

ACCESS & RISK MANAGEMENT PLAN FOR THE KAHO‘OLAWE ISLAND RESERVE



State of Hawai'i
Kaho‘olawe Island Reserve Commission

November 2005

ACCESS & RISK MANAGEMENT PLAN

FOR THE

KAHO‘OLAWE ISLAND RESERVE

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KAHO‘OLAWE VISION STATEMENT

The kino of Kanaloa is restored. Forests and shrublands of native plants and other biota clothe its slopes and valleys. Pristine ocean waters and healthy reef ecosystems are the foundation that supports and surrounds the island.

Na po‘e Hawai‘i care for the land in a manner which recognizes the island and ocean of Kanaloa as a living spiritual entity. Kanaloa is a pu‘uhonua and wahi pana where Native Hawaiian cultural practices flourish.

The piko of Kanaloa is the crossroads of past and future generations from which the Native Hawaiian lifestyle spreads throughout the islands.

Developed & Adopted in 1995 by the State of Hawai‘i Kaho‘olawe Island Reserve Commission.



Northwest Coastline of Kaho'olawe

KIRC

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MAHALO

The development of the Access & Risk Management Plan for the Kaho‘olawe Island Reserve has involved numerous individuals and organizations from within the State and from around the country. They include the Kaho‘olawe Island Reserve Commission and staff, Protect Kaho‘olawe ‘Ohana, U.S. Navy, Bristol Environmental & Engineering Services Corp., Office of Hawaiian Affairs, Hawai‘i State Legislature, state agency personnel, consultants, business people, private citizens, and members of various Hawaiian and non-profit organizations.

The Kaho‘olawe Island Reserve Commission is very appreciative of the knowledge, constructive ideas, and time invested by these organizations and individuals and for their commitment towards Kaho‘olawe and concern for the safety of persons accessing the island reserve. In particular, the Commission would like to acknowledge the efforts of the following individuals:

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PREFACE

From 1941 to 1994, Kaho'olawe and its surrounding waters were under the control of the U. S. Navy (Navy). Both the island and waters of Kaho'olawe were used by the Navy and allies of the United States as a live-fire training area. Despite recent clearance efforts, unexploded ordnance (UXO) is still present and poses a threat to the safety of anyone accessing the island or its waters.

A decades-long struggle by the people of Hawai'i, particularly the Protect Kaho'olawe 'Ohana, succeeded in stopping the bombing of Kaho'olawe and helped to spark the rebirth and spread of native Hawaiian culture and values. By an act of Congress in 1994, the island of Kaho'olawe was conveyed back to the State of Hawai'i. Furthermore, the Navy is responsible for the cleanup of UXO on Kaho'olawe. Consequently, the Navy continues to exercise final control over access to the island until November 2003.

Kaho'olawe is of tremendous significance to Native Hawaiians, and is a treasure and resource for all of Hawai'i's people. In recognition of the special cultural and historical status of Kaho'olawe, the island and the waters within two miles of its shores have been designated by the State of Hawai'i as the Kaho'olawe Island Reserve (Reserve). The Reserve, composed of undeveloped rugged shoreline, arid landscape, and expansive cliffs, was established for the preservation and practice of Native Hawaiian rights for cultural, spiritual and subsistence purposes; the preservation of Kaho'olawe's archaeological, historical, and environmental resources; rehabilitation, revegetation, and habitat restoration; education; and fishing.

The Kaho'olawe Island Reserve Commission (KIRC) was established to manage Kaho'olawe, its waters, and its resources in trust for the general public and for a future Native Hawaiian sovereign entity. The KIRC gives dimension to this in its Vision Statement, which outlines not only the environmental restoration of the Reserve, but also the restoration and growth of Native Hawaiian cultural practices through human access and interaction with the Reserve. Therefore, it is the overall policy objective of the KIRC to provide for the maximum amount of access and use of the Reserve in fulfillment of its statutory and organizational responsibilities.

To guide the fulfillment of its responsibility, the KIRC has developed this Access & Risk Management Plan (ARMP). The goal of this plan is to outline the KIRC's policies and program for providing access and use of the Reserve while dutifully notifying the public of its UXO and environmental hazards and taking appropriate public safety measures.

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HAZARDOUS CONDITIONS WARNING

WARNING: Kaho'olawe and its surrounding waters contain quantities of unexploded ordnance (UXO) that may cause severe injury or death. The island of Kaho'olawe and the waters within two miles of the island comprise the Kaho'olawe Island Reserve (Reserve).

The Reserve poses severe natural and environmental hazards to humans in the form of rough seas, dangerous ocean currents, arid conditions, no potable water, steep and uneven terrain, and geographic isolation.

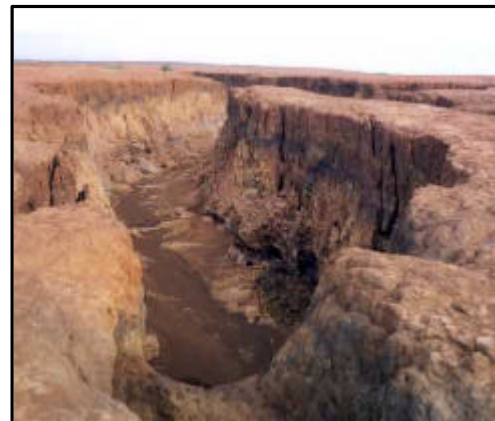
Access and use of the Reserve is managed by the State of Hawai'i, Kaho'olawe Island Reserve Commission.

Unauthorized entry into the Reserve is strictly prohibited and will be enforced pursuant to applicable provisions of law.



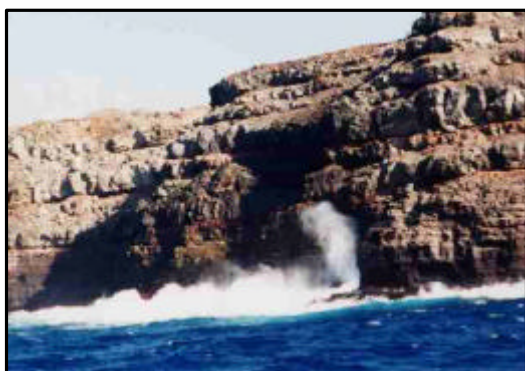
UXO Detonation at Honokanai'a

U.S. Navy



Erosion Channel in Hardpan

KIRC



Rough Ocean Conditions at Puhianenue

KIRC



Submunition in Hardpan

KIRC

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ACRONYMS AND ABBREVIATIONS

ARMP	Access and Risk Management Plan
DOCARE	Division of Conservation and Resource Enforcement
DLNR	Department of Land and Natural Resources
EOD	Explosive Ordnance Disposal
EHA	explosive holding area
HAR	Hawai'i Administrative Rules
HRS	Hawai'i Revised Statutes
KIRC	Kaho'olawe Island Reserve Commission
LZ	landing zone
mm	millimeter
SAP	Semi-Armor Piercing
LDGP	Low Drag General Purpose
BLU	Bomb Live Unit
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
Navy	United States Navy
OB/OD	open burn/open detonation
OSA	open storage area
PKO	Protect Kaho'olawe 'Ohana
Reserve	Kaho'olawe Island Reserve
ROC	Reserve Operations Center
SOL	Steward Organization Leader
UXO	unexploded ordnance

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1.0 INTRODUCTION AND OVERVIEW

This document provides the policies and program of the Kaho‘olawe Island Reserve Commission (KIRC) relating to access and risk management.

Hawai‘i Revised Statutes (HRS) Chapter 6K requires the Kaho‘olawe Island Reserve (Reserve) to be used for native Hawaiian cultural, spiritual, and subsistence purposes; preservation of archaeological, historical, and environmental resources; rehabilitation, revegetation, and habitat restoration and preservation; education; and fishing. Additionally, HRS Chapter 6K states that the Reserve is part of the public land trust and that the State shall transfer management and control of the Reserve to the sovereign native Hawaiian entity upon its recognition by the United States and the State of Hawai‘i.

The KIRC gives dimension to these statutory purposes through its Vision Statement, which outlines not only the environmental restoration of the Reserve, but also the restoration and growth of native Hawaiian cultural practices through human access and interaction with the Reserve. In this context, it is a policy of the KIRC to provide for the maximum amount of access and use of the Reserve in fulfillment of its responsibilities while notifying and protecting the public from unexploded ordnance (UXO) and environmental hazards.

The objective of the Access & Risk Management Plan (ARMP) is to articulate this policy and describe the management program that works toward implementing and achieving this policy. The ARMP is divided into five sections that describe:

- Overall policy objective for access and use of the Reserve;
- Basis for managing access and risk;
- Development of a planning framework and management principles;
- Components of the access and risk management program; and
- Overall program management and implementation.

It is important to note that the ARMP describes policy and program framework. Specific program details, such as: implementation plans, standard operating procedures, and other pertinent administrative or programmatic actions are not included within the ARMP. These details will be developed and implemented upon completion of the ARMP.

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2.0 RESERVE HAZARDS – NEED FOR ACCESS AND RISK MANAGEMENT

Kaho‘olawe Island is situated near the midpoint in the chain of major Hawaiian Islands. Kaho‘olawe is located approximately six miles west-southwest of Maui and roughly 100 miles southeast of Honolulu, O‘ahu (Figure 1). As designated in State law, the Reserve consists of the island of Kaho‘olawe and the submerged lands and waters extending approximately two miles from its shoreline. The island of Kaho‘olawe is approximately 45 square miles in area (28,800 acres), and the waters of the Reserve encompass an area of approximately 78 square miles (Figure 2).

Within the combined 123 square miles of land and water, the Reserve contains a wide range of hazards. Some hazards are naturally occurring and are based on geography and environmental conditions; others are man-made and the result of past military use of the island and surrounding waters as a live-fire training area.

All persons accessing the Reserve are exposed to these hazards and are at risk of severe injury or death. As such, these hazards and risks must be managed in order to achieve the policy objectives and vision of the KIRC. A summary of the man-made and naturally occurring environmental hazards is provided below.

2.1 Unexploded Ordnance Hazards

The United States military and its allies used Kaho‘olawe Island and its surrounding waters as a training area from 1941 to 1990. During this time, various types of combat training occurred throughout the island and surrounding waters, including ship-to-shore assaults, naval gunfire, ground maneuvers, aerial bombardment, air-to-ground assaults, and torpedo testing.

No nuclear, chemical, or biological weapons were used or tested within the Reserve; however, nearly all forms of conventional munitions were used. During exercises, many of these munitions did not function as designed and remain intact in a “live” configuration or dangerous condition.

The types of unexploded ordnance (UXO) hazards commonly found on Kaho‘olawe include small arms, submunitions, mortars, projectiles, grenades, rockets, guided missiles, bombs, pyrotechnics, and ordnance/explosive components. These include, among others, the following:

Bombs

- 2000-pound SAP bomb
- 2000-pound MK 84 LDGP
- 1000-pound MK 83 LDGP
- 500-pound MK 82 LDGP
- 250-pound MK 81 LDGP
- Fuel-Air explosive bomb
- 40-pound fragment bomb
- Fire bomb

Guided Missiles

- TOW surface attack (wire-guided)
- Dragon anti-tank
- AGM-12 Bullpup
- AGM-45 Shrike

Submunitions

- Butterfly bomblet
- BLU (baseball) bomblet

Pyrotechnics

- MK 24 illuminating flare
- MK 45 illuminating flare
- 5-inch projectile (illuminating)

Mortars

- 81 mm
- 60 mm

Rockets

- 2.75 inch rocket
- 66-mm light antitank weapon (LAW)
- 3.5-inch bazooka
- 5-inch HVAR rocket
- 5-inch Zuni rocket
- 4.5-inch barrage rocket
- 4.2-inch depth charge
- 7.2-inch depth charge

Grenades

- 40-mm

Small Arms

- .22 caliber
- .45 caliber
- 5.56-mm
- 7.62-mm
- 12 gauge shotgun
- .50 caliber

Projectiles

- 20-mm
- 3-inch
- 5-inch
- 106-mm
- 105-mm
- 8-inch
- 16-inch

Fillers and warheads within these UXO items include high explosives, bursting charges, white phosphorus, illuminating compounds, and spotting charges. Additionally, unexploded rockets and missiles or unfired projectiles may contain unexpended propellant that can also pose severe hazards.



2000-pound Bomb at Kealialalo KIRC
ACCESS & RISK MANAGEMENT PLAN

Some fuzes on these ordnance items are extremely sensitive and can detonate the item if disturbed by movement or shock, subjected to heat or flame, or exposed to electromagnetic radiation such as transmitted radio waves.



