure 5: Green Sea Turtle (*Chelone mydas*) Endangered

Biological/Ecological Design

Adding the parcel to the existing NAR would expand management jurisdiction of the Division of Forestry and Wildlife and improve access for management and the public. Currently unencumbered State land flanks three sides of this parcel and are unofficially managed by Native Ecosystems staff. Adding the parcel to the NAR inventory would allow for direct management to take place to better support the resources and public.

Location and Size

This .46-acre parcel is located on the coast of Keone‘ō‘io bay. It is adjacent to the current public parking area on the south east side and public land on the northwest side. The parcel includes access to historic fishponds and the western portion of the NAR.

Threats (Human/Biological)

Human threats: There is a general lack of awareness of how to help protect and preserve natural resources of Native Hawaiian and regional culture and history. Trampling is the most common source of damage from people. Trash and human waste, vandalism, and poaching also contribute to resource degradation. Other impacts to resources include destruction of archeological structures, rock removal and vandalism, creation of new trails and damage to existing trails, and protected species harassment. Protected species harassment specifically includes disturbance of endangered and protected marine

animals: Hawaiian monk seals disturbed while resting and molting on shore; sea turtles disturbed while basking on shore; spinner dolphin resting period disturbed by swimmers; and swimming sea turtles chased and touched by swimmers.

Invasive Species: Threats include the introduction of new and/or more aggressive alien species; competition with existing introduced plant species; introduced insects; and predators on native plant seeds.

Climate change: Sea Level Rise, vegetation shifts, phenological changes, alterations in wildlife behavior, and other significant ecological impacts can be expected.

Marine Debris: Marine debris from around the world washes up on the shores of Keone`o`io. Immediate clean-up is necessary to prevent possible impacts to marine life and seabirds from entanglement in nets and lines or from ingesting plastics.

Present Level of Protection

This area is within the conservation subzone subdistrict resources.

Long-term Ecological Viability/Environmental Consequences of No Action/Urgency

The property is currently listed for sale and has water access making development to the property likely if sold. In the short-term construction will likely have a significant impact on the surrounding areas and the coral reef system. In the long term continued use of the parking lot as it stands will continue to deteriorate the coastal and coral reef ecosystems and impact geological resources. Having this parcel under NEPM management will allow for improved management of the area.

V. MANAGEMENT NEEDS

Threats Requiring Management

Goals short-term: With the paving of the road to Keone`o`io and the rapid growth of the Kihei-Wailea area to the north, the shoreline and waters of Keone`o`io Bay have become a popular destination for both Maui residents and off-island visitors. Residents have long come to this area, mostly to fish and camp, and more recently in large four-wheel drive vehicles. Visitors come to snorkel, scuba dive, swim, kayak, camp, horseback ride and hike. Nearly all of the visitor use, both resident and non-resident, takes place along the shoreline of Keone`o`io Bay. Natural and cultural resources have been impacted by this surge in use. The opportunity of purchasing this parcel would allow the State to improve public access to the ocean and protect near shore reef and other resources. This will be

achieved by developing improved parking areas and access trails to sandy shoreline previously blocked by the proposed parcel. Reconfiguring the parking lot further from the shoreline to limit erosion and runoff from vehicles will also improve the visitor experience and further protect natural resources.

Goals long term: The divisions will use adaptive management. Long range planning will incorporate climate change scenarios and available sea level rise modeling. Restoration of native plant species will be assessed once the new public access areas have been established to best limit runoff and erosion and provide the public with shade and easy recreational access to the shoreline. The State will consult with the surrounding community, the public and other stakeholders to assess if this parcel should be included into the 'Ahihi-Kina'u NAR

VI. PUBLIC SUPPORT

*Agencies, Organizations, and Individuals Contacted**

*Interested parties will be notified and a formal public hearing and comment period will occur for this nomination pursuant to Hawai'i Revised Statutes § 195-4.

