



The Cultural and Natural Heritage of Kaho'olawe Island

Ryan Yamane

Hawaii House of Representatives, Water and Land Committee, Hawaii State Capitol, 415 South Beretania Street, room 420, Honolulu; Hawaii 96813; +1(808) 586-6150, repyamane@capitol.hawaii.gov

■ Abstract

“Kaho'olawe represents both the end result of human-influenced environmental degradation and the beginning of collaborative healing as a force to mend our planet's damaged environments while restoring its people,” states the Kaho'olawe Island Reserve Commission Financial Self-Sufficiency and Sustainability Plan of December 2016. Kaho'olawe faces a paradoxical situation between being an island rich in cultural and natural values while facing significant natural and human-made destruction. Currently, bomb ordinances both still remain on land and sea and, due to significant wind and rain erosion, there is very little topsoil for vegetation growth. Kaho'olawe is directly impacted by climate change and has no fresh water access, impeding vegetation reforestation. This paper aims at investigating options to support its long-term restoration and resource management.

KEY WORDS: Kaho'olawe, Island Reserve, Climate Change, Cultural Heritage

■ 1. Introduction

Kaho'olawe is an island 7 miles off of the southwest coast of Maui and the smallest Hawaiian Island in the State. Kaho'olawe is historically known as Kohemalamalama O Kanaloa in the Hawaiian culture. It is located at latitude 20.57°N and longitude 156.57°W with the island's highest elevation at 452.02 meters above sea level. The terrain is described as being low and flat, with very dry and arid conditions, only receiving just around 0.635 meters of rain annually.

Kaho'olawe was very culturally significant for native Hawaiians, specifically for sea navigation. It was known for its strategic importance despite its relatively small size of only 193.12128 hm, 1 mi² = 2.58998811 km² and being completely void of access to on-island fresh water.

For the native Hawaiians, Kaho'olawe is a very sacred place, deeply rooted in its history, culture, and religion [Fig. 2]. Kaho'olawe is part of the Maui Nui original “mega-island” that comprises

the islands of Maui, Lanai, and Molokai [Fig. 1]. The island formed approximately 1.2 million years ago when it was a collection of seven volcanoes that collectively covered a total land area of 14503.93 km². When sea levels rose due to melting glaciers and the volcanoes slowly eroded, Maui Nui was separated into the four distinct islands.

Around 1830, Christian missionaries arrived in Hawaii and persuaded King Kamehameha III to replace the death penalty with exile. Kaho'olawe then became a prison island. From 1830 to 1940, the island was used as a prison and then for ranching until the U.S. Army expressed interest in using the island for training purposes [Table 1]. In 1941, the U.S. Army and Navy began using the island for target practice and began routinely bombarding and torpedoing various areas. In 1953 President Eisenhower transferred the island to the Territory of Hawaii however, maintaining control of access and use of the island. Kaho'olawe was placed on the National Register of Historic Places in 1981 but access was still limited by the military. The bombing of Kaho'olawe was eventually stopped