5-inch Projectile KIRC
November 2005



KIRC

Kukulu Ke A Kaneloa

Drawn By: JPR

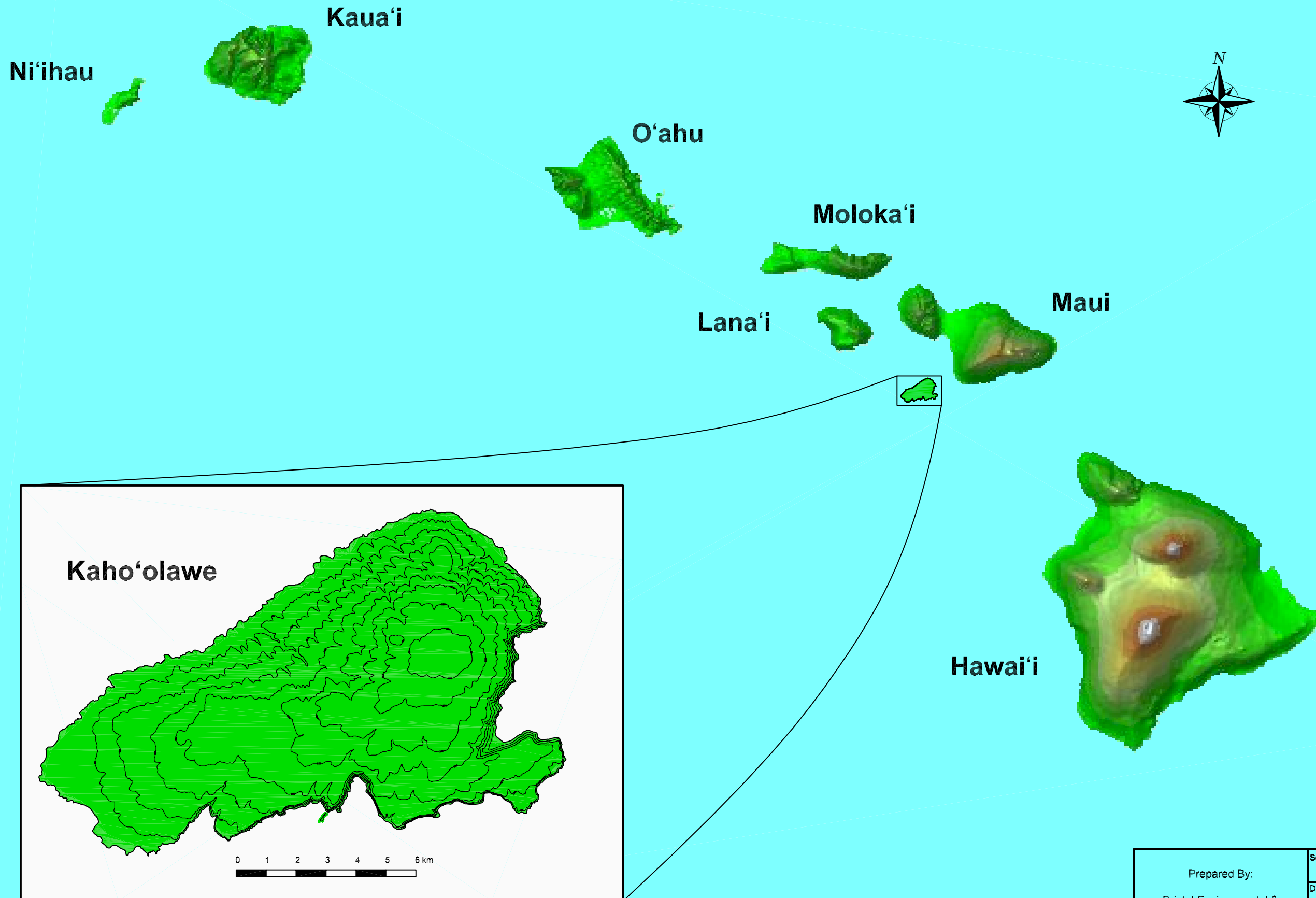
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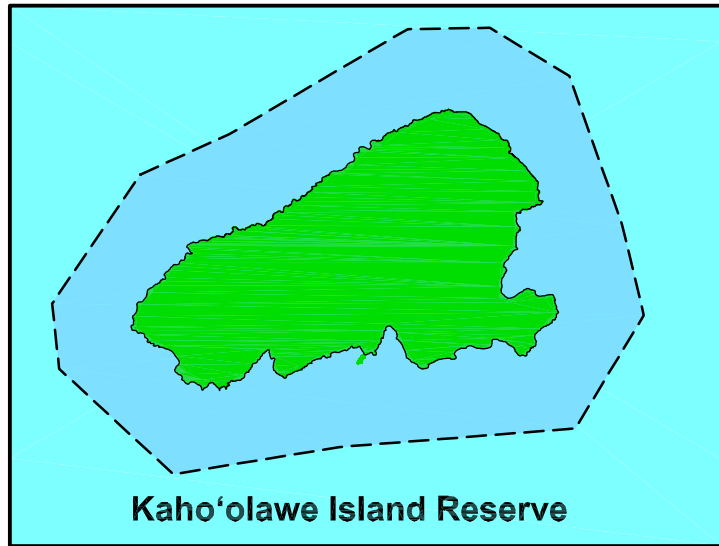
Kaho'olawe Island Location

Figure

1



Prepared By: Bristol Environmental & Engineering Services Corporation	Scale:	1:1,800,000 1:130,000 (Inset)
	Datum:	Old Hawaiian
	Projection:	UTM



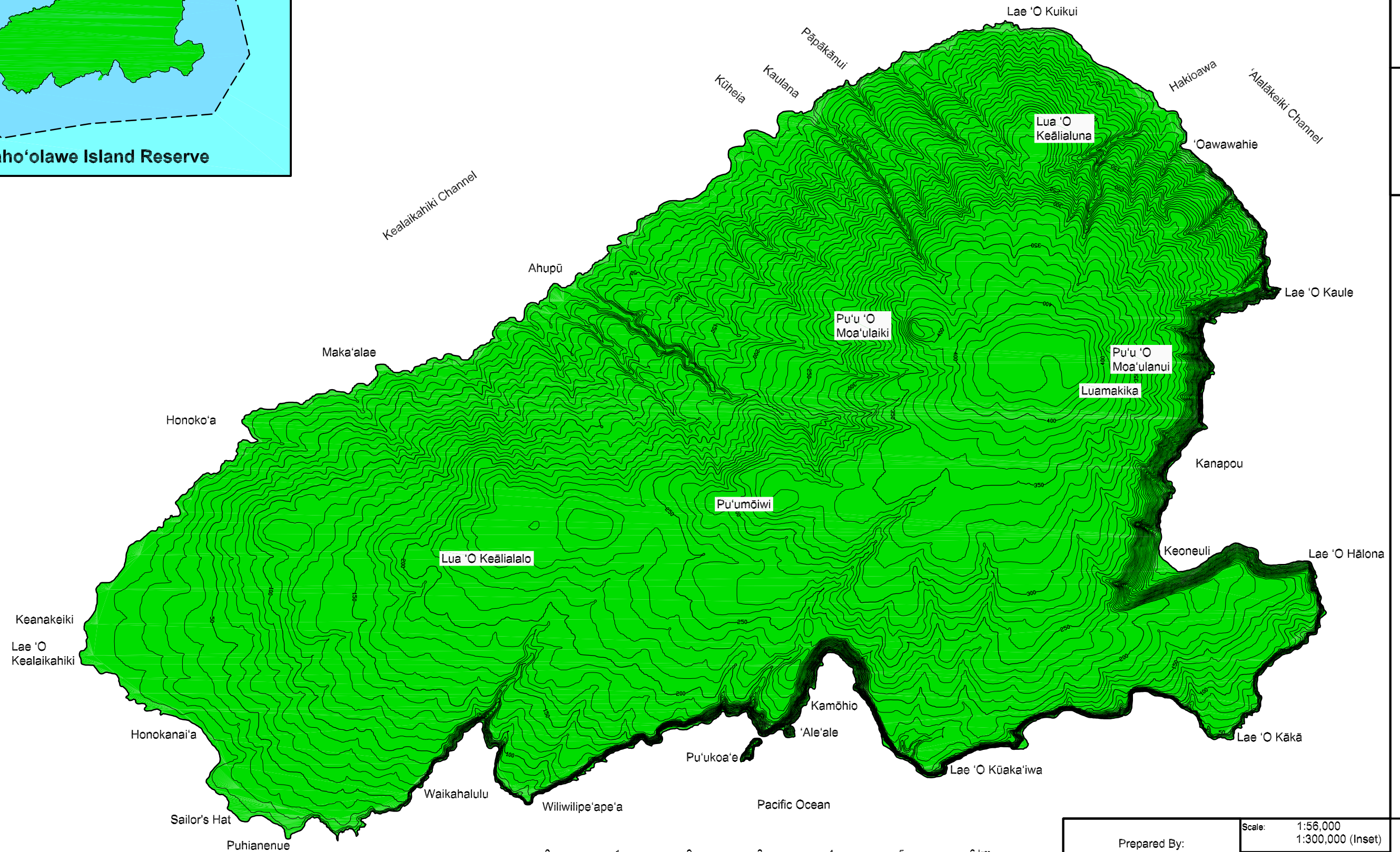
KIRC

Kukulu Ke A Kanaloa

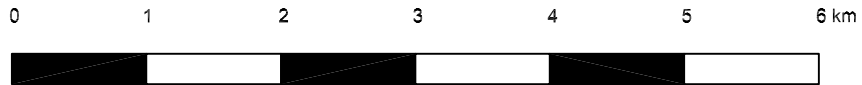
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November 2001



Kaho'olawe Island Reserve



Prepared By:
Bristol Environmental & Engineering Services Corporation

Scale: 1:56,000
1:300,000 (Inset)
Datum: Old Hawaiian
Projection: UTM

Figure

2

The U.S. Navy (Navy) has conducted UXO recovery and clearance efforts from 1980 to the present and, to date, significant amounts of UXO and related debris have been recovered. However, in spite of these removal efforts, the Reserve will not be cleared of UXO and undetermined amounts of UXO will remain on the island and in its surrounding waters.

Therefore, all persons entering the Reserve will be exposed to these residual UXO hazards. Further, all persons risk severe injury or death if they encounter such hazards and the UXO item(s) function or detonate.

2.2 Reserve Geography and Environmental Hazards

Persons accessing the island are exposed to a variety of hazards and risk injuries associated with the following geographic and environmental conditions:

- Geographic Isolation: The nearest populated land mass is the island of Maui, approximately six miles east of Kaho'olawe. The only means of accessing Kaho'olawe is by sea or air. The island itself has no constructed harborage or landing field for fixed-wing aircraft. The Reserve offers limited fixed mooring sites in selected bays and several helicopter landing zones at various locations on the island.



View of Kaho'olawe from Ulupalakua, Maui

KIRC

- Arid Landscape: The climate of Kaho'olawe is dry and wind swept. There are no permanent sources of fresh water. Rainfall on the island averages approximately 10 to 20 inches per year; however, available surface water readily evaporates or discharges to the ocean. Therefore, no permanent sources of fresh water are found on the island.



Hardpan near Luamakika

KIRC

Ground water resources in the form of a basal lens and dike-impounded or perched aquifers are believed to be minimal due to infrequent rainfall and subsequently low ground water recharge.

The landscape of the island is dominated by dry land vegetation consisting of low trees and grasses. The upper slopes of the island consist of a desiccated hardpan and are devoid of vegetation and shade cover.

- Rough Ocean Conditions: Physically, only select portions of the island's coastline are accessible by seacraft. Rocky shoals and cliffs dominate the majority of the island. Furthermore, wind patterns and channel characteristics create treacherous ocean swells and currents. A number of shipwrecks and ocean-related deaths have occurred within the Reserve waters.

- Steep and Uneven Terrain:
The southern half of the island consists of cliffs ranging in height from 200 to 650 feet above sea level. These cliffs range from steeply sloped to vertical and are composed of loose and friable rock. In addition, the island contains a significant number of gulches and steep gullies that radiate from the summit toward the coast. These gulches and gullies similarly are composed of loose soil and friable rock and can extend more than a hundred feet in depth.

As a result of these conditions, persons accessing the Reserve are subject to a number of hazards that can include severe injury or death, such as heat- or dehydration-related illnesses, lack of immediate medical response, drowning or injury from rough ocean conditions, falls from steep terrain, and injuries from falling rocks.



Cliffs at Paliokalapakea

KIRC

3.0 PLANNING AND MANAGEMENT FRAMEWORK

The challenge in achieving the KIRC’s vision and goals is the careful balance of use and control mechanisms to educate and notify the public and protect them from the environmental and residual UXO hazards in the Reserve. The ARMP intends to derive this balance.

This effort first requires the development of an appropriate planning and management framework. Such a framework involves the identification and integration of various organizations, processes, relationships, assumptions, and considerations. As a result, the framework then provides for the establishment of specific principles that will be used in the formulation of the ARMP. The components of the planning and management framework are provided in the sections below.

3.1 Management Organizations and Transition

Historically, management or control of Kaho’olawe has been in a state of transition. From the Kingdom of Hawai’i to the Territorial Government, to the United States, to now the State of Hawai’i, and eventually to the native Hawaiian sovereign entity. However, for the purposes of developing the ARMP, planning considerations have been focused towards the organizations involved in the cleanup and management of the Reserve and the process by which access control and management of the island were to be transferred from the Navy to the State of Hawai’i. These considerations are discussed below. Since the transfer of access control from the Navy to the State of Hawai’i, planning considerations have been refocused on maximizing use in the reserve with the assistance of volunteers and stewardship organizations.

