



## Kupu Cultural & Historical Site Guide

***Kupu Cultural & Historical Site Guide*** is a collective resource featuring the historical, cultural, and ecological histories of the various places across the islands where Kupu interns work. Each location contains a description of its history and timeline, cultural background including mo'olelo (stories) and oli, cultural significance and activities, and references as written by Kupu interns themselves.



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# Hawai'i Island

## Kahuku

Kahuku is located in the Ka'u district on Hawai'i Island. Kahuku's 116,000 acres of land was acquired by Hawai'i Volcanoes National Park on July 3, 2003. Kahuku is known for being a cattle ranch in the early nineteenth century following European contact. Cattle were raised for its meat and hides which were sent overseas. Sandalwood and Koa were logged almost to extinction in the Kahuku ahupua'a because of its valuable wood.

### **History and Timeline**

Before European contact until the early nineteenth century Kahuku was an Ahupua'a that stretched from the summit of Mauna Loa to the southernmost tip of Hawai'i Island. This Ahupua'a was the largest in Hawai'i with over 184,000 acres. Kahuku consisted of a barren coastline, thick Koa forests, and rocky alpine slopes. Early Polynesian settlers that lived in the Ahupua'a were self-sufficient and shared the resources of the Ahupua'a which consisted of marine resources for fishing, agricultural land for growing edible crops, and forests for wood. Food was plentiful in this Ahupua'a. Polynesian settlers planted non-native edible plants such as taro, sweet potato and sugar cane. Settlers also brought non-native animals which included pigs, rats, and chickens. The introduction of these animals caused destruction to the landscape and was probably the reason for the extinction of many species of native plants.

In 1779, James Cook sailed around the south tip of Hawai'i Island and set eyes on Kahuku, Cook was unable to land because of stormy weather. Cook's crew described the land to be barren and a waste. In 1793 George Vancouver brought cattle to Hawai'i Island as a gift to Kamehameha. Kamehameha forbade their slaughter and the cattle multiplied rapidly. The cattle then became a nuisance and were destructive to cultivated plants as well as native plants. Hawaiians were forced to build stone walls around their fields and homes to keep cattle away. In 1803 horses were introduced and in 1830 Mexican vaqueros arrived. The term "paniolo" then became a part of the Hawaiian language deriving from the word "espaniolo" which means cowboy in Spanish.

### **Cultural Background Including Mo'olelo (stories) and Oli**

Although Kahuku had been covered by lava several times Hawaiians were still able to thrive in this rough environment. Some Hawaiians were fishermen who took advantage of the ocean. Others caught wild animals like goats and pigs, as well as cultivated fruits and vegetables. There were also bird catchers which lived in the uplands; they caught birds for their feathers. The feathers were then used to make cloaks. The Hawaiian Mamo, a prized bird with beautiful yellow feathers, was used exclusively for royal cloaks. In the late 18<sup>th</sup> century, British sea captains began to harvest sandalwood because of its aromatic qualities. Sandalwood became the most popular commodity extracted from Hawai'i until 1840. During this time period, King Kamehameha ordered his chiefs to collect sandalwood for export. Almost all the men and women of Hawai'i were differed from their daily work in agriculture and fishing to gather sandalwood. During the 1820's the sandalwood trade rapidly declined because the tree was harvested nearly to extinction.

### **Current Significance and Activities**

Hawai'i Volcanoes National Park has been working on converting the pasture section of the parcel back into Koa and Ohia forests. Test plots have been built and different methods of restoration has been tested.

The Nature Conservancy helped Hawai'i Volcanoes National park make the 22 million dollar purchase of the Kahuku in 2003.

The Friends of Hawai'i Volcanoes National Park is a group of volunteers who participate in various projects throughout the park. They are involved with various projects in the Kahuku unit. They take part in out planting as well as weed and grass removal.

### References

Avery, Christy. *Volcano Ranch: An Environmental History of Kahuku Ranch*. Rep. Seattle: Pacific West Regional Office, 2009. Print.

