

‘ĀHIHI-KĪNA‘U NATURAL AREA RESERVE  
DRAFT MANAGEMENT PLAN  
OVERVIEW



Department of Land and Natural Resources

May 2012

## PLAN OVERVIEW

This draft management plan captures the best thinking of a citizen-government working group on how to comprehensively protect and preserve 'Āhihi-Kīna'u Natural Area Reserve (Reserve). Though unintentional, people's love for this place has had serious impacts on Reserve resources. This plan documents the history of the Reserve, outlines its current condition, and recommends management actions to protect the Reserve.

This plan seeks to fulfill the mandate from the Hawai'i Legislature, who in 1970 created the Natural Area Reserves System (HRS 195-1) to protect and preserve Hawai'i's "unique geological and volcanological features and distinctive marine and terrestrial plants and animals...both for the enjoyment of future generations, and to provide base lines against which changes which are being made in the environments of Hawai'i can be measured."

## WHY IS THIS PLAN NEEDED?

The Reserve is highly protected and heavily visited. Popular among residents and visitors, damage has occurred to natural and cultural resources throughout the Reserve. Examples include:

- Impacts to cultural sites
- Illegal fishing harvest/poaching
- Human waste in anchialine pools
- Harassment of endangered marine mammals, and
- Graffiti

Resource damage, as well as crowding, safety issues, and the lack of a management plan led the state to restrict access to areas of the Reserve in 2008 and again in 2010. Public safety issues have included:

- Injuries from lava and coral
- Drowning
- Heat stroke
- Car stranding and theft

This plan provides recommendations, including managing access, to balance the needs of human use with the need to protect the natural and cultural resources within the Reserve. Protecting resources also includes addressing the threats of development, alien invasive species, and climate change.

## HOW WILL PEOPLE BENEFIT FROM THIS PLAN?

Management actions outlined in the plan provide for development of interpretive and volunteer programs that enhance educational, hiking and nature study activities and help provide more funding for Reserve management. The plan provides a comprehensive description of the Reserve and will aid decision makers and the public in understanding and protecting the area and people.

## WHAT RESOURCES ARE INSIDE THE RESERVE?

A young lava flow, healthy marine life, Hawaiian cultural sites, endemic plants and arthropods, and anchialine pools (surface brackish water pools fed by underground fresh and ocean water). The resources within the Reserve are an important heritage to the people of Hawai'i, as well as the broader community, because many are unique, either in Hawai'i or in the world, and all are threatened to some degree.



Photo by Matt Ramsey

Visitor traffic on a typical day during high visitor season along the road at Kanahena cove.



Photo by Matt Ramsey

Spray paint graffiti in the Reserve.



Photo by Jim Petruzzi

Underwater view of the Reserve's coral reef.