3.1.1 State of Hawai’i Roles and Responsibilities

The State of Hawai’i is the landowner of the Reserve. Title to the island and surrounding waters was transferred from the Navy to the State of Hawai’i in 1994.



The KIRC, acting on behalf of the State, has regulatory authority and management responsibility for the Reserve pursuant to HRS Chapter 6K.

Since 1994, the KIRC has implemented its

Kaho’olawe Island Reserve Commission Meeting

KIRC

management authority in overseeing the daily management, planning, resource management, and environmental restoration in the Reserve as well as notifying and protecting the public from hazards. The KIRC accesses the Reserve on nearly a daily basis and frequently uses the services of various resource specialists, consultants, governmental agency representatives, and volunteers to assist in implementing its programs.

3.1.2 Federal Government Roles and Responsibilities

The Navy, on behalf of the Department of Defense, used Kaho'olawe Island and its surrounding waters as a live-fire training area from 1941 to 1990. Training targets and exercises were spread throughout the island and nearshore waters. As a result, substantial, and as yet undetermined, amounts of UXO remain within the Reserve.



500-pound Bombs at Waikahalulu

KIRC

Through Congressional legislation in 1993, the Navy was designated as the lead agency responsible for conducting UXO removal and environmental restoration activities within the Reserve for a 10-year period until November 2003. The extent of UXO removal and restoration was based on a 1994 State-Navy Memorandum of Understanding (MOU) and involved a surface clearance of the entire island and subsurface clearance of approximately 30% of the island to support specific uses identified by the KIRC in its Use Plan. The Navy, in turn, developed a Cleanup Plan based on this MOU-established level of clearance and implemented clearance activities in 1998.

In June 2000, the Navy informed the KIRC of its inability to complete the cleanup to the MOU-established levels before 2003. Despite this cleanup shortfall, the Congressional legislation specifies that the United States is responsible, in perpetuity, for the removal and disposition of UXO that was not recovered by the Navy.

Access control was transferred to the State of Hawai'i in November 2003. Clearly the Navy did not meet the goals of the 1994 MOU. However, the Navy remains responsible and liable for the UXO that remain on the island. The KIRC continues to work with the Navy to ensure that it fulfills its responsibility for any remaining UXO in the reserve. The KIRC now has the additional challenge of maximizing use in the reserve while providing for safe and meaningful use.

3.1.3 Cleanup End-State and 2003 Transition

In February 2001, the Navy provided the KIRC with a projection of its cleanup end-state (Figure 3). In April 2006, the Navy provided the KIRC with “Notice and certification” documents and maps for Kaho’olawe. (Figure 4) The KIRC awaits the final report on historic properties from the Navy.

UXO CLEARANCE AREAS

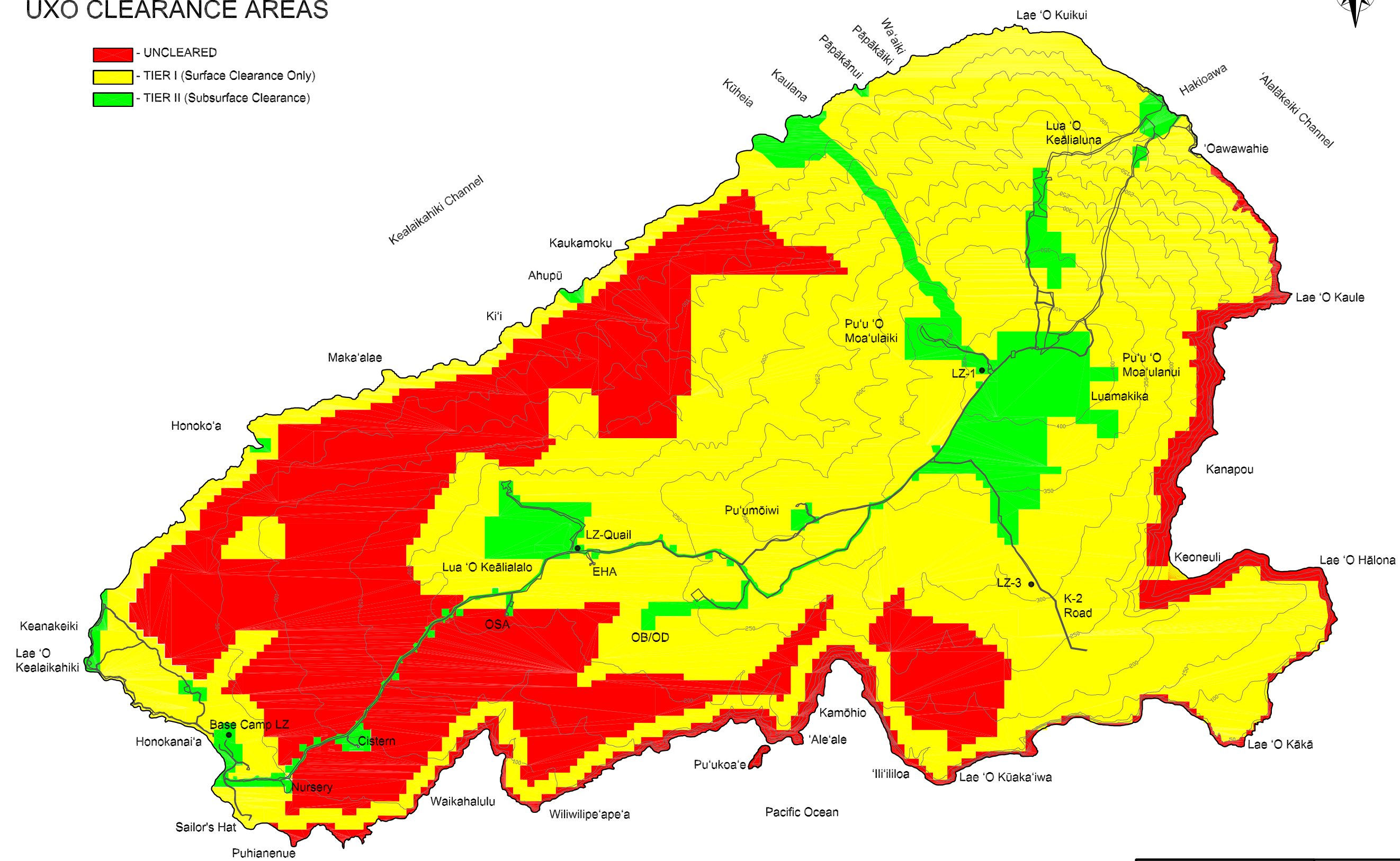
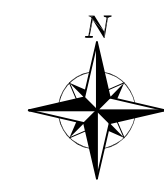
- UNCLEARED
- TIER I (Surface Clearance Only)
- TIER II (Subsurface Clearance)



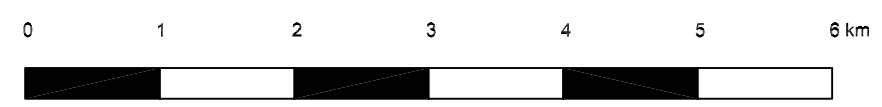
KIRC

Kukulu Ke A Kanaloa

Drawn By: JPR
Checked By: PMC
November 2001



Projected Cleanup End-State Map



Prepared By: Bristol Environmental & Engineering Services Corporation	Scale:	1:56,000
	Datum:	Old Hawaiian
	Projection:	UTM

Figure
3

UXO CLEARANCE AREAS

- UNCLEARED
- TIER I (Surface Clearance Only)
- TIER II (Subsurface Clearance)

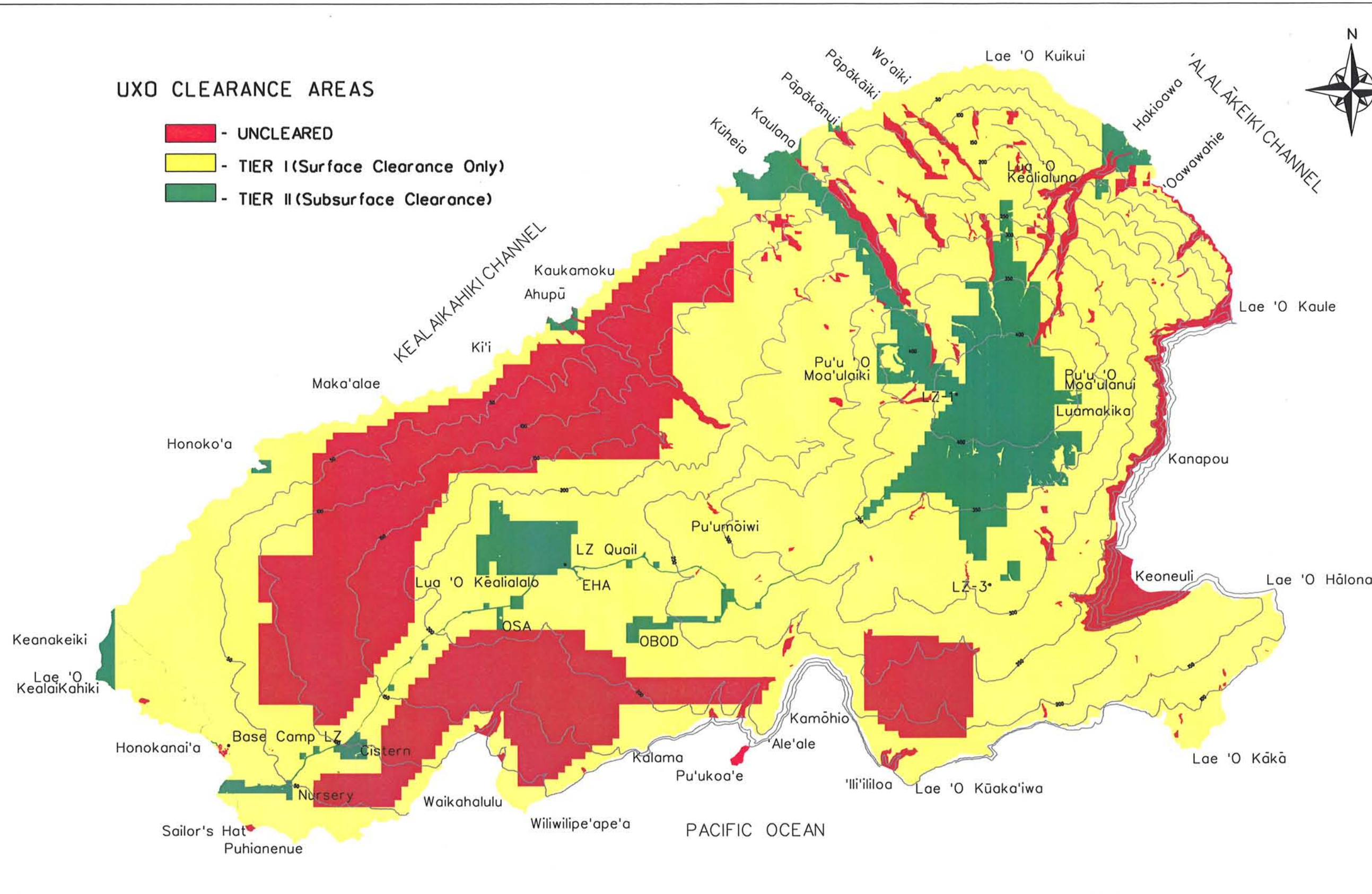


KIRC

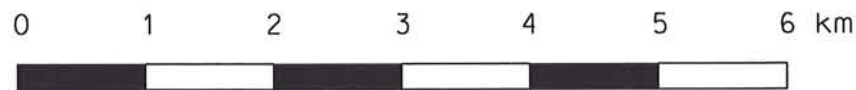
Kukulu Ke Ea A Kaula

Drawn By: CLN

November 2005



Cleanup End-State Map



Prepared By: The Kaho'olawe Island Reserve Commission	Scale:	1:56,000	Figure 4
	Datum:	Old Hawaiian	
	Projection:	UTM	

Subsurface clearance was completed in selected areas in the interior and along the coastline based, in part, on the KIRC's 1995 Use Plan. Key support infrastructure such as the central roadway from Honokanai'a to Luamakika and several helicopter landing zones were completed.



Construction of Kuamo'o Road

KIRC

According to the Navy's 1998 Cleanup

Plan, the Navy will prepare a close-out report that includes the results of its clearance efforts in specified areas, verification that the quality of clearance has achieved previously established standards, and a risk assessment characterizing the extent of UXO hazards that may remain in the cleared areas.



Geophysical Detection Team

KIRC

Based primarily on this report and other information, the Navy is further required to provide notice and certification to the State of Hawai'i documenting the actions taken to implement its Cleanup Plan, the results of its actions, and the uses that are considered reasonably safe and can be implemented. Upon receipt of such notice and certification, the KIRC is required to record these documents with the State Bureau of Conveyances as well as transmit them to any successors or assigns of the State.

Now that there has been a transfer of access control, the KIRC is required to implement and fulfill its management responsibility as specified in State law (HRS Chapter 6K).