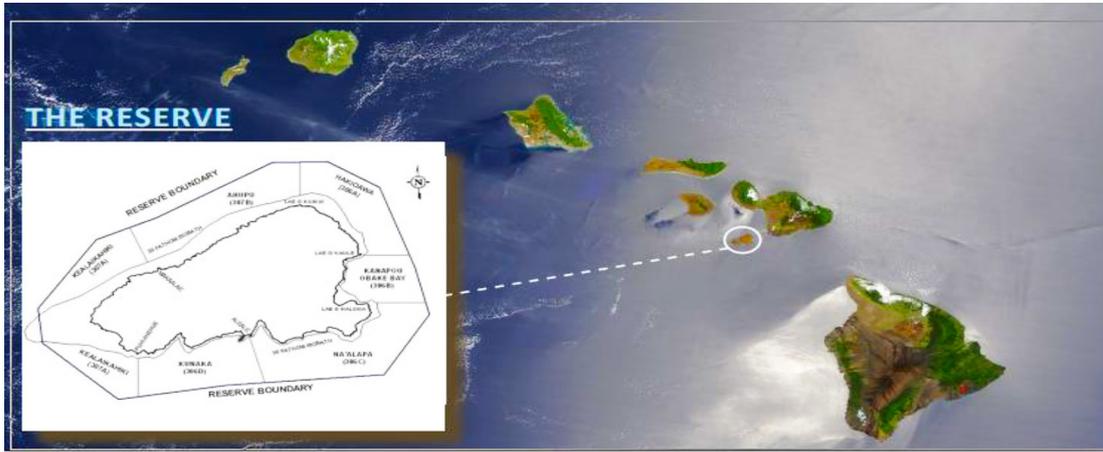


Figure 1: Reserve Map and satellite Image of the Hawaiian Islands in true-color Terra MODIS image acquired on May 27, 2003.



Figure 2: Kaho'olawe Island Highest Sacred Site. (Source: Author)

through an Executive Order by President George Bush Senior in 1990, and in 1991 the Kaho'olawe Island Conveyance Commission recommended that the island be returned to the State of Hawaii in 2003.

2. Heritage Significance of Kaho'olawe Island

Kaho'olawe Island Archeological District is an important National and Hawaii State heritage site. The Kaho'olawe Island Reserve Commission (KIRC) has restored 100 acres in the Hakioawa Watershed by planting 10,000 native Hawaiian plants. The KIRC is also currently involved in Coastal Restoration and is in their 5th year of coastal restoration planting in order to prevent further soil erosion. The Kaho'olawe Island Reserve has inventoried 3,000 historic sites, are featured in the National Register of Historic Places and are in constant need of protection from the weather, erosion, and climate change conditions.

Items like ancient stone tools were also located on the island. Indications of these early times can be found in the carved petroglyphs,

or drawings, in the flat surfaces of rocks located at various sites on the island. Other pieces of archaeological evidence are the stone platforms for religious ceremonies and rocks set upright as shrines for successful fishing trips. Some of the oldest and largest "Heiaus" (Hawaiian shrines) are located on Kaho'olawe. This island was also the place where the navigators and "Kahuna" (Elders), who guided the ocean voyages of early Hawaiians, were trained. Kaho'olawe Island was a traditional launching point for voyaging canoes sailing back to Tahiti. The island cove name, "Kealaikahiki," literally translates as "the road to Tahiti."

This precious island was used for centuries by native Hawaiians to help sustain their people, educate their captains, and worship their gods. Later it was used for bombing by the United States military which decimated many culturally significant archives. Nevertheless, with the right restoration plan, this island can be healed from its past abuse.

Kaho'olawe has over 500 archaeological sites and over 2,000 archaeological features identified on Kaho'olawe Island, as shown in Figures 3 and

DATES	SIGNIFICANT EVENTS
Circa 400 A.D.	Polynesians settle the Hawaiian archipelago including Kaho’olawe
1600	Records indicates a thriving Hawaiian community
1793	Goat farming introduced
1826	Penal colony established for male convicts
1848	Hawaiian Government designated Kaho’olawe as Crown Lands
1858-1941	Cattle, sheep, and goat farming accelerates erosion
1910	Kaho’olawe declared National Forest Reserve and reforestation efforts began
1918	Kaho’olawe withdraws from being a National Forest Reserve and becomes a commercial ranch
1941	U.S. Army signs a lease for use of the island for \$1.00 a year for the purpose of bombing, weapons testing and training
1942-1945	Kaho’olawe is bombed and torpedo
1953	President Eisenhower transfers the island to U.S. Navy to return to Territory of Hawaii
1981	Placed on National Register of Historic Places
1992	Congress ends the military use of Kaho’olawe and provides \$400 million to turn the island into a natural and cultural reserve
2003	U.S. Navy transfers island control to the State of Hawaii
Present	Kaho’olawe Island Reserve Commission under the State of Hawaii controls and manages the island and is cultural heritage.