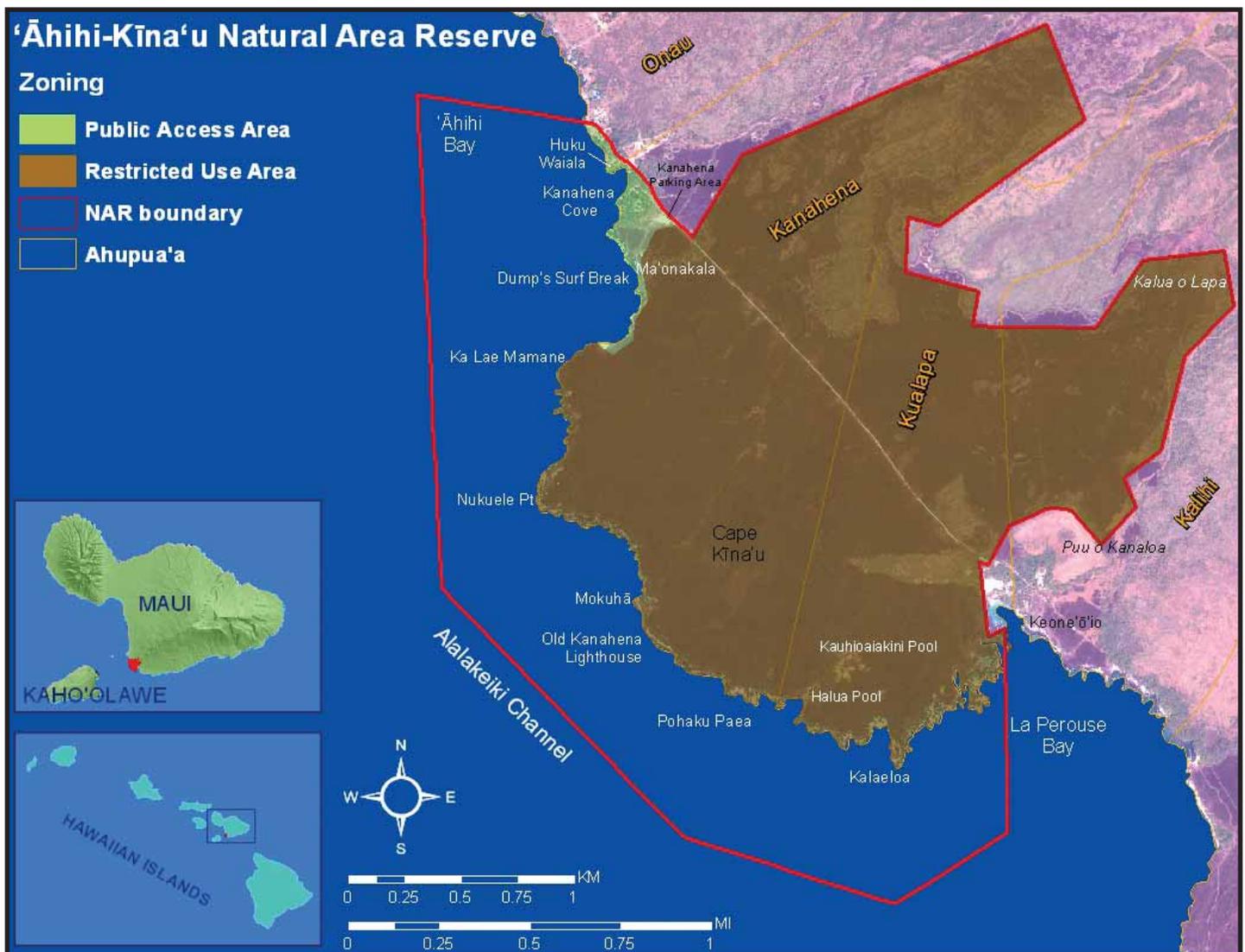
Photo by Matt Ramsey

A Hawaiian rock wall enclosure adjacent to an anchialine pool.



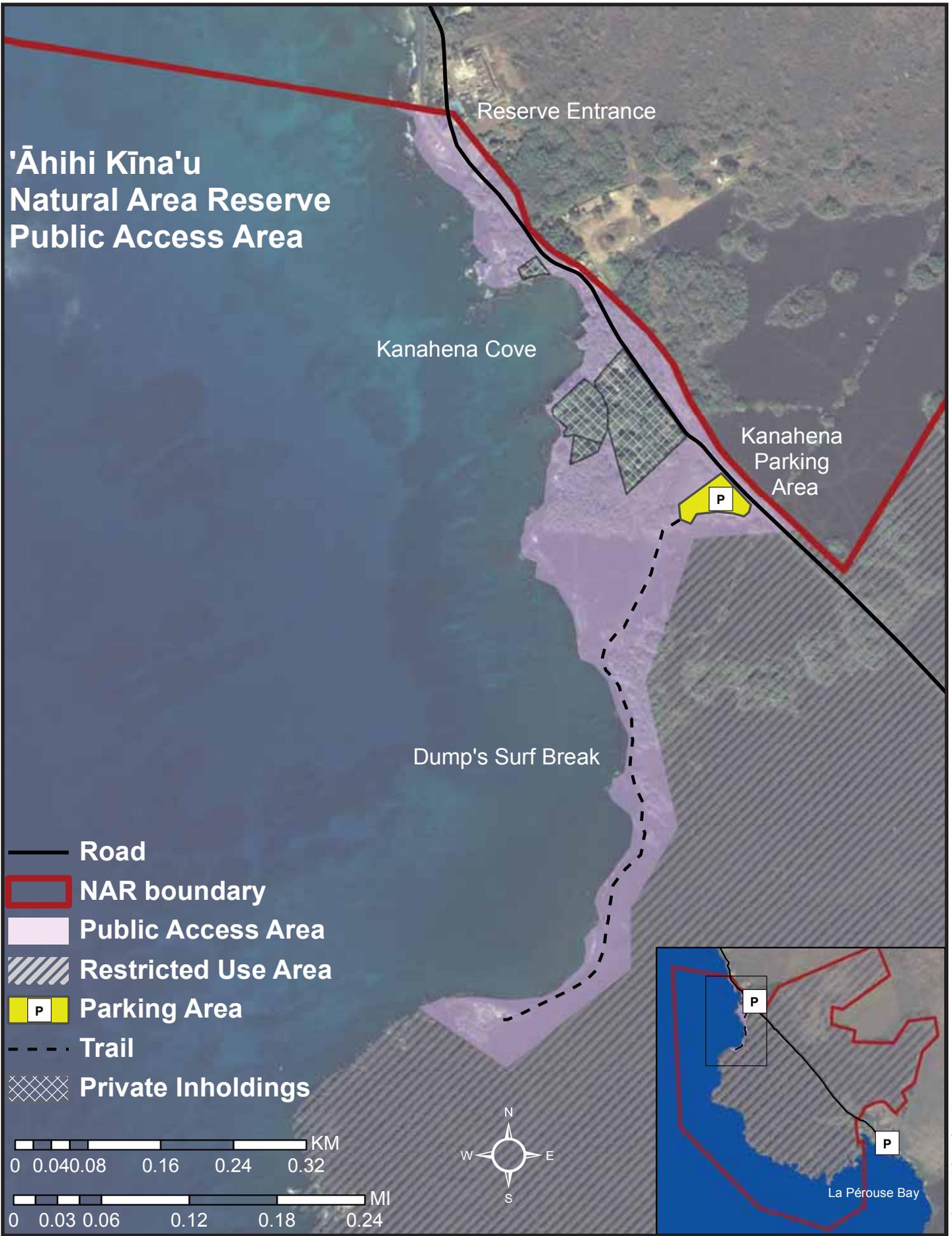
*‘Āhihi-Kīna‘u was designated as the first Natural Area Reserve (NAR) in Hawai‘i in 1973. It is the only NAR that includes marine resources.*