3.2 Cleanup Assumptions

The ARMP was developed in parallel with the ongoing Navy Cleanup; however, the actual outcome of the cleanup in 2003 is uncertain until the Navy provides Notice and Certification documents and closeout report data. As a result, the following assumptions were established to project a future state on which to develop the planning and management framework:

- Cleanup End-State and Quality: The Navy clearance of the Reserve will not be completed to pre-established standards by November 2003. The Navy has projected a cleanup end-state, and it is assumed that this end-state will be achieved by November 2003. Further, it is assumed that cleanup operations will have been conducted in a manner that achieves the quality standards established in the Navy Cleanup Plan.

- Notice and Certification: It is assumed that the Navy will provide notice and certification to the State of Hawai'i as specified in the MOU.
- Transfer of Access Control: In accordance with existing laws and agreements, it is assumed that the Navy will transfer control of access to the State of Hawai'i on or before November 11, 2003.

3.3 Planning Considerations

The ARMP is being developed in parallel with existing KIRC Reserve management and restoration activities, as well as ongoing public access and use of various areas of the Reserve. Therefore, these pre-existing and ongoing activities were integrated as considerations in the development of a planning and management framework. These activities are listed below:

- Hawai'i Revised Statutes and Administrative Rules: The statute that created the Reserve in 1994 (HRS Chapter 6K) also contains provisions on the management and specific uses of the Reserve. The KIRC is responsible for fulfilling this State responsibility and has adopted Hawai'i Administrative Rules (HAR §13-261) that further define the allowable uses, restrictions, and processes for accessing the Reserve. Existing KIRC management of the Reserve is consistent with these statutes and rules.
- KIRC Resource Management Programs and Reserve Accesses: The KIRC's Restoration, Culture, and Ocean Management programs have been accessing the Reserve for resource management purposes for several years. Accesses are based on extensive planning efforts from 1994 to 1999 and resulted in the development of several policy-program plans for the future use, restoration, and management of the Reserve. KIRC implementation of its plans frequently involves the services of volunteers, consultants, and other technical specialists. Facilitation of these accesses is managed through existing access request/approval procedures with the Navy, KIRC orientation, administrative procedures such as waivers of liability, and coordination with KIRC operations and on-island Navy controllers.
- KIRC Reserve Operations: The KIRC has created and implemented a Reserve Operations program. Among the purposes of the program is to maintain control of all



KIRC Educational Access

KIRC

KIRC program activities and personnel in the Reserve. The functions currently involve the coordination of all KIRC program accesses to the Reserve, providing logistical support, and tracking ongoing program movement in the field via radio communication.

- Open Waters: Since 1994, the Navy and KIRC have authorized access and use of the Reserve waters for fishing under specific conditions. The waters of the Reserve are currently opened two weekends per month, as noticed by the KIRC, and activity is limited to trolling only. All trolling is constrained to waters deeper than 180 feet (30 fathoms).
- Protect Kaho‘olawe ‘Ohana Access: The Protect Kaho‘olawe ‘Ohana (PKO) is a community based, statewide organization formed for the protection of Kaho‘olawe. During the mid-1970s, PKO members organized a series of occupations on Kaho‘olawe in protest of the military’s live-fire training activities. In 1977, two members lost their lives as part of such actions. Since 1980, the Protect Kaho‘olawe ‘Ohana (PKO) has been provided with authorized access and use of the Reserve by the Navy pursuant to a consent decree from the court settlement of *Aluli vs. Brown*.



Sailing Canoe, Mo'olele at Honokanai'a

KIRC

Through the years, the PKO has facilitated monthly cultural accesses to Kaho‘olawe. People attending these accesses include: interested individuals, church groups, school groups, community organization, and professional associations. To date, several thousand people visited various areas of Kaho‘olawe with the PKO for cultural, religious, scientific, and environmental restoration purposes.

3.4 Access and Risk Management Principles

With the development of a planning and management framework, a set of access and risk management principles was prepared. These principles serve as the planning

foundation for establishing the access and risk management program and are described in the sections below:

- Notification and Hazard Awareness in Advance of Reserve Access: It is important that the public and other interested parties be informed and notified of the Reserve and its hazards well in advance of their access. Notification can be provided in a variety of ways and may reach audiences at the international, national, regional, and local levels.
- Consistency with KIRC Rules and Planning Documents: Since 1994, the KIRC has undertaken extensive planning and rule-making efforts toward the future use, restoration, and management of the Reserve. It is important that the content of these documents is maintained and that the management program is in concert with these existing rules and plans.
- Consistency with the Navy UXO Clearance and Certification: Notwithstanding KIRC planning documents, the Navy is required to certify areas cleared of UXO as reasonably safe to use for specified purposes. The access and risk management program needs to be consistent with the provisions of the Navy's certification.
- Maintenance of an Effective Access Control and Management Program: Due to the risks posed in the Reserve, the KIRC considers maintaining control over the persons desiring access to the Reserve and knowledge of their locations and activities once in the Reserve to be critically important.



Celestial Navigation Briefing at Kealaikahiki

KIRC

- Capitalization of Existing Expertise and Familiarity: Vast amounts of experience, expertise, and familiarity regarding access and use of the Reserve have been gained during the past several decades and can contribute significantly to the development of an appropriate and meaningful management program.

- Maintenance of the Cultural and Natural Landscape: The Reserve is unique among all the Hawaiian Islands due to its relatively undeveloped state. The goals for the restoration of significant native plant and animal species, as well as restoration and use of archaeological and cultural sites, require that the cultural and visual integrity of the landscape be maintained.



Palupalu o Kanaloa on 'Ale'ale

KIRC

- Provision for Evolution of the Reserve: As the environment and uses of the Reserve change over time, management procedures and actions will need to be amended accordingly. Accounting for this evolution requires a data collection and feedback mechanism as well as the means to evaluate and interpret these data. This process of monitoring, reporting, evaluating, and updating knowledge of the Reserve is considered a necessary and integral component to an effective management program.
- Use of Existing KIRC Reserve Management and Operational Practices: The KIRC has developed and implemented effective methodologies and practices for accessing the Reserve, managing its resources, and restoring its environment. The access and risk management program should use and expand upon these existing practices.
- Safe and Meaningful Access and Use of the Reserve: Safety of all persons entering the Reserve is of utmost importance. The access and risk management program must include all necessary, relevant, and appropriate measures to maintain safety while balancing the necessity to provide for meaningful use of the Reserve.
- Maintaining a Cultural Focus and Awareness: The Vision Statement for the Reserve identifies it as a wahi pana and pu'uhonua. Coupled with the history of the island, it is significant and important that the cultural focus and awareness of all persons entering the Reserve be maintained.
- Community Partnering: The KIRC will carry out the ARMP in partnership with community stewardship organizations such as PKO to assure safe, meaningful and cultural accesses.
- Transition to the Native Hawaiian Sovereign Entity: The KIRC is not only a manager on behalf of the State, but also a trustee of the Reserve in preparation for the eventual transition to a native Hawaiian sovereign entity. Pursuant to HRS Chapter 6K, upon recognition by the Federal and State governments, management control to

the Reserve transfers to the sovereign entity. The access and risk management program must be mindful of this future transition.

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4.0 ACCESS AND RISK MANAGEMENT PROGRAM

The access and risk management program described in the sections below was based on the planning framework and management principles developed above in Section 3. This program is intended to support the KIRC's vision and overall policy objectives while managing the environmental and residual UXO hazards remaining in the Reserve after the Navy has transferred control of access and the KIRC gains full management control.

The program itself is composed of six inter-related components involving public education and outreach, designation of geographic use areas, establishment of administrative requirements for controlling access, definition of access-specific requirements, identification of physical on-island markings and signs, and periodic monitoring for UXO. These components are discussed in detail below.

4.1 Public Education and Community Outreach

The KIRC will maintain a variety of public education and outreach activities. The purpose of these activities is to convey to the public and other organizations and agencies the hazards of the Reserve and the conditions and requirements for access. Information dissemination and education will occur through the following means:

- KIRC Website: Pertinent Reserve information posted on the KIRC Website (www.kahoolawe.hawaii.gov) serves as an effective means of communicating with international and national audiences as well as local communities. An interactive component to the Website will be added to further provide for increased communication and information transfer.
- General Information Brochures: Pamphlets or brochures that outline the history, purpose, and hazards of the Reserve provide an alternative means of conveying information to members of the public who may not have access to electronic or televised means of receiving information about the Reserve.
- KIRC Reserve Video and DVD: Video and DVD recordings of Reserve information are additional means of communicating with large audiences. Copies of video and DVD recordings will be mailed to interested individuals or organizations, and the content will be broadcast on public television stations.



- **News Media and Periodicals:** News stories and interviews are timely and effective means of conveying immediate or breaking news. These venues will be used as necessary to inform the public about the Reserve or changes in conditions.
- **Postings Through Government Agencies:** Coordination with other government agencies such as the U.S. Coast Guard, State of Hawai'i Division of Conservation and Resource Enforcement, and Maui County Police and Fire Departments provides vital links to the community. These agencies either provide periodic notices to mariners (U.S. Coast Guard) or have jurisdictional access into the Reserve for emergency or enforcement purposes.
- **Public and Private School Outreach:** Periodic visits and briefings to school children not only provide opportunities to educate them about the KIRC's vision for the Reserve, but also allow for early notification of the various hazards and required codes of behavior when accessing the Reserve.
- **Educational Materials for Children and Teens:** In addition to briefings at schools, educational materials and pamphlets targeted toward children and young adults further convey notice of the conditions and hazards in the Reserve.
- **Periodic Newsletters:** Newsletters or other similar types of periodic mass mailings allow the KIRC to distribute current information about the Reserve, changes in conditions, and changes in procedures in a timely and effective manner.
- **Briefings to Professional and Community Organizations:** Providing informational briefings and presentations to various professional societies or community organizations upon request allows the KIRC to not only strengthen its potential volunteer base, but also educate groups on specific information and conditions concerning the Reserve.
- **Monthly Public KIRC Meetings:** Members of the public have an opportunity to interface directly with the KIRC at monthly public meetings. At these meetings, the public can observe the workings of the KIRC and can ask questions of the KIRC during public comment periods.



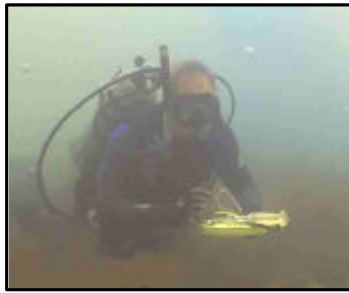
- Information Displays at Public Places: Creating informational displays about the Reserve in public places such as airports, shopping malls, or museums as occasions arise is an effective means of communicating and informing the public about conditions of the Reserve.

4.2 Designated Use Areas

The Reserve is divided into six use areas for the purpose of limiting uses to specific areas based on the level of cleanup as referenced in the Navy Cleanup Plan and projected end-state, the KIRC Use Plan, and HAR §13-261. These designated use areas are depicted in Figures 5 and 6. Two use areas are delineated in the Reserve waters and are identified as Zones A and B (Figure 5). The remaining four areas are on the island itself and are identified as Levels 1 through 4 (Figure 6). The locations, boundaries, and general uses in each of these use areas are summarized in Table 1 and discussed in greater detail below. The specific access requirements, restrictions, and conditions associated with each use area are discussed in Sections 4.2.1 to 4.2.6.

TABLE 1: DESIGNATED USE AREAS	Waters		Kaho'olawe Island			
	Zone A	Zone B	Level 1	Level 2	Level 3	Level 4
Between Shoreline & 30-Fathom Isobath	X					
30 Fathom Isobath to Reserve Boundary		X				
Cultural Centers – Kahua Kauhale			X			
Overnight Campsites – Kahua Ho'omoana			X			
Constructed Trails				X		
Constructed Roads				X		
Helicopter Landing Zones				X		
Select Restoration Areas & Nursery				X		
Select Cultural Sites				X		
Unspecified Surface Restoration Areas					X	
Open Land					X	
Unspecified Cultural Sites					X	
Uncleared Lands & Exception Areas						X
Hazardous Infrastructure (EHA, OSA, etc.)						X

4.2.1 Zone A – Reserve Waters



Monitoring in Zone A

KIRC

Zone A is defined as the waters and submerged lands in the Reserve from the shoreline, as defined in H.R.S. 205A-1, out to the 30-fathom isobath (Figure 5). This area covers approximately 16 square miles (10,240 acres). The 30-fathom isobath ranges from approximately 0.3 to 2.0 miles from the shoreline.

This zoning, codified in HAR §13-261, serves both resource management and safety purposes. The potential for unauthorized bottom-affecting activities (anchoring, fishing, diving, etc.) is highest within the 30-fathom isobath due to calmer, shallower waters and accessibility from land. Furthermore, due to the abundance of significant marine resources and the uncleared nature of the submerged lands, it is necessary to create a distinct zone for managed use.

4.2.2 Zone B – Reserve Waters

Zone B encompasses the waters and submerged lands in the Reserve that lie between the 30-fathom isobath and the boundaries of the Reserve (Figure 5). This area covers approximately 62 square miles (39,680 acres). The designation of this area is simply the difference in area between Zone A and the Reserve boundary. Due to depth and frequently rough ocean conditions, the occurrence of bottom-affecting activities in these waters is considered negligible.