VII. BIBLIOGRAPHY/REFERENCES

Appendix 1 - Species of the Proposed Addition to NAR and Vicinity

Type	Taxon	Known from area	Status	Organization /management	Critical Habitat
Plant	'akulikuli (<i>Sesuvium portulacastrum</i>)*			NEPM	
Plant	'āwikiwiki (<i>Canavalia pubescens</i>) *			NEPM	
Plant	alena (<i>Boerhavia herbstii</i> / <i>Boerhavia repens</i>) *			NEPM	
Plant	hao (<i>Rauvolfia sandwicensis</i>)	x		NEPM	
Plant	ilie'e (<i>Plumbago zeylanica</i>) *			NEPM	
Plant	'ilima (<i>Sida fallax</i>) *			NEPM	
Plant	koali awahia (<i>Ipomoea indica</i>) *			NEPM	
Plant	maiapilo (<i>Capparis sandwichiana</i>) *			NEPM	
Plant	makaloa (<i>Cyperus laevigatus</i>) *			NEPM	
Plant	milo (<i>Thespesia populnea</i>)	x		NEPM	
Plant	naio (<i>Myoporum sandwicense</i>) *			NEPM	

Type	Taxon	Known from area	Status	Organization /management	Critical Habitat
Plant	pili grass (<i>Heteropogon conortus</i>)	x		NEPM	
Plant	ruppia (<i>Ruppia maritima</i>) *			NEPM	
Plant	'uhaloa (<i>Waltheria indica</i>) *			NEPM	
Plant	wiliwili (<i>Erythrina sandwicensis</i>) *			NEPM	
Reptile	Honu, Green sea turtle or (<i>Chelonia mydas</i>)	x	Endangered	NEPM/ NOAA/FWS	
Mammal	'ilio-ho/o-i-ka-uaua, Hawaiian monk seal (<i>Neomonachus schauinslandi</i>)	x	Endangered	NEPM/ NOAA/FWS	x
Marine Mega Fauna	'ea, the hawksbill turtle (<i>Eretmochelys imbricata</i>)	x		NEPM/ NOAA/FWS	
Marine Mega Fauna	nai'a or spinner dolphin (<i>Stenella longirostris</i>),	x		NEPM/ NOAA/FWS	
Marine Mega Fauna	Kohola, humpback whale (<i>Megaptera novaeangliae</i>).	x		NEPM/ NOAA/FWS	
Fish	kole, the goldring surgeonfish (<i>Ctenochaetus strigosus</i>)	x		NEPM/ DAR	
Coral	<i>Pavona maldivensis</i>	x		NEPM/ DAR	
Marine Invert	Slate pencil sea urchin (<i>Heterocentrotus mammillatus</i>)	x		NEPM/ DAR	
Marine Invert	Rock boring urchin (<i>Echinometra mathaei</i>)	x		NEPM/ DAR	

*Species only known historically, not found recently in area.

DAR: Division of Aquatic Resources

NOAA: National Oceanic Atmospheric Administration

FWS: Fish and Wildlife Service

NEPM: Native Ecosystem Protection and Management section of DOFAW

References:

Basch, Larry. 2002. *Reconnaissance Surveys of South Maui, Hawai'i, Keone'o'io to Kanaloa Point: Marine Resources, 22 February, 25-27 April, and 6-10 May 2002.*

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<http://www.botany.hawaii.edu/basch/uhnpescsu/htms/LaPeros/laperos5.htm>

Desilets, M et al. 2007. *A Cultural Resource Management Plan for 'Āhihi-Kīna'u Natural Area Reserve and Keoni'ōio. Report no. 2085-1.* Prepared for DLNR, DOFAW, and the State of Hawai'i.

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Sterling, Elspeth. 1998. *Sites of Maui.* Honolulu: Bishop Museum Press.

DAVID Y. IGE
GOVERNOR OF
HAWAII



**STATE OF HAWAII
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August 7, 2019

Natural Area Reserves System Commission
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Natural Area Reserves System Commission:

The Division of Forestry and Wildlife (DOFAW) has completed its review of the proposal for the addition of TMK (2) 2-1-004-068 to Ahihi Kinau Natural Area Reserve (NAR), and recommends NAR designation. Addition of this parcel to the NAR inventory will enhance the preservation of the important natural and cultural resources found at Ahihi-Kinau NAR.

If you have any questions, or need additional information, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read "David Smith", is written over a horizontal line.

David Smith, Administrator
Division of Forestry and Wildlife

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

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