Table 1: History of Kaho’olawe Island (Source: Kaho’olawe Island Reserve Commission Ecological Report Presentation, June 2018)

4. A significant number of these sites are located either along the shoreline, threatened by increased coastal erosion, or located in the upland slopes of the island in the exposed hardpan regions, making it very prone to increasing weather severity and wind erosion (Barrera 1984).

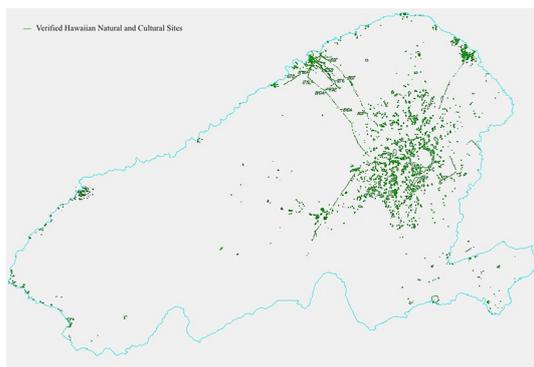


Figure 3: Map of the island’s important natural and cultural significance features, provided by Kaho’olawe Island Reserve Commission, 11/3/2019.

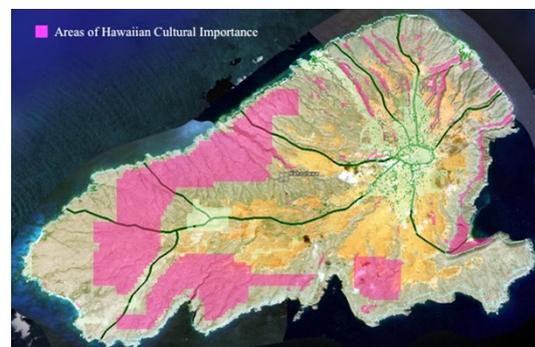


Figure 4: Satellite image of the island’s important natural and cultural significance features, provided by Kaho’olawe Island Reserve Commission, 11/3/2019.

3. Current Management Arrangements

The Kaho’olawe Island Reserve Commission (KIRC) was created in 1994 to manage and restore these lands on behalf of the people of Hawaii and to eventually transfer the management of Kaho’olawe and its surrounding waters to a recognized Sovereign Native Hawaiian Entity (KIRC 2006, 2016, 2018). Emphasis was placed on traditional Native Hawaiian cultural, spiritual and subsistence purposes, rights, and practices, including the preservation of Kaho’olawe’s archaeological, historical, and environmental resources, as well

as the rehabilitation, reforestation, and habitat restoration of the island, fishing, and education are top priorities for KIRC (Hawaii Revised Statutes, Chapter 6K, Kaho'olawe Island Reserve).

Commercial uses are strictly prohibited within the Reserve. The prohibition of commercial use of the island stems back to the State of Hawaii and United States Navy's agreements for the terms of the turnover and cleanup of the former military training range. The Navy's concern for introducing third-party interests to the island, through commercial uses, is that it would increase the Navy's potential liability with respect to additional parties that have standing in the long-term use of Kaho'olawe. The prohibition restricts the long-term uses of the island and therefore restricts the ability to generate sustainable funding for the island's long-term restoration.

The KIRC has implemented a series of coastal planting projects in order to expand the native dune plantings so that a coastal dune system can be developed and designed to catch windblown sands and create a natural buffer during the period of higher tides. In the 19th century, decades of uncontrolled ungulate and cattle caused damage, resulting in the exposure of the island's basalt rock layer (hardpan). With over a hundred years of wind and rain erosion damage, over 10 feet of topsoil has been lost and the Island's hardpan exposure makes the surface semi-impervious to water, resulting in significant surface water runoff and erosion, that eventually floods the nearshore waters with fine silt deposits and damaging nearshore wildlife. In response, the KIRC has systematically built erosion control devices, such as check dams and swales, to slow down surface water runoff velocities and trapping water to increase water percolation. The KIRC has been building large scale terra native planting projects and rainwater collection irrigation to also increase surface water percolation, reduce surface erosion, and restoration of the native watershed on the island.