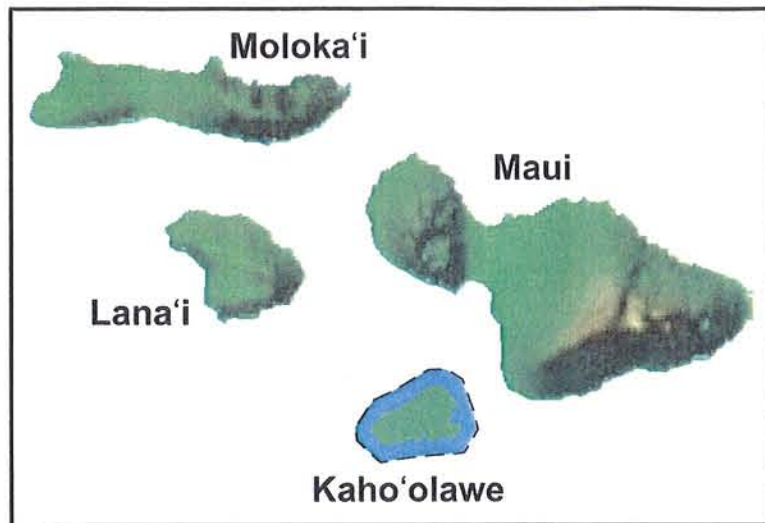
4.2.3 Level 1 – Primary Use Areas

Level 1 areas are considered “primary use areas” in the Reserve. These Level 1 areas will have the highest level of use and visitation in the Reserve (Figure 6). As indicated in the KIRC Use Plan, these areas are identified as kahua kauhale and kahua ho’omoana or cultural centers and overnight campsites, respectively. These areas were subsurface (Tier II) cleared during the Navy cleanup project. Brief descriptions of these areas are provided below with greater detail contained in the KIRC Use Plan.



Hale Halawai at Hakioawa

KIRC



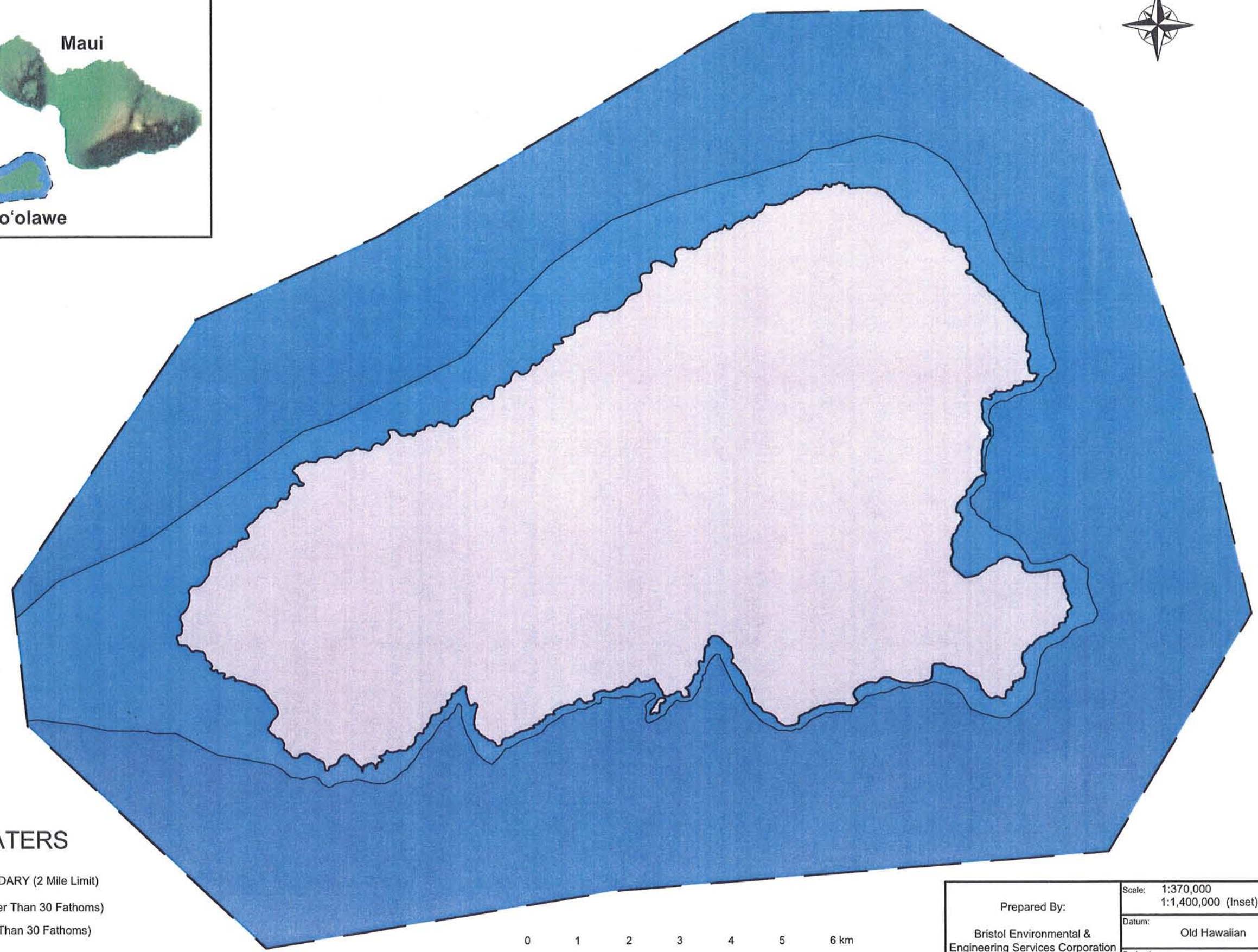
KIRC

Kukulu Ke A Kanaloa

Drawn By: JPR

Checked By: PMC

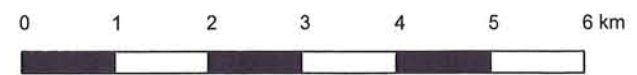
November 2001



Designated Reserve Waters

RESERVE WATERS

- RESERVE BOUNDARY (2 Mile Limit)
- ZONE A (Shallower Than 30 Fathoms)
- ZONE B (Deeper Than 30 Fathoms)



Prepared By:
Bristol Environmental &
Engineering Services Corporation

Scale: 1:370,000
1:1,400,000 (Inset)
Datum: Old Hawaiian
Projection: UTM

Figure
5

DESIGNATED USE AREAS

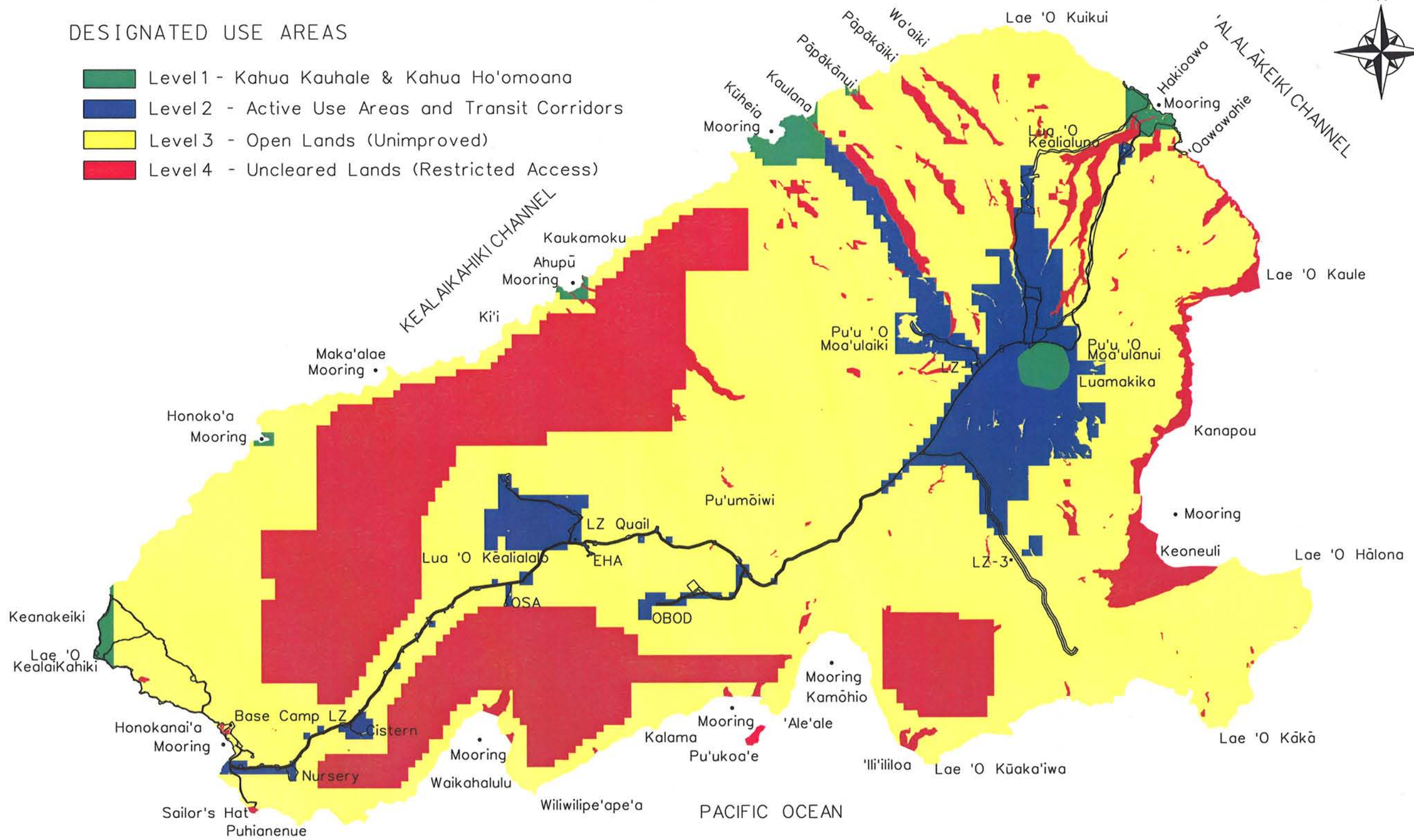
- Level 1 - Kahua Kauhale & Kahua Ho'omoana
- Level 2 - Active Use Areas and Transit Corridors
- Level 3 - Open Lands (Unimproved)
- Level 4 - Uncleared Lands (Restricted Access)



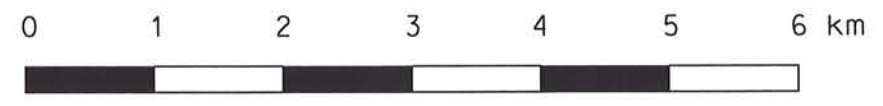
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Kukulu Ke Ea A Kanaloa

Drawn By: CLN
November 2005



Designated Use Areas



Prepared By: The Kaho'olawe Island Reserve Commission	Scale:	1:56,000	Figure 6
	Datum:	Old Hawaiian	
	Projection:	UTM	

- Kahua Kauhale – Cultural Education Centers and Restoration Camps: The KIRC Use Plan identifies several culture and education centers and work camps in the Reserve. At these kahua kauhale, large groups can be accommodated for introductory or longer-term visits for specific uses. These visitors include work groups for restoration activities.

The kahua kauhale designated as Level 1 include Hakioawa, Kuheia-Kaulana, Luamakika, and Honokanai‘a. The locations of these areas are shown on Figure 6.

All of the kahua kauhale are presently in various stages of completion. Support facilities and infrastructure improvements will be made in time. As indicated in the KIRC Use Plan, the general facilities in each kahua kauhale include the following features: sleeping areas or structures, central kitchen, central gathering area or structure, designated fire pit(s), storage areas or sheds, gardens, water system, composting area, and sanitary waste facilities (outhouses). A boat and canoe houses or enclosures will also be constructed for shoreline sites.

- Kahua Ho‘omoana – Overnight Campsites: Kahua ho‘omoana, like kahua kauhale, will be used in support of cultural, educational, and restoration purposes. In general, kahua ho'omoana will serve as resting places or overnight campsites when traversing between shoreline destinations or between coastal and upland destinations. Kahua ho‘omoana are also intended to provide smaller groups with more intensive subsistence experiences in remote areas.

The kahua ho‘omoana designated as Level 1 include Papakanui, Ahupu, Honoko‘a, and Kealaikahiki-Keanakeiki. The locations of these areas are shown on Figure 6. As indicated in the KIRC Use Plan, kahua ho'omoana will have minimal infrastructure, unlike the larger kahua kauhale. Facilities will consist primarily of a cooking area and/or fire pit, storage shed(s) for supplies, sanitary waste facilities (outhouses), a sleeping area, and a boat or canoe enclosure. Such facilities will be constructed incrementally at the various kahua ho‘omoana.

Ala Hele – Primary Use Trails: The Ala Hele have been developed and are marked to serve as primary transit corridors to various parts of the island. These trails are used in support of cultural, educational, and restoration purposes.

Ala Hele designated as Primary Use Trails include Kealialuna Trail (North Trail), Wailuna Trail (South Trail), and Moa‘ulaiki Trail due to their frequency of use.

In order to maintain the Ala Hele for their current user, there needs to be more periodic maintenance.