Short History and Geography of Kahuku. NPS undocumented report of Kahuku. Hawai'i Volcanoes National Park. 1/2008. Print.

## Ka'ūpūlehu Dry Land Forest Reserve

Ka'ūpūlehu Dry Land Forest Reserve is located at mile marker 28 along Mamalahoa Highway, on the makai side of the road. The reserve is on Hualalai mountain within the Ka'ūpūlehu ahupua'a.

### History and Timeline

Ka'ūpūlehu was given to Kamehameha Schools following Princess Bernice Pauahi Bishop's death in 1884.<sup>2</sup> Kamehameha Schools is still the current landowner. Ka'ūpūlehu dry land forest reserve has traditionally been cared for by local ohanas and community members such as the Springer and Keakealani families. However, in 1993, Kamehameha Schools leased Ka'ūpūlehu to Hawai'i Forest Industry Association (HFIA) so that they could work to restore the dry land forest. HFIA currently cares for the entire 70 acres of the Ka'ūpūlehu reserve.<sup>3</sup>



### Cultural Background Including Mo'olelo (stories) and Oli

There is a mo'olelo that tells the story of two wahine named Pahinahina and Kolomu'o. The story is set in the uplands of Manuahi, where Ka'ūpūlehu is located today. Both wahine are broiling breadfruit. Pahinahina is generous and shares her breadfruit with the goddess Pele. Kolomu'o, on the other hand, does not give any of her breadfruit to the goddess. In response, Pele sends a lava flow through Manuahi, covering the lands that belonged to Kolomu'o and sparing the home of Pahinahina. This led to Manuahi being named Ka-'ulu-pulehu, which means "the broiled breadfruit." The name was then shortened to Ka'ūpūlehu, what we call the area today.<sup>4</sup>

### Current Significance and Activities

The current work in Ka'ūpūlehu attempts to restore the dryland forest to what it once was. This is significant because only 5% - 10% of original dry land forest habitat exists today.<sup>1</sup> Many of the species we try to restore are listed as endangered under the Endangered Species Act, and all are considered rare. Restoration includes weed management, planting, and watering. Ka'ūpūlehu also participates in outreach and education to help engage the community in dry land forest conservation. Some of the organizations with which we work include Na Kahumoku, Ke Kama Pono, and Cornell University.

## References

[www.drylandforest.org](http://www.drylandforest.org)

<http://www.ksbe.edu/land/>

<http://www.hawaiiforestinstitute.org/our-projects/dryland-forest-projects/kaupulehu-dryland-forest/>

<http://www.hawaiiforestinstitute.org/documents/KalaemanoBrochure.pdf>

## Kīholo and Hui Aloha Kīholo

Hui Aloha Kīholo was founded, in 2007, in honor to love, protect, and sustain Kīholo future generations, and to keep Kīholo's natural resource in active state. They have a curatorship agreement with the State Parks of Hawai'i to assist with management of Kīholo is a State Park Reserve. Hui Aloha Kīholo is an organization that brings together a diversity of people that all share the same love for Kīholo.

Kīholo is located on the Island of Hawai'i in the district of North Kona or traditionally known as Kekaha, in the ahupua'a of Pu'u Wa'awa'a. Kīholo is famous for its 'ili'ili (pebbles) beach, and marine life. State Parks of Hawai'i categorized Kīholo state park reserve, as a cultural and wilderness state park.

### History and Timeline

There are many stories about Kīholo, and that is why it is so precious and dear to many people. In the past of the ancient times of Kīholo, Kīholo was a fishing village. It sustained many of its people of the lands known as Nā Pu'upū'alukinikini or Nāpu'u for short. Nāpu'upū'alukinikini is a named that referrers to the ahupua'a of Pu'u Wa'awa'a and Pu'u Anahulu. The Stories that happened prior to Kamehameha was told orally and are continued being told by genealogical residents of Pu'u Wa'awa'a and Pu'u Anahulu.