The KIRC is committed to becoming an educational entity for the Native Hawaiian culture, where people can learn about Hawaiian heritage and practices. Eventually, Kaho'olawe Island Reserve will be a place to experience the connection to the land, the sea, and their ancestors. The hope is that

the Hawaiian heritage will be preserved and taught to future generations. However, the KIRC needs the assistance and expertise of partners to carry out their current preservation activities as well as learn how to protect the site from potential hazards.

Currently, the KIRC partners with Island Conservation (IC), a not-for-profit conservation organization whose mission is to prevent extinction by removing invasive species from islands. They work where the concentration of both biodiversity and species extinction is greatest. The focus is on removing a primary threat, like invasive species, that threatens native Hawaiian plants and animals and restoring the island's unique ecosystems. Once invasive species are removed, native island species and ecosystems recover with little additional intervention. Over the past 20 years, Island Conservation and partners have deployed teams to protect 994 populations, of 389 species, on 52 islands worldwide¹. The KIRC also partners with The National Fish and Wildlife Foundation (NFWF), which protects and restores wildlife and habitats in United States territories. Chartered by Congress in 1984, NFWF directs public conservation funds to the most pressing environmental needs and matches those investments with private contributions².

■ 4. Current State of Conservation and Challenges to Ensure the Continuity of the Landscape

Kaho'olawe's cultural and spiritual significance prevents any development of structures and limits the type of activities that can be conducted to support financial viability. Currently, the Board of the Kaho'olawe Island Reserve, who manages the island, has prohibited any type of commercial activity for safety and for preventing potential damage to unexcavated sites. The KIRC implemented rules that restrict all activities to being only for cultural or educational purposes, with economic gains being limited to only cover the activity's cost and not for profit.

Moreover, Kaho'olawe is very vulnerable to disasters, and any form of threats, because it is isolated and uninhabitable due to the lack of fresh water and arable soil. Since the topology is flat with minimal elevation, Kaho'olawe is very vulnerable to wind and water erosion, especially during hurricanes and extreme rainstorms. The Board

¹ IC is headquartered in Santa Cruz, California with field offices in Australia, British Columbia, Chile, Ecuador, Hawaii, New Zealand, and Puerto Rico.

² NFWF works with government, nonprofit and corporate partners to find solutions for the most complex conservation challenges. Over the last three decades, NFWF has funded more than 4,500 organizations and committed more than \$3.5 billion to conservation projects.

of the Kaho'olawe Island Reserve has prohibited the construction of infrastructure, resulting in no barriers for preventing coastal erosion. With added concerns of sea level rise due to climate change, Kaho'olawe is very prone to high surf inundation, extreme water erosion, and damage caused by soil runoff into the reefs. With the United States withdrawing from the Paris Agreement, Hawaii has made a legislative pledge by passing a State Resolution to continue the Paris Agreement's principles at a local level. Risk reduction and disaster recovery are not part of the KIRC's current financial long-term plan because they lack the financial resources to maintain current activities. Therefore, the KIRC needs resources and technical assistance to identify strategies to protect this precious heritage site from natural hazards and ongoing impacts caused by climate change.

Currently, the island has been experiencing climate change in two main phenomena: 1) rapid increase in coastal erosion and 2) increase in the severity and frequency of hurricane type storms in the channels between Kaho'olawe Island and the Island of Maui.