4.2.4 Level 2 – Cultural Sites, Restoration, and Support Areas

Level 2 areas are areas that are actively used for cultural and environmental restoration purposes and are frequently transited (Figure 6). Accordingly, these areas consist of important cultural sites or areas, specific restoration areas, roads, improved trails, helicopter landing zones, and marine access points. Because of the variety of uses in these areas, they consist of both surface and subsurface cleared lands. Brief descriptions of these various areas are provided below:

- Important Cultural Sites or Areas: Since access for cultural and religious purposes was allowed by the Navy, select cultural sites and areas have been frequently visited and used by PKO and KIRC. As a result of their importance and use, these areas



Rain Ahu at Moa'ulanui

KIRC

underwent either surface or subsurface clearance during the Navy Cleanup. The cultural sites and areas that are classified as Level 2 include Pu'u O Moa'ulaiki, Pu'u O Moa'ulanui, and Pu'umoiwi. The locations and areal extent of these areas are shown on Figure 6.

- Active Environmental Restoration Areas: The KIRC and the PKO actively conduct restoration activities such as native plantings and erosion control work in select areas. Given the past and continued use of these areas for intensive restoration purposes, these areas were subsurface-cleared during the Navy Cleanup.

The active restoration areas designated as Level 2 include Luamakika, Pu'u O Moa'ulanui, Pu'u O Moa'ulaiki, Kealialuna, Wailuna, Kealialalo, and the Honokanai'a nursery site.



Erosion Control Work at Luamakika

Roads: A network of unpaved, dirt roads was developed during the Navy's use of Kaho'olawe to access various parts of the island. While many of these roads were abandoned after the cessation of military training activities, several were kept in use to support the Navy's cleanup of the island. As a result, these roads underwent



Dirt Road Near Pu'umoiwi

KIRC

subsurface UXO clearance and construction and serve as the main transportation corridors for intra-island access.

The roads designated as Level 2 include Kuamo'o Road (K-1 Road), Kuheia Road Corridor, Keanakeiki Road (Rocky Road), Kealialalo Road (Seagull Road), Sailor's Hat Road, and Halona Road (K-2 Road). The locations and extents of these roads are shown on Figure 6.

- Trails: Past cultural and restoration activities have resulted in the establishment of several trails to various parts of the island. These trails are marked and improved and serve as primary transit corridors to various parts of the island. As a result, these trails were incorporated into the Navy's cleanup and have since undergone UXO removal activities. Unmarked or unmaintained access corridors are not considered to be Level 2 areas.



Beach Trail at Hakiowa

KIRC

The trails designated as Level 2 include Pu'umoiwi Trail and Kealaikahiki Trail.

The coastal Ala Loa Trail (Circle Island Trail) around the island is envisioned and contemplated in the Kaho'olawe Use Plan. The Navy has completed at minimum a 75 meter surface clearance around the perimeter of the island for this purpose. As this trail is planned, surveyed, and constructed, its use designation will change from Level 3 to Level 2 as set forth in section 5.6.1.

- **Helicopter Landing Zones:** During the Navy’s use of Kaho’olawe, a number of helicopter landing zones (LZs) were established in various places on the island. Many of these landing zones were cleared of UXO, improved, and utilized for cleanup operations. These landing zones will continue to be used by the KIRC.

The landing zones designated as Level 2 are at Honokanai’a (LZ-Base Camp), Kealialalo (LZ-Quail), Moa’ulanui (LZ-1), and Kaneloa (LZ-3). The locations of these landing zones are shown on Figure 6.

- **Marine Access Points:** There are no harborages in the Reserve, and sea access is principally limited to the use of fixed moorings in specific locations. Beach landing of large vessels, including supply barges and man-portable seacraft such as canoes or inflatable hull boats, is allowed only at designated kahua kauhale or kahua ho’omoana (Level 1 areas). Unauthorized anchoring of vessels in Reserve waters is prohibited.

The marine access points for watercraft designated as Level 2 are provided in Table 2 below. The locations of these points are shown on Figure 6.



KIRC Vessel Hakilo

KIRC

TABLE 2: MARINE ACCESS POINTS FOR SEACRAFT			
Location	Fixed Moorings	Beach Landing	
		Man-Portable Watercraft	Large Vessels (Supply Barge)
Hakioawa	X	X	
Papakanui		X	
Kaulana		X	
Kuheia	X	X	
Ahupu	X	X	
Honoko’a	X	X	
Keanakeiki		X	
Honokanai’a	X	X	X
Waikahalulu	X		
Kalama	X		
Kamohio	X		
Maka’alae	X		
Kanapou	X	X	

4.2.5 Level 3 – Open Lands



Open Lands Near Papakanui

KIRC

Level 3 areas comprise unspecified or undesignated restoration areas, coastal corridors, and open lands. All of these areas are in an unimproved state and were cleared of surface UXO during the Navy cleanup. The locations of these lands are shown on Figure 6.

4.2.6 Level 4 – Management Areas

Level 4 areas are lands requiring special management. These areas were not cleared of UXO by the Navy and remain extremely hazardous. They include large tracts of land east of Honokanai‘a and smaller exception areas such as cliffs, gulches, and other steep or inaccessible terrain. Additionally, specific hazardous infrastructure such as the explosive holding area (EHA), open storage area (OSA), and other similar sites are also classified as Level 4. The locations of these areas are shown on Figure 6. Uncleared Level 4 areas requires a trained EOD escort.



Partially Exposed 5-inch Projectile

KIRC

4.3 Administrative and Operational Access Requirements

Managing risk in the Reserve requires establishing controls on the persons potentially exposed to the hazards and their activities. These include designating and limiting the allowable uses of and accesses to the Reserve, requiring all access to be under the sponsorship of the KIRC or a steward organization, establishing a coordinated process for reviewing and tracking access in the Reserve, and limiting fishing in Reserve waters. Each of these program actions is described in greater detail below.

4.3.1 Authorized Uses and Access

State law (HRS Chapter 6K) specifically designates and limits the uses of and access to the Reserve. It states that the Reserve may be used for native Hawaiian cultural, spiritual, and subsistence purposes; preservation of archaeological, historical, and environmental resources; rehabilitation, revegetation, and habitat restoration and preservation; education; and fishing. Other uses, including commercial operations, are prohibited.

In general, all areas of the Reserve are available for access and use, with the exception of Level 4 areas. Due to the uncleared and hazardous nature of Level 4 areas, all access to the public is restricted and entry to these areas is limited to specialized KIRC activities.

4.3.2 KIRC and Steward Organization Sponsorship

Given the history, traditions, and hazards of the Reserve, the KIRC discourages the general public from directly submitting individual access requests. All access and use of the Reserve will be sponsored under the auspices of either the KIRC or a steward organization such as the PKO. With the exception of fishing in Zone B (see Section 4.3.4 below), the public will need to coordinate their access requests through the KIRC's programs or the PKO, as referenced below:

- KIRC Culture, Restoration, and Ocean Management Programs enter the Reserve for resource management projects and frequently require the assistance of volunteers. Each program maintains a work schedule and can be contacted for volunteer opportunities. All KIRC accesses are led and supervised by KIRC program personnel.



KIRC Restoration Program Volunteers

KIRC

- The PKO accesses the Reserve for cultural, religious, educational, and environmental restoration purposes. Accesses occur approximately monthly, and interested persons or groups can contact PKO representatives or visit the PKO

website (www.kahoolawe.org) for openings and access availability. All PKO accesses are led and supervised by PKO leaders and coordinators.

4.3.3 Access Plan Review and Orientation

All Reserve entry will be coordinated through the KIRC and involve a coordinated access plan review process. This process is necessary to maintain control on persons in the Reserve. Authorization for fishing in Zone B requires a separate process that is described in Section 4.3.4.

Both KIRC programs and steward organizations will submit access plans that outline, at a minimum, access leader and designated assistants or coordinators, access participants, participant ages, dates and times of Reserve entry and departure, and access itinerary. Access groups are also required to have on file with the KIRC an access safety and logistics plan.

Access plans will be reviewed by the KIRC for safety considerations, compliance with existing rules and conditions, and logistics. Discrepancies, safety concerns, or logistic constraints will be discussed with the access group and resolved in advance of entering the Reserve.

Once an access plan is approved, all access participants are required to attend a pre-access orientation and safety briefing. This orientation and safety briefing will cover, at a minimum, the history of the Reserve, appropriate cultural protocol, on-island code of conduct, UXO hazards, UXO reporting procedures, natural and cultural resource protection, personnel safety and logistics, emergency communication protocol, access itinerary review, water safety, and, if applicable, helicopter safety.

Even after an access plan is approved, the KIRC reserves the right to cancel or alter a scheduled access if unanticipated health and safety concerns subsequently arise (e.g., discovery of UXO, storm or hurricane warning).

All persons entering the Reserve will be required to complete and sign liability waivers, acknowledge confirmation of having received and understood the orientation and safety briefing, and agree to abide by on-island rules or code-of-conduct. Additionally, all persons are required to complete a confidential medical emergency notification form and any other access-specific forms before entering the Reserve.

Upon entering the Reserve, the group leader or their designee is required to confirm arrival, individual participants, and head count with KIRC Reserve Operations. Daily location reports are also required to maintain knowledge about the location of each

access group. Upon access completion, the group leader or designee is required to confirm all participants accounted for and departed from the Reserve.

4.3.4 Fishing in the Reserve Waters

Pursuant to State law (HRS Chapter 6K), fishing in the Reserve is authorized. The requirements and conditions for this use are codified in HAR §13-261. Persons desiring to fish in the Reserve must abide by the following:

- Fishing by trolling in Zone B on two weekends per month (referred to as “open waters”) as scheduled by the KIRC and noticed by publication in the Local Notice to Mariners issued by the Commander Fourteenth Coast Guard District.
- All vessels trolling the Reserve during open waters shall first register with the KIRC and submit catch reports to the KIRC’s Ocean Resource Management Program.
- Harvesting of marine resources in Zone A is strictly for on-island subsistence purposes during an authorized access. Such harvesting in Zone A is further allowed only with the authorization of the KIRC, and such authorization is provided on an access-by-access basis.

Fishing during times when the waters are closed, by means other than trolling, and in waters shallower than 30 fathoms is otherwise prohibited. Additionally, entrance into the Reserve during open waters for purposes other than trolling is prohibited.

4.4 Access-Specific Requirements

Given the types of uses authorized for the Reserve, groups may enter and use the Reserve for a variety of purposes. As such, additional requirements are intended to complement administrative and operational requirements and provide notification and guidance on safety issues unique or specific to each access. These access-specific requirements include access guides, limits on intrusive activities, capacity guidelines, age restrictions and supervision ratios, and UXO discovery and reporting requirements. These access-specific requirements are described below.

4.4.1 Access Guides

In an effort to capitalize on personal expertise and experience, access guides are required for accessing designated parts of the island. With the exception of Zone B and Level 1 areas, access guides will be required. In Level 1 areas, activities and movement are contained to a cleared, defined area and are under the supervision of the

access leader(s). Access guides are allowed to support access groups in Level 2 and Level 3 areas. Level 4 areas require an EOD guide. These requirements are summarized in Table 3 below.

TABLE 3: ACCESS GUIDE REQUIREMENTS	Waters		Kaho'olawe Island			
	Zone A	Zone B	Level 1	Level 2	Level 3	Level 4
None (Presumes Authorized Access)		X				
Access Guide				X(1)	X (2)	
EOD Escort						X
KIRC Staff or Steward Organization Leader	X		X	X(1)		

(#) Minimum Number of positions required.

When working in, or traversing Level 2 areas, a minimum of one access guide and either KIRC staff or a stewardship organization leader (SOL) will be required. When traversing Level 3 areas, a minimum of 2 access guides are required. Additional guides beyond the minimum will be determined based on the area(s) to be entered, the size of the group, the activities to be conducted, and the age or experience level of the group (specific supervision ratios for children and teens are provided in Section 4.4.5). Guides will be responsible for, at a minimum, site-specific safety briefings, appropriate protocol, coordination with KIRC Operations, natural and cultural resource protection and avoidance, UXO recognition and avoidance, reporting of hazardous conditions, reporting of safety or access violations, first aid/responder to medical emergencies, and access group management and schedule. When working in or traversing Level 4 areas, an EOD escort is required.



On-Island Access Group Briefing

KIRC

4.4.2 Limits on Intrusive Activities

Consistent with the level of clearance and the intended land use, intrusive activities such as digging, augering, trenching, excavating, or other ground disturbing activities are allowed only in designated areas and to specific depths.

Intrusive activities are generally limited to areas that have been subsurface-cleared during the Navy Cleanup. These areas are limited to Level 1 areas and select Level 2 areas such as roads, restoration areas, and important cultural sites. Intrusive activities in these areas are limited to the depths provided for in the Navy certification.



Seed Gathering at Moa'ulanui

KIRC

Non-intrusive activities including transiting an area, cultural or education activities, environmental monitoring, plant assessments, and seed collection can be conducted in Zones A and B and Level 1, 2, and 3 areas. Activities in Level 4 areas are restricted to specialized KIRC-lead accesses only.