*NARs were established by the State of Hawai‘i to protect the best representative samples of intact ecological and geological systems in the state. The NAR designation exists to preserve these areas in perpetuity as safe havens for natural and cultural resources – the primary goal of NAR management.*



Map of Reserve zones designed to protect natural and cultural resources.

# 'Āhihi Kīna'u Natural Area Reserve Public Access Area



Map of the current and proposed public access area.



The table below shows how significant Reserve resources are on a local, national and global level based on endemism (e.g. found only in Hawai'i or only on Maui), and presence in other places in the world (e.g. anchialine pools are globally rare).

Seven groups of Natural and Cultural Resources inside 'Āhihi-Kīna'u Natural Area Reserve	State Significance	National Significance	Global Significance
1) Anchialine pools			
2) Coral reefs			
3) Coastal marine habitats			
4) Lava flow formations and habitats			
5) Cultural landscape			
6) Native leeward shrublands and forests			
7) Wilderness qualities			

## HOW DO WE KNOW HOW RESERVE RESOURCES ARE DOING?

The plan describes the current status of resource health. Measures are designed and set to show managers how resources are doing over time or in response to a management action. Examples of measures include marine life abundance, cessation of geologic and cultural site trampling, nesting success of native water birds, percent coral cover, and water quality.

## WHAT KINDS OF THINGS ARE DAMAGING OR THREATENING THE RESOURCES INSIDE THE RESERVE?

Many things have damaged, can damage or could further erode the resources inside the Reserve. There are four major threats:

### 1) Human Use

*Some of the highest threats include:*

- Illegal marine harvest/poaching
- Trampling of marine life, geology, and cultural sites
- Damage to formations and structures
- Rock removal
- Spray paint graffiti
- Public safety

### 2) Alien Species and Other Biological Threats

*Some of the highest threats include:*

- Introduced non-native species including algae, fish, cats, rats, mongoose, goats and deer
- Pathogens or diseases that affect species like plants, coral and fish such as the *Erythrina* gall wasp and *Montipora* coral disease

### 3) Land-based Impacts

*Some of the highest threats include:*

- Land-based pollution, nutrients and resulting alien algae growth
- Altered wilderness qualities and scenic resources
- Light pollution (affects native birds, bats and insects)

### 4) Climate Change

*Some of the highest threats include:*

- Coral bleaching
- More frequent and severe storms, changes in rainfall and more temperature extremes
- Ocean acidity change

### Working Group Vision:

Through *kōkua* and *mālama*, the natural and cultural resources of 'Āhihi-Kīna'u Natural Area Reserve are respected and protected as a living legacy. *Aloha 'āina*.



Photo by Judy Edwards

The 'Āhihi-Kīna'u Natural Area Reserve encompasses young rugged flows from Haleakalā volcano's southwest rift zone.

## WHAT IS IN THE PLAN?

**Section 1** describes the setting and history of the Reserve. It documents what natural and cultural resources are found there, their biological and cultural significance and their current condition. It summarizes the social, regulatory and management history of the Reserve and it delineates what threats need the most attention.