Increases in coastal erosion have been confirmed by the decrease in the distance between the shoreline and coastal roads. In recent years, the KIRC has been observing sand and tidal wash covering some of the coastal trails and roads that previously were not impacted by coastal wave flow. The change of the shoreline is affecting the traditional native Hawaiian burial sites and customs, requiring their relocation away from natural occurring coastal sand dune formation. Coastal sand dunes are prevalent in the southwest coastline of Kaho'olawe and several burial sites had to be relocated and re-interred in other safer locations over recent years. The increase in coastal erosion and an increase in storm surges are potentially threatening other undiscovered burial sites.

Kaho'olawe is presently undergoing clean-up and restoration projects. The conservation plan focuses on planting native foliage, including edible and herbal plants used in traditional native medicine. For this purpose, various soil conservation programs, such as social run off collections and netting to capture soil blown by strong gusts, are being implemented, and a catchment system is being created to capture rainwater. Even though the island has a rich ocean ecosystem, there are concerns about unexploded ordinances in the seaside and beaches; thus, minimal research has been undertaken. Since no one resides on the

island and all resources need to be transported by boat there are very limited options for natural resource restoration. All food, water, fuel, and materials must be brought in monthly in order for the island to sustain life. Furthermore, Kaho'olawe has no reinforced harbor facilities or pier system, so all the resources must be ocean-borne cargo and carried by landing craft from the Island of Maui to Kaho'olawe's Honokanai'a beach, located at the southwest end of the island. In the past few years, the KIRC reported an increase in summer storms. This increase in hurricanes and severe thunderstorms have been hindering their efforts to transport people, materials, and supplies to Kaho'olawe, impacting on their logistic operations supporting on-going restoration efforts.

■ 5. Recommendations

Kaho'olawe Island is a sacred island, extremely prone to disasters and vulnerable to climate change. The State of Hawaii needs to identify and protect the cultural and natural heritage that this island has, beyond just the ecological and historical values, considering also its cultural and spiritual significance (Yamane 2018). Its restoration could symbolize a re-birth by reestablishing its use for Hawaiian cultural practices and changing this uninhabitable barren place, with no access to groundwater and no economic viability, into a symbol of recovery from neglect and war devastation.

The long-term goal of the KIRC continues to be developing the island as a living heritage site for the perpetuation and continuation of Native Hawaiian traditional practices and cultural heritage. The restoration efforts being undertaken are trying to reverse the ecological damage created from past war ordinance destruction and mismanagement. As the restoration of native vegetation continues, it will restore the surface water retention, reduce the amount of soil silt that enters the nearshore reefs, and limit the damage to the reef ecosystems. The process of restoring the island's natural vegetation will reduce wind and rain erosion, preserving its cultural heritage.

However, Kaho'olawe Island Reserve still needs to complete a thorough SWOT analysis to look at opportunities to build economic resources and partnerships that would support the conservation of its unique cultural values and allow its ecological restoration. This requires the State of Hawaii to fund the development of a viable financial plan, which would allow the island to be used as an environmental education centre of excellence and

help defer the costs for its decontamination.

The Capacity Building Workshop on Nature Culture Linkages in Asia and the Pacific (CBWNCL) emphasizes the link between heritage conservation and disaster resilience. My participation in the CBWNCL program enlightened me on how focusing only on disaster response and increasing public safety can place heritage at risk and forever change the very essence of cultural and natural beauty. CBWNCL's focus on the integrated natural and cultural approaches to heritage conservation helped me to understand how to incorporate heritage protection and the preservation of natural beauty into statewide policy-making. Any future disaster prevention and climate change mitigation and adaptation planning must incorporate the cultural, natural, and spiritual significance of each area and should include the input from a wide breadth of stakeholders. As a Hawaii State Legislative Leader, I conclude that it is important to invest in restoring this once desolated and forgotten island, by making it a symbol of peace and healing, in the fight against climate change. With the knowledge exchanged during the UNESCO Chair on Nature-Culture Linkages in Heritage Conservation's program, I recognize that this devastated island, used as a tool for war, could be re-defined as a beacon of resilience and restoration of culture and heritage.