In special and unique circumstances, intrusive activities deeper than the Navy-certified depth, in surface-cleared Level 2 and Level 3 areas, or in uncleared Level 4 areas may be necessary. Such circumstances may involve the construction of footings, moorings, restoration infrastructure, or other engineered structure. In these instances, intrusive activity will be KIRC-lead and under the supervision of authorized and qualified UXO-trained personnel.

4.4.3 Level 1 Area Access and Ocean Safety

Each Level 1 area (kahua kauhale, kahua ho'omoana and ala hele) will be developed with limited infrastructure. Facilities for cooking, sleeping, and sanitary wastes will be provided; however, infrastructure will only be developed to a level that does not significantly alter the intent and purpose of the Reserve. Reasonable accommodations will be made for persons with disabilities in accordance with applicable rules and regulations.

Additionally, the primary means of entry into Level 1 areas will be by sea and typically involve access participants to wade or swim ashore from a marine vessel. All persons accessing the Reserve in this manner will be required to be able to swim or be in the possession of a personal floatation device. Access group leaders and access guides will be responsible for ensuring the safe transit of personnel from the marine vessel to the shore.

During the time that the access group is in a Level 1 area, access and use of the waters extending from the Level 1 area shoreline is authorized in accordance with the terms of

the specific access plan. All persons entering the Reserve waters are notified that there are no lifeguards and that dangerous ocean conditions are present.

4.4.4 Capacity Guidelines

Capacity guidelines are established for the kahua kauhale and kahua ho'omoana (cultural centers and overnight campsites) in Level 1 areas. Since these areas are the sites that access groups will reside in during their time in the Reserve, capacity guidelines are necessary to not only minimize the number of persons exposed to hazards, but also to maintain the resources and infrastructure at these sites and in the surrounding areas. Table 4 below summarizes the capacity guidelines for each kahua kauhale and kahua ho'omoana.

Capacity guidelines for a specific kahua kauhale or kahua ho'omoana may be exceeded on an access-by-access basis and under special circumstances to accommodate cultural ceremonies or other similar events. Additionally, the KIRC may at its discretion close or otherwise limit the capacity for a specific kahua kauhale or kahua ho'omoana for maintenance, safety, or for the protection of cultural and natural resources.

TABLE 4: CAPACITY GUIDELINES FOR KAHUA KAUAHALE AND KAHUA HO'OMOANA		
Kahua Kauhale	Hakioawa	60
	Kuheia-Kaulana	60
	Luamakika	60
	Honokanai'a	60
Kahua Ho'omoana	Papakanui	15
	Ahupu	15
	Honoko'a	15
	Kealaikahiki-Keanakeiki	15

4.4.5 Age Restrictions and Supervision Ratios

Given the presence of significant residual UXO and environmental hazards in the Reserve, it is necessary to establish age restrictions for persons accessing various parts of the island and to maintain adequate adult-to-minor supervision ratios.

Children 12 years of age or younger may access Zones A and B and Level 1 and 2 areas only. They must be under the supervision of a responsible adult at a ratio of one adult for each child. Teenagers between 13 and 17 may access these same areas, plus Level 3 areas, provided they are supervised by a responsible adult at a ratio of one adult for every five teenagers. These age limits are summarized for the various use levels in Table 5.

TABLE 5: AGE LIMITS & SUPERVISION RATIOS	Waters		Kaho'olawe Island			
	Zone A	Zone B	Level 1	Level 2	Level 3	Level 4
Children (12 or younger) 1:1 Adult-Child Ratio	X	X	X	X		
Teens (13-17) 1:5 Adult-Teen Ratio	X	X	X	X	X	
Adults (18 or older)	X	X	X	X	X	X

4.5 Physical Boundary Markings and Signage

In addition to administrative controls, forms of physical or engineering controls are necessary to adequately warn, notify, and protect persons from entering or conducting unauthorized activities in certain areas. These controls will be in the form of repetitive boundary markings and signage.

Redundancy in providing notice of Reserve conditions is intentional. Notice starts at likely departure points, such as harbors and boat landings, and is repeated at all arrival points in the Reserve, such as Level 1 and Level 2 areas, and at on-island use areas, trails, roads, and other areas. Signage and markings will include a variety of methods and materials to serve as a visual notice and warning.

In general, physical access barriers such as fences are unnecessary because of the presence of other means of control. Additionally, physical barriers are counter to the vision and objectives of the Reserve, as well as incompatible with the natural environment of the island.

To maintain the cultural and natural landscape of the Reserve, the number of physical markers, signs, and other visible obstructions on the island will be kept to a minimum while attaining an equivalent means of notice and protectiveness through the use of access guides, supervision of minors, pre-access safety briefings, and designated use areas.

The various forms of marking and signage are described in greater detail in the sections below and are summarized in relation to the designated use areas in Table 6 below.

TABLE 6: PHYSICAL BOUNDARY MARKING AND SIGNAGE	Waters		Kaho'olawe Island			
	Zone A	Zone B	Level 1	Level 2	Level 3	Level 4
Coastal Warning Signs	X					
Signage at Harbors and Landings		X				
On-Island Information Boards and Kiosks			X			
Trailhead and Road Signs				X		
Metes and Bounds Survey Stakes			X	X	X	X
Visual Boundary Markers			X	X		X
Trail Alignment Markers				X		
Visual Reference Markers				X	X	X
Fencing						X

4.5.1 Coastal Warning Signs

Sixteen coastal warning signs were placed on coastal bluffs or near easily accessed beaches in May 1999. The signs were placed to be highly visible from the ocean and to warn trespassers and visitors that Kaho'olawe presents a UXO hazard and that unauthorized landings on the island are not permitted.



Coastal UXO Warning Sign

4.5.2 Signage at Harbors and Landings

The primary means of access to the Reserve is by small boats or other seacraft. These vessels are likely to depart from Maui, Lana'i, Moloka'i, and Hawai'i. Accordingly, signs placed at the boat ramps on these islands will notify mariners of the conditions of the Reserve and rules for access as well as fishing.

4.5.3 On-Island Information Boards and Kiosks

Information display boards or small kiosks will be constructed and placed at the main use areas (Level 1) on Kaho'olawe. In the kahua kauhale areas at Honokanai'a, Hakioawa, Kuheia-Kaulana, and Luamakika, larger more informative boards will be established, given the greater visitation and intensity of use. At the smaller kahua ho'omoana at Papakanui, Ahupu, Honoko'a, and Kealaikahiki-Keanakeiki, smaller signs will provide specific notification and information for access groups. These signs will be designed to fit with the surrounding environment. Additionally, information boards will be placed at select landing zones such as Moa'ulanui (LZ-1), Kealialalo (LZ-Quail), and Kaneloa (LZ-3).

The purpose of these signs is to provide additional aid and orientation information to access participants and remind and reinforce the information provided in the pre-access orientation on Maui. Additionally, information kiosks and boards serve as a central point to access information regarding UXO hazards, accessible use areas, clearance boundaries, emergency procedures, and any other relevant information from the KIRC.



4.5.4 Trailhead and Road Signs

Trailhead and road signs provide information and notice to access groups transiting from one part of the island to another. Signs will be posted in conspicuous locations at trailheads and select locations (intersections) along roadways. Trailhead and road signage are intended to provide access groups notice to stay on the trail or road and to warn of UXO and other environmental hazards.

4.5.5 Metes and Bounds Survey Stakes

The Navy-installed metes and bounds survey stakes serve as one form of in-place reference points when accessing the Reserve. These survey stakes consist of either a 0.75-inch diameter galvanized pipe or a visible plastic marker, and are especially valuable when accessing Level 2 and Level 3 areas. Access guides will use these survey stakes as in-place confirmation points and assist them in directing their respective access groups.

4.5.6 Visual Boundary Markers

The primary form of on-island marking is the use of visual boundary markers. Markers consisting of recycled plastic posts (approximately 4 inches by 4 inches by 48 inches) provide long-term durability and can be fabricated in natural (tan or brown) colors that are visible but not obtrusive. These markers will be placed within visual sight distance from each other and delineate the boundaries of Level 1, select Level 2, and Level 4 areas.

Markers will remain and not be replaced until certification information is received. Upon certification, these markers may be eventually replaced to be consistent with the cultural uses and aesthetic qualities of the island.



Old Ranch Fence Posts at Kuheia KIRC

4.5.7 Trail Alignment Markers

In addition to signs at trailheads, trail edges will be defined with natural materials such as stones, wood, and coral. The intent is to provide trail users with a clear identification and understanding of the trail location and direction. In most cases, alignment markers will consist of a parallel placement of stone, wood, or coral on either side of the tread path. In some



Trail to Kealialuna

November 2005 ^{KIRC}

areas trail markers may consist of the vertical stacking of stone, coral, or wood and be spaced within visual sight distance from each other.

4.5.8 Visual Reference Markers

The boundaries at select cultural sites and smaller, specified restoration sites in Level 2 areas will be marked with natural visual markers such as stone or coral cairns, instead of the visual boundary markers described in Section 4.5.6. These cairns will allow for greater cultural sensitivity while maintaining a visual reference of the use area boundary.



Visual Reference Marker Example

KIRC

4.5.9 Fencing

In general, physical barriers, such as fencing, to prevent unauthorized entry are considered unnecessary given the controlled, supervised, and guided nature of Reserve access. Use of these physical barriers is only considered in Level 4 areas that contain hazardous infrastructure. The EHA, OSA, and other facilities that pose immediate hazards and dangers will be fenced to prevent unauthorized entry.

4.6 UXO Monitoring, Discovery, and Disposition

UXO monitoring consists of three elements: monitoring, UXO discovery and reporting, and UXO disposition. Conditions in the Reserve will change over time, and previously undiscovered or buried UXO may surface due to erosion, weather, site activities, and other factors. Use areas in the Reserve need to be monitored for UXO on a periodic basis. UXO identified through monitoring or by inadvertent discovery need to be reported and appropriately removed.

The following sections are intended to provide a model or framework for a UXO monitoring, discovery, and disposition program. The terms and scope of the program remain to be discussed and agreed upon between the State of Hawai'i and the Navy.

4.6.1 UXO Monitoring

Depending on the location, clearance conducted, and designated use of an area, a monitoring frequency (semiannual, annual, or access-specific) can be assigned for each zone and level in the Reserve. Table 7 provides an example of monitoring frequency for the use areas.

TABLE 7: PERIODIC UXO MONITORING FREQUENCY	Waters		Kaho'olawe Island			
	Zone A	Zone B	Level 1	Level 2	Level 3	Level 4
Semiannual Monitoring			X			
Annual Monitoring				X		
Access-Specific Monitoring	X				X	X
Post-Environmental Event Monitoring	X		X	X		

Access-specific monitoring will be determined based on the expected number of users, type of use, erosion potential, and residual UXO hazard at individual sites.

In addition, supplemental monitoring may also be required for specific areas due to environmental changes or site uses. Such monitoring may be performed after a major storm event or other environmental changes in the Reserve that could result in UXO potentially being uncovered or moved into use areas.

4.6.2 UXO Discovery and Reporting

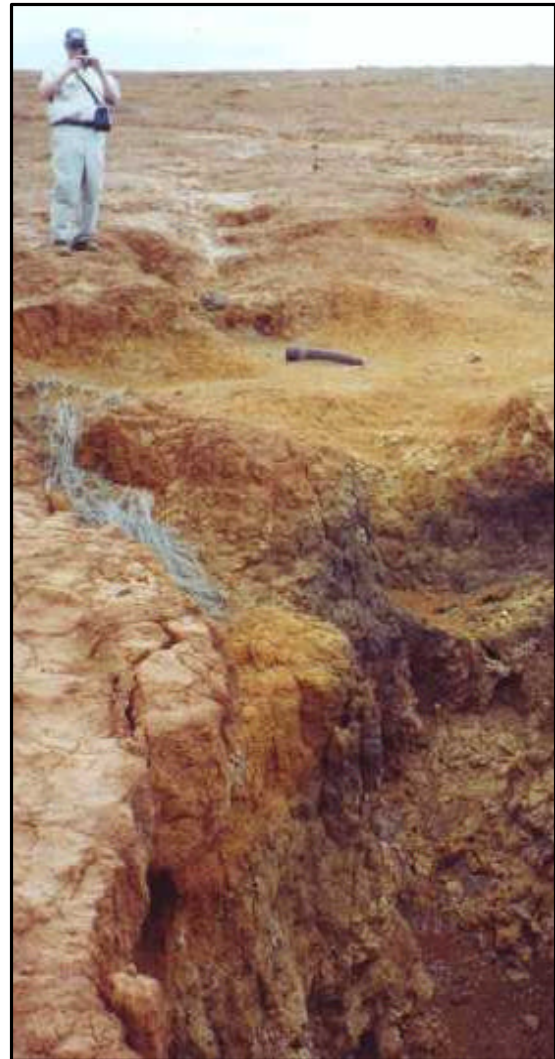
During the course of periodic UXO monitoring, UXO items and hazardous ordnance remnants will be discovered. Additionally, a possibility exists that the KIRC or groups may inadvertently discover UXO items during their access of the Reserve.