### Cultural Background Including Mo'olelo (stories) and Oli

Kamehameha had a famous fishpond in Kīholo, also named Kīholo. It was the second largest fishpond on the Island of Hawai'i. There is a famous story that is well known and traveled in the past and present, and across the Island chain. This story plays a role in history for the genealogical residents. It was in 1859 when Pele came down from Mauna Loa and eats the fishpond, for she was hungry, again for aku and awa of Kamehameha. From that the new land was formed, and the point named Laehou.

After 1859, Kīholo was a place for shipping cattle, and having a small piggery. It was also known for its salt production. During this time period stories have been documented, *mele* (songs) and chants were composed. Also, after the great Māhele, the land was later famous for the Haine 'Ohana (family) that played an important role in Kīholo's history.

Kīholo has many famous Anchialine ponds, and are very special and dear to the genealogical residents of Nā Pu'u. These ponds hold stories of new and old. The ponds are home to the native shrimp called 'opae 'ula, and house the sweet brackish water. Old ancient ali'i (chiefs) would go to these ponds from far and near to feel the cool brackish ponds of Kīholo. These ponds of Kīholo bay draws in many visitors from day to day, and visitors continue to make their trip back year to year, for sometimes they long for and miss the magic of Kīholo Bay.

### Current Significance and Activities

Hui Aloha Kīholo has many endeavors that in return and in hope will help make Kīholo sustainable and manageable. They have developed partnerships with The Nature Conservancy, Ala Kahakai NPS, State of Hawai'i (State Parks), and Conservation International – Hawai'i Fish Trust.

Some of the projects that Hui Aloha Kīholo are doing at this time:

- 1) Creel Survey and fish flow analysis  
Examining the levels of fishing efforts and catch of Kīholo
- 2) Fish station  
Engage fishing community with continuing to practices pono fishing, and understanding the fish flow, so that the fishing community can be involved with sustaining ocean resources.
- 3) Out planting of Native Hawaiian plants within three one acre areas.
- 4) Restoration of trails there are few highly significant trails in Kīholo, including interpretive signage and online active map with downloadable brochures.
- 5) Increasing visitors knowledge of the area through different means
- 6) Restoring Anchialine ponds, managing vegetation and removal of invasive aquatic species.
  - a) Interpretative sign, b) outreach person, c) community events
  - \* Talk story, ho'omoana (fish camp), Out planting, and restoration.

## References

Donoho, Mike (2013), *Personal communication*, Date: January 7, 2012

Keakealani, Ku'ulei (2012), *Kīholo Talk Story*, *Oral presentation*, Date: November 10, 2012

Maly, Kepa (2011), He Mo'olelo 'Āina No Nāpu'u Traditions of Pu'u Wa'awa'a and Pu'uAnahulu of Kīholo State Wilderness Park District of Kona, Island of Hawai'i: An Ethnography of Kīholo at Nāpu'u, Kumu Pono, Prepared for Planning Solutions, Inc.

## Laupāhoehoe

“Leaf of Pahoehoe.” Like a leaf, Laupāhoehoe point is a relief from the cliffs of Hilo Paliku. It was famous for taking a beating after the 1946 tsunami which swept over the point, wiping all buildings from it and killing 20 schoolchildren and 4 teachers (Rod Thompson, Honolulu Star Bulletin 1997).

### History and Timeline

Laupāhoehoe Sugar Company was formed in 1880 by a partnership between Theophilus H. Davies and William Lidgate. The Mill was constructed just South of Laupāhoehoe Point. The cane fields extended for about 10 miles along the coast and extended to about 2000 feet in elevation. Sugar production along the Hamakua Coast ceased in 1990 (HSPA Plantation Archives, March 1988). Since the 1850's the uplands of Laupāhoehoe were used for ranching. Evidence of this is shown by the treeless landscape above 5000ft, filled with African grasses and rusted barbed wire.