**Section 2** specifies recommended actions to protect and preserve the Reserve based on a framework designed to reduce threats and improve the resource status where it is most needed. It also suggests ways to finance this management and outlines measures of success.

## WHAT DOES THE DRAFT MANAGEMENT PLAN RECOMMEND?

The draft management plan identifies goals, objectives, and strategic actions to protect, preserve, and improve resource status. The 4 goals are:

1. Manage Human Use
2. Build and Maintain the Reserve's Management Capacity
3. Control Alien Species and Other Biological Threats
4. Prevent Land-based Impacts

The actions outlined in the draft management plan address the protection and preservation needs of each unique resource. The top priority actions selected to be implemented first are:

- Hire a full-time Reserve manager
- Build and maintain staff capacity to meet Reserve needs
- Implement a Reserve sustainable financing plan
- Minimize the impact of unexploded ordinance
- Improve and maintain on-site facilities
- Recruit partners in support of the plan's implementation
- Manage visitors and access points
- Establish and maintain trails and boundaries
- Establish an interpretative program
- Implement and operate a volunteer program
- Protect and stabilize high priority cultural resource sites
- Deter and remove ungulates out of the Reserve

## WHO DEVELOPED THE PLAN?

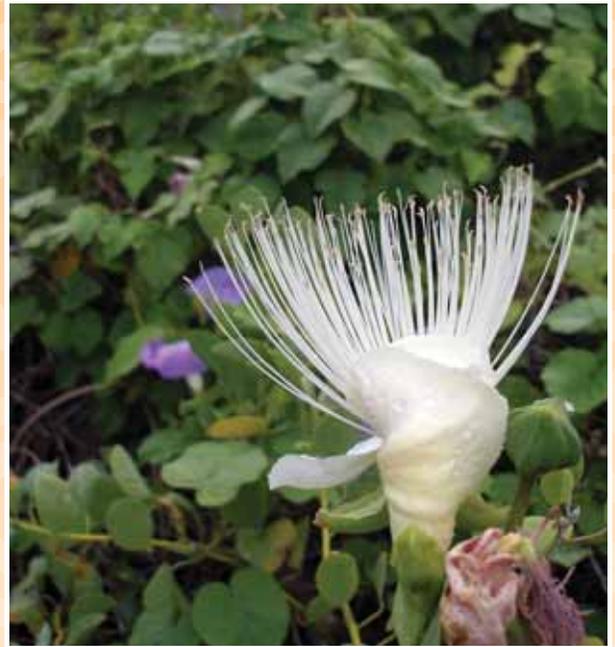
The 'Āhihi-Kīna'u Natural Area Reserve / Keone'ō'io Advisory Group was created in 2004 to advise the Department of Land and Natural Resources (DLNR). The group includes local residents, government employees, cultural practitioners, volunteers, scientists, and others. In 2008, the Advisory Group formed a working group to develop the management plan which included Advisory Group members, DLNR staff, local and federal government staff, other individuals, and subject matter experts. This working group met together in more than 15 meetings between 2008 and 2010 in order to write this plan. The working group process and draft plan production was facilitated by The Nature Conservancy.

## WHERE DOES THE INFORMATION IN THE PLAN COME FROM?

The background information comes from dozens of historical, government, and human use reports, previous draft management plans, cultural assessments, and scientific papers, as well as input from volunteers, local business owners, on-site data, stakeholders, and residents.

## HOW WILL THE DRAFT MANAGEMENT PLAN BE USED?

DLNR will use this draft plan to help determine priorities and actions to include in the final plan. Each action from the plan that DLNR decides to implement will likely involve a work plan, budget with internal review and approval, as well as securing the necessary funding prior to implementation.



*Maiapilo (Capparis sandwichiana)*, an endemic Hawaiian shrub. Native moths feed on its nectar at night.

Photo by Emily Fielding



Management plan working group at 2008 meeting.

Photo by Manuel Mejia



**WHAT THE DRAFT MANAGEMENT PLAN IS:**

*Overall guidance and recommendations to DLNR from an advisory/stakeholder group*

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*Prioritized recommendations on how to protect and preserve the area - and allow for human use*

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*A living, growing, adaptive document to be revised periodically as conditions in the Reserve change*

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*A compilation of natural and cultural history and resources of the area*

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*Documentation of the current top threats to the area recognizing that threats change*

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*A planning and management tool for DLNR to use to determine priorities, work plans, staffing requirements, budget requests, and more*

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*Funding guidance and request document that enables DLNR to ask for the resources necessary to protect the Reserve*





Cover photo composite of Reserve resources by Matt Ramsey