In either situation, the UXO item will be appropriately reported and immediate actions will be conducted to prevent injuries. In advance of entering the Reserve, all UXO monitoring personnel and access participants will be notified and instructed on the appropriate actions and reporting procedures should a suspected UXO item be discovered.

4.6.3 UXO Disposition

Upon notification of UXO discovery, the KIRC will temporarily restrict access to the area and reroute access groups a safe distance around the identified hazard until such time that the immediate UXO hazard has been abated.

Trained and qualified UXO response personnel will handle all UXO disposition. Disposition activities will be conducted at times when no access groups are in the Reserve and appropriate measures will be taken to ensure that the UXO item is correctly identified, that the area is clear of personnel, and any protective works or other precautionary measures have been implemented. Upon disposition of the UXO item, verification sweeps of the area will be conducted to ensure complete removal of the item. A disposition report will be completed, and the information will be maintained by the KIRC.



5-inch Projectile near Moa'ulaiki

KIRC

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5.0 IMPLEMENTATION AND MANAGEMENT

As the KIRC moves toward the management and implementation of the program described in Section 4, existing administrative and operational functions of the KIRC will be expanded and new program functions will be developed. Such functions and programs include expanding public outreach, Reserve operations, and legal and enforcement capabilities; entering into stewardship agreements; and developing an active Reserve management program. Additionally, continued coordination with the Navy on the closeout of the cleanup is vital, because it significantly affects the timing and implementation of the access and risk management program. These management and implementation issues are described in greater detail below.

5.1 Expand Public Education and Outreach Activities

The KIRC will expand its current efforts to effectively implement the public education and outreach activities described in Section 4.1. To date, the KIRC has developed a variety of printed and recorded materials and maintains a website (www.kahoolawe.hawaii.gov). The KIRC staff continues to conduct community and professional organization briefings and presentations in various schools and has prepared educational displays in public places.

Implementing activities described in Section 4.1 requires that the KIRC continue and expand on these existing activities, tailor public education and outreach materials toward access and use of the Reserve, and inform the public about the precautions and requirements necessary to provide for public safety.



Public Education Meeting

KIRC

5.2 Expand Reserve Operations Program Functions

The KIRC Reserve Operations Program will expand its existing functions to effectively implement the access and risk management program described in Section 4. Although the program, in its current state, adequately manages existing KIRC operations, expanded functions such as a coordinated access review, access tracking, access

guide training and certification, and facilities and infrastructure maintenance need to be developed. Specific objectives for these program functions are described below.

5.2.1 Access Review Program

The KIRC will establish a dedicated Access Review Program at its Maui Office to effectively administer, coordinate, and process all access plans for entering the Reserve. Some duties and responsibilities of the Access Review Program are described below:

- Provide for public notice of the areas available for access, allowed uses within these areas, a process for requesting access to such areas, and the procedures for reviewing access requests;
- Ensure that access plans and activities are consistent with HAR §13-261;
- Provide public notice of the open waters schedule for fishing;
- Coordinate KIRC program access and use in the Reserve;
- Reconcile constraints or conflicts with any access plans; and
- Provide day-to-day coordination with the Reserve Operations Center (Section 5.2.3) on the schedule and itinerary of incoming access groups.

5.2.2 Access Guide Training Program

The Access Guide Training Program provides a consistent and approved level of training and education to all prospective guides. The Access Guide Training Program may include, but is not limited to the following:

- UXO recognition, safety, avoidance, and reporting
- Applicable rules for the Reserve and for on-island code-of-conduct
- Cultural and natural resource significance, recognition, and protection
- First responder
- Ocean safety
- Radio communications and communications protocol
- Hand-held metal detector operation
- Land navigation (global positioning system [GPS] and compass)
- Vehicle operation and safety
- Helicopter safety
- Cultural protocol

Students in the Access Guide Training Program will include select KIRC staff and members from authorized stewardship organizations in accordance with the terms of their agreement with the KIRC. The KIRC will develop the minimum access guide training requirements.

5.2.3 Reserve Operations Center

A Reserve Operations Center (ROC) performs four primary functions:

- Maintain and coordinate the movement of all persons into and out of the Reserve through communication with the KIRC's Access Review Program on Maui and directly with various access groups;
- Oversee the operation and maintenance of the KIRC on-island support facilities and engineering controls (signs, markings, roads, and trails); provide limited medical, berthing, and logistical support for KIRC programs; and serve as the KIRC on-island point of contact for emergency response and enforcement personnel;
- Serve as a coordination and central information point for UXO monitoring, access monitoring, and natural and cultural resource monitoring activities in the Reserve; and



Former Navy Base Camp at Honokanai'a

KIRC

Provide reports, information, and feedback to the KIRC for appropriate policy and management decision-making regarding access and use of the Reserve.

5.2.4 Facilities Maintenance Program

In support of the ROC, the KIRC will establish a Facilities Maintenance Program to operate and maintain existing on-island support infrastructure. Principally located at Honokanai'a, this support infrastructure includes several berthing huts, a galley, sanitary waste collection system, maintenance shops, communication system, electrical system, and reverse-osmosis and water supply system.

Additionally, the Facilities Maintenance Program will coordinate the maintenance of existing service roads and other transportation corridors such as installed moorings and helicopter landing zones.

Further, to continue providing use and access to various parts of the island, the Facilities Maintenance Program will be responsible for maintenance and repair of the various engineering controls on the island such as signage, UXO hazard notices, and trail and use area markers.



On-Island Construction Activities

KIRC

5.3 Enter Into Stewardship Agreements



Protect Kaho'olawe 'Ohana Access at Honokanai'a

KIRC

To formalize working relationships with steward organizations, the KIRC will enter into curator or stewardship agreements with appropriate Hawaiian cultural and spiritual community organizations for the perpetuation of native Hawaiian cultural, religious, and subsistence customs, beliefs, and practices, as provided for in HRS Chapter 6K.

When entering into such stewardship or curator agreements with an organization, it is envisioned that such agreements would be in the form of a revocable permit or contract and include, but not be limited to, provisions for the following:

- Allowable areas that can be accessed in the Reserve;
- Allowable uses and activities that can be conducted in the Reserve;
- Responsibility for use area maintenance;
- Acceptance of and agreement to abide by all applicable rules for the Reserve;
- Acceptance of and agreement to abide by and ensure compliance with KIRC Reserve management program requirements;

- Safe transportation to and from the Reserve, especially in transiting from the ocean to the shore;
- The safety of access participants while in the Reserve; and
- Necessary provisions (food, water, etc.) for access participants entering the Reserve.

Entering into a stewardship agreement would be beneficial to the KIRC because it would have an agreement for maintenance and services for the upkeep and access management of a particular portion of the Reserve. Meanwhile, the steward organization would be afforded greater access and management of the area in fulfillment of the vision and purposes of the Reserve.

5.4 Continue Navy Coordination

UXO in the Reserve is the result of the actions of the U.S. military and its allies. As a result, the federal government has a responsibility and duty to respond to UXO hazards. Although title to the island was conveyed in 1994 and control of access transferred in 2003, the KIRC will continue its coordination with the Navy (on behalf of the federal government) on the cleanup and post-cleanup issues outlined below.

5.4.1 Project Closeout, Certification, and Transfer of Access Control

Due to the uncertainties regarding the project closeout and certification, a number of assumptions were made in the development of the ARMP. It is vital that Navy coordination be maintained on these issues. Changes in the projected end-state, closeout process, and certification could affect the timing and implementation of the access and risk management program components.

5.4.2 Agreement for Post-Cleanup UXO Response

As referenced in Section 4.6, the details and procedures for post-cleanup UXO response have yet to be negotiated and agreed upon between the State of Hawai'i and Navy. This agreement is a requirement of the State-Navy MOU signed in 1994. Post-cleanup UXO monitoring and response are critical components of the access and risk management program. The KIRC will continue coordination and discussions with the Navy over the terms of this agreement. Completion of this agreement in a timely manner is vital to the development and implementation of the UXO monitoring program.

5.5 Maintain Effective Legal and Enforcement Capacity

Statutes and administrative rules developed at the time the Reserve was established in 1993 could not account for the nature and ongoing development of the KIRC management and enforcement programs as they exist today and as they are projected in 2003 when the KIRC received access control. Therefore, the KIRC will need to continue coordination with Federal, State, and County legal and enforcement agencies to maintain the effectiveness of their legal and enforcement capacities in a manner consistent with future access and use of the Reserve.

5.5.1 Statutory and Administrative Rule Amendments

HRS Chapter 6K provides the KIRC with the ability to control access to the Reserve and contains provisions for developing administrative rules for, among other things, the use of the Reserve waters for fishing, permissible uses and controls, and the protection of resources. These statutory authorities are codified in HAR §13-261.

As necessary, the KIRC will need to coordinate with the State Legislature and the Attorney General's Office to strengthen its management authority and amend existing statutes and administrative rules to include, among others, provisions for notice of naturally occurring environmental and UXO hazards, assumption of risk by Reserve users, and adherence to management procedures. On-Island Rules

Consistent with the provisions of HAR §13-261, the KIRC will review and update a listing of on-island rules or code-of-conduct for all persons entering the Reserve. These on-island rules will describe the "do's and don'ts" with specific respect to:

- Safety while in the Reserve and include: UXO protection, hazardous conditions, general operational safety;
- Protecting the natural resources of the Reserve, including: plants, terrestrial animals, soil, rocks, minerals, water, and marine life;
- Protecting the cultural and archaeological resources of the Reserve, including among others: sites, artifacts, features, and appropriate protocol or behavior; and
- General work practices or activities, including among others: equipment restrictions, drug and alcohol prohibition, prohibition of commercial activities, and prohibited activities.

6.5.2 Enforcement

The enforcement of rules is important to protect public safety, achieve KIRC management objectives, implement policies, and protect cultural and natural resources. In fulfilling this function, the KIRC will maintain on-island rules, and coordinate and facilitate Federal, State, and County enforcement agencies with their respective duties.

Access and Reserve monitoring will be conducted by the KIRC with regard to on-island rules, HAR §13-261, and HRS Chapter 6K. Monitoring information gathered by KIRC staff and other designated personnel will be recorded. Flagrant or repeated transgressions will be documented.

Pursuant to HRS Chapter 6K, the State Department of Land and Natural Resources (DLNR) is authorized to serve and execute warrants, arrest offenders, and issue citations in the enforcement of laws and rules applicable to the Reserve. The Division of Conservation and Resource Enforcement (DOCARE) provides this function for the DLNR.

Additionally, HRS Chapter 6K provides the KIRC with the ability to issue administrative penalties for statute violations. Other federal and county agencies such as the U.S. Coast Guard, the Maui County Police Department, and Maui County Fire Department Search and Rescue also retain jurisdictional access to the Reserve in responding to respective enforcement or emergency issues.

5.6 Implement Active Reserve Management

To effectively manage the Reserve, the KIRC will implement an active management program that is proactive and responsive in managing access and use of the Reserve. This active management program will involve incremental development of use areas and a program of data collection, analysis, feedback, and decision-making. The program components are described below.

5.6.1 Incremental Use Area Development

The Reserve, in its present state, contains a fixed amount of infrastructure to support access and use. However, as indicated in Section 4.2.3 and 4.2.4, many of the Level 1 infrastructure and Level 2 corridors and markers were not fully installed at the time access control was transferred to the State in 2003.

Therefore, the KIRC, as part of an active management program, will institute an incremental Use Area Development Program. This program will initially provide for

reduced access to certain use areas until such time that the necessary support infrastructure such as moorings, signage and information boards, and berthing facilities are installed.



Honokanai'a Bay

KIRC

Incremental use area development will further provide for the transition of an area initially designated as Level 3 to Level 2. For example, the coastal, circle island trail contemplated in the Use Plan is not constructed and does not exist. As this trail is planned, surveyed, and constructed, its use designation will change from Level 3 to Level 2. The same level of protectiveness will be provided because as the KIRC access guide required in Level 3 areas will be augmented by a clearly defined and improved pathway (e.g., trail markings) and a steward organization access guide.

5.6.2 Data Collection, Analysis, Feedback, and Decision-Making

The KIRC will maintain a program for monitoring and data collection in the Reserve. Through the ROC, this program will involve periodic monitoring of various use areas, restoration areas, and cultural sites to observe and collect information on the status and condition of Reserve facilities and resources. Furthermore, the monitoring program will periodically visit ongoing accesses for compliance with access conditions and requirements.

As the central information receiving point, the ROC will have the capability to analyze and respond to changing conditions on the island or emergencies arising from access groups. Within the Reserve, the ROC will also have the decision-making authority and ability to temporarily designate areas of the islands as off-limits for safety and resource management purposes and to initiate emergency response or enforcement actions.

Outside the Reserve, the ROC will provide feedback and guidance to the KIRC on the necessity for maintaining or constructing new infrastructure and engineering controls; timing and specifications for UXO response and disposal; recommendations for increasing or reducing access and use of various areas of the Reserve; and witness testimony in the pursuance of enforcement cases.

Upon receiving feedback and guidance from the ROC, the KIRC can appropriately institute policy, issue administrative penalties, conduct more effective planning, and

provide necessary funding through budgetary actions that will ultimately improve the management of the Reserve.

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