### Cultural Background Including Mo'olelo (stories) and Oli

A battle between Pele and Poli'ahu resulted in the formation of Laupāhoehoe. When Poli'ahu and her companions were competing in holua on the slopes of Mauna Kea, a beautiful stranger appeared. She was invited to play but instead threw off her disguise and called upon the fires, which burst from the ground and continued upwards. Poli'ahu fled to the summit. Regaining her strength, she threw her mantle over the fires. Choked, the fires rushed to the ocean, leaping out from the cliffs. (Westervelt 1963)

### Current Significance and Activities

The US Forest Service in conjunction with DLNR manages the Hawai'i Experimental Tropical Forest. This is a place where research and educational activities can be performed to better understand tropical ecosystems.

Laupāhoehoe Forest Reserve is an area frequently used and managed for pig hunting (Unit C) by the Hawai'i DLNR DOFAW.

The US Fish and Wildlife Service recently acquired land adjacent to the Laupāhoehoe Forest Reserve, as part of the Hakalau National Wildlife Refuge.

Residential areas and privately owned businesses as well as public parks and schools exist in the vicinity of what used to be the Laupāhoehoe Sugar Mill.

## Pu'u Wa'awa'a

The ahupua'a was named for a distinct cinder cone in the district. It runs from the ocean to within a mile of the summit of Hualalai. It is located in North Kona in the moku of Kekaha.

### **History and Timeline**

Currently Pu'u Wa'awa'a and an adjacent area, Pu'u Anahulu, are State lands managed as a Forest Reserve, Wildlife, and Bird Sanctuary by State Parks and the Division of Forestry and Wildlife. The 40,411 acres were transferred from the land division in 2002. The "Management Plan for the Ahupua'a of Pu'u Wa'awa'a and the Makai Lands of Pu'u Anahulu," was created along with assistance from the Pu'u Wa'awa'a Advisory Council. The plan addresses the many resource and land management issues which are occurring at this diverse place.

In 1848, during the Māhele Kamehameha III designated the ahupua'a as Crown Lands; after the Kingdom overthrow and annexation it became State lands. In 1865, the first lease was held for cattle and livestock grazing. Since 1917 there have been six different grazing leases which have shrunk in acreage size over the years until the last of the land returned to the State in 2000. Now the area is managed for restoration of native plant/animal ecosystems, preservation of cultural resources, reforestation, hunting, public recreation, research, pasture management, nature education, and eco-tourism activities.



### **Cultural Background Including Mo'olelo (stories) and Oli**

The area has been traveled through in the mauka forested regions for plant resources and to catch birds, there are extensive ancient trail systems which go through the area. Pu'u Wa'awa'a means "the many furrowed hill;" for the many ravines that run down the leeward side. The entire area was once covered with many different forest regions (wao). Lava cave systems throughout the region also provided many resources for the native people of the land.

There are many mo'olelo from this ahupua'a involving Kamehameha I, and also from the coastal areas of Kīholo below. A story that specifically mentions a man named Wa'awa'a refers to him as the husband of Anahulu. In the accounts published in a Hawaiian newspaper by an author named Kihe, he also describes the other family members who places were named for. Anahulu, Wa'awa'a and other family

members moved to the Kekaha from Puna because they wanted to be closer to the daughters Anaeho'omalua and Puakō who moved to Kōhala.

**Current Significance and Activities-** The Division of Forestry and Wildlife has a full time coordinator, Elliott Parsens, and two more employees will be hired full time at PWW. We are currently managing a handful of fenced enclosures by protected remnant forests, out planting native species, excluding ungulates, weed control, and including environmental and volunteer opportunities when possible. Many different entities, organizations and volunteer groups work with Division of Forestry and Wildlife staff and partnerships are depended upon here.

## References

*Management Plan for the Ahupua'a of Pu'u Wa'awa'a and the Makai Land of Pu'u Anahulu.* State of Hawai'i, Department of Land and Natural Resources, Division of Forestry and Wildlife, Division of State Parks. July, 15, 2003.

Maly, Kepā and Onaona Kepa. *HE WAHI MO'OLELO NO PU'U WA'AWA'A A ME NĀPU'U O NĀ KONA —A Collection of Cultural and Historical Accounts of Pu'u Wa'awa'a and the Nāpu'u Region —District of Kona, on the Island of Hawai'i.* Prepared for The Institute of Pacific Islands Forestry. Kumu Pono Associates: 2006.

## Waikoloa Ahupua'a

### History and Timeline

Little is known on the habitation and purposes the Waikoloa area held. Some people have said the area was used to drive cattle and other ungulates through; it was a stopping area for cowboys. Archaeological features found in this area before major development in the Waikoloa Village area included c-shaped walls (shelters that protected travelers from the wind), walls, trails and ahu markers, many lava formations, and midden from inhabitants in lava tubes.

### Cultural Background Including Mo'olelo (stories), and Oli

A wahi pana mo'olelo about the origins of Pu'u Anahulu and other places along the west side of Hawai'i, tells of Waikōloa being an aunt of Lālāmilo, another ahupua'a named after a person in this mo'olelo. Waikōloa is also a wind goddess from Tahiti, and the word Waikōloa describes a cold northwestern wind, which could explain Waikoloa's windy nature. Other features in this mo'olelo tells of Hīna'i, Lālāmilo's father, which is now the name of a Pu'u outside of Waikoloa Village. Another weather feature from this mo'olelo tells of Anahulu's brother, Ka-holoi-wai-a-ka-Nāulu, the cleansing waters of the Nāulu (Southerly) showers. He was said to send those showers toward Pu'u Anahulu when the area was in need of water. Thus, now the only reliable rain that passes through the Waikoloa area comes from the Kohala Mountains.

### Current Significance and Activities

The Waikoloa Dry Forest is located makai of Waikoloa Village in the South Kōhala district of Hawai'i. The area consists of mainly Wiliwili and Kiawe trees scattered in an 'a'a and fountain grass landscape.

*The Waikoloa Dry Forest initiative* (WDFI) is a 501(c)(3) organization, which helps to protect and manage the Waikoloa Dry Forest. The area WDFI manages is a 275 acre fenced area, which protects ten critically endangered Uhiuhi trees and around 100 Wiliwili trees. The area has recently been designated as critical habitat for Uhiuhi by the U.S. Fish and Wildlife Service and this past year the Waikoloa Village Association has granted a 75 year lease to the WDFI to practice conservation within the area. Many of

the Wiliwili and Uhiuhi trees are believed to be 300-500 years old. These kūpuna trees have survived through fire, invasive plant and insect species, and ungulate damage.

The mission of the Waikoloa Dry Forest Initiative (WDFI) is to preserve the existing resources within the Waikoloa Village area, promote the natural regeneration of common and rare native plants, and restore the native dry forest community within the Waikoloa Dry Forest. We also aim to preserve, promote and restore understanding and stewardship of the forest within our communities through outreach and education and by providing opportunities to experience these special places. We strongly believe that education and training for youth will lead to greater appreciation and motivation to preserve wild spaces and pursue careers in environmental fields.

# Kaua'i

## Alaka'i Swamp

### **History and Timeline**

The island of Kaua'i was created six million years ago. Ferns, trees and other plants began to establish and evolve on the island, creating the Alaka'i Swamp. Another story for its creation speaks of Pele, the Hawaiian goddess of volcanoes. They say she was short-tempered and in a fit, stomped on the top of Mount Waialeale and created the swamp.

### **Cultural Background Including Mo'olelo (stories), and Oli**

Historically, it is said that Queen Emma visited the Alaka'i Swamp in mourning after the death of her husband, King Kamehameha IV. She travelled for a while on horseback, and her aides would lay out fern logs for her to walk upon for the rest of the hike. The Alaka'i also houses many plants and birds which were of cultural significance to those who lived on the island. Feathers from birds were used to make cloaks for Hawaiian royalty and the native plants were used to create lei.

### **Current Significance and Activities**

Hawai'i is known to house many rare and endemic species of plants and animals due to its geological and evolutionary history. Yet it is also one of the world's leaders in extinction rates. The Alaka'i Swamp houses a plethora of rare and endangered plants and animals. However, many are thought to have gone extinct already, including seven native forest birds. There are eight known native forest birds remaining, including three endangered species, Puaiohi, 'Akikiki, and 'Akeke 'e. Many organizations are involved in helping maintain this area. This includes the Department of Forestry and Wildlife—Natural Area Reserves System, Koke'e Resource Conservation Program, Kaua'i Endangered Seabird Recovery Project, The Nature Conservancy, and Kaua'i Forest Bird Recovery Project to name a few.

## Alaka'i Preserve

Alaka'i Preserve comprises of the Waialeale Summit and surrounding areas that cover approximately 2,000 acres, including the headwaters to most rivers on Kaua'i.

### **History and Timeline**

The Alaka'i Plateau was formed in the caldera of a single large shield volcano located at the center of Kaua'i. It is approximately 12 miles across with elevations that range from 4,000 to 5,200 ft. Waialeale summit is acknowledged as one of the wettest spots on earth, receiving over 400 inches of rain on average each year (Giambelluca, et al. 1986). As noted above, the Alaka'i preserve encompasses the core of Kaua'i's watershed and is the source Kaua'i's seven main rivers. The forest is 95% native and is home to many endangered plant and bird species.

Pre-contact info on the Alaka'i is limited, but there were instances of Hawaiian crossing the Alaka'i, as well as using the area as area for feather collecting (Armitage and Judd 1944:29). One of the first accounts of a visit by Europeans was in 1870 when a group was arranged by Austrian Botanist Henrich Wawra and led by George Wilcox. (Joesting 1984:197)

In 1905, McBryde Sugar company bought a section of the Alaka'i to protect their interest in building a hydro-electric plant in Wainiha Valley. ([www2.hawaii.edu/~speccoll/p\\_mcbryde.html](http://www2.hawaii.edu/~speccoll/p_mcbryde.html))

**Cultural Background including Mo'olelo (stories), and Oli** – At about 500 meters, the summit of Waialeale is a small rectangular heiau called Ka'awako. Near the heiau is Lake Waialeale. "He lead me to the end of the lake, and there, cut into a small lava mound, he pointed out a perfect little altar. 'This altar is dedicated to Ku, the God of War,' he said. 'Those who come here must lay a sacrifice or offering to Ku to keep him in good humor, for if he gets angry with you, he can make things very bad.'" (Knudsen, 1946:41-42). It is also said that Queen Emma took a trip to the Alaka'i in 1870. With a group of 100, she made her way to the top as they cut fern trunks for her to walk on.

**Current Significance and Activities-** In cooperation with the Kaua'i Watershed Alliance, The Nature Conservancy has been managing the area since 2007. In this time they have constructed a fence that is four miles in length to prevent ingress from feral pig and goat populations. This area comprises 2000 acres and has almost been cleared of the ungulates. The land area is owned by Alexander & Baldwin and the State of Hawai'i.

### References

- Armitage, George T. and Henry P. Judd. 1944. Ghost Dog and Other Hawaiian Legends, Advertiser Publishing Company, Honolulu
- Giambelluca, Thomas W., Michael A. Nuller and Thomas A. Schroeder. 1986. Rainfall Atlas of Hawai'i Department of Land and Natural Resources, State of Hawai'i.
- Joesting, Edward. 1984. Kaua'i: The Separate Kingdom. Honolulu: University of Hawai'i Press.
- Knudsen, Eric. 1946. Stories From Kaua'i: Teller of Tales Mutual Publishing Paper Back Series, Honolulu

## Hanalei

The Hanalei River flows from the foothills of Mt. Wai'ale'ale and through the valley to Hanalei Bay. Hanalei is known for its production of kalo (taro) and for the wildlife refuge that provides habitat for several endangered Hawaiian water birds.

### History and Timeline

In 1862 the Hanalei Sugar Mill was built along the Hanalei River, beginning a large scale effort to grow sugar cane in Hanalei and nearby Princeville.

Starting in the 1870s, rice became the most popular crop in Hanalei and rice farmers took advantage of the well-irrigated land along the river banks which had previously been used to grow taro. Many different ethnic groups moved into Hanalei to farm rice, grow sugarcane, and raise cattle giving it a very diverse population. With this influx of new people came new homes, stores, schools, and churches, creating the foundations of Hanalei town in the early 1900s. Many of the descendants of these people still live in Hanalei valley today. (hawaiianencyclopedia.com)

### Cultural Background Including Mo'olelo (stories) and Oli

Hanalei has always been an agricultural center for the island of Kaua'i. Its rich soil and fresh water made it an important place for growing taro, breadfruit, sweet potatoes, yams, and coconuts.

Legends say a taro plant grew up from the burial place of the stillborn first son of Wākea, god of the sky, who named the plant-child Hāloa-naka ("Long, trembling stem"). The taro was so vital for the Hawaiian's sustenance and prosperity that it was considered an elder sibling to the Hawaiian race. Taro is very

versatile and was used not only for food, but also for medicine. The water birds that live in the taro also had cultural significance. The “Story of Umi,” tells that Imaikalani, the fierce fighting blind king of Ka’ū, was aided by two “wild ducks” (Koloa maoli). It was believed that the ducks were the source of his skill and daring bravery and they often aided him in battle. ([www.hawaiihistory.org](http://www.hawaiihistory.org)), (<http://malamahawaii.org>)

### **Current Significance and Activities**

Hanalei remains an agricultural land today. Many farmers have returned to growing taro. Much of the taro is used by the Hanalei Poi Company and others to make poi. Hanalei River and Hanalei Bay are popular recreational sites.

A 917 acre section of land towards the back of Hanalei Valley is now Hanalei National Wildlife Refuge. It was established under the Endangered Species Act to conserve five endangered water birds that rely on the Hanalei Valley for wetland nesting and feeding habitat and is maintained by the USFWS. Hanalei NWR is closed to the public to minimize disturbance and protect endangered the water birds.

### **References**

<http://www.fws.gov/hanalei/>

## **Kawai’ele Bird Sanctuary**

Kawai’ele is 105 acres of wetland located on Mana Plain Forest Reserve in Kekaha, Kaua’i.

### **History and Timeline**

Kaua’i Mana Wetland is a restoration site to help conserve the habitat of Hawai’i’s costal birds. The 105 acres of now wetlands were first created in the 1990’s by mining sand down to the ground water level. <http://pcjv.conservationregistry.org/projects/15531>. Mana Wetland is Hawaii’s largest area of wetland and Kaua’i’s Division of forestry and wildlife has big plans to extend Manas Plains. The goal of the restoration plan is to created more acres of sand filled with more water wells and more native plants. The main focus is to conserve the 4 endangered Hawaiian water birds and other native wetland-associated animals and plants, removing invasive species and creating environmental education and community outreach opportunities. [http://thegardenisland.com/forest-and-wildlife-to-restore-mana-plain-wetlands-for-endangered/article\\_f7944f48-36b3-11e1-98ae-0019bb2963f4.html](http://thegardenisland.com/forest-and-wildlife-to-restore-mana-plain-wetlands-for-endangered/article_f7944f48-36b3-11e1-98ae-0019bb2963f4.html).

### **Cultural Background Including Mo’olelo (stories) and Oli**

Throughout the years Kawai’ele is home to the Four Hawai’i’s endemic water birds, The Hawaiian stilt, moorhen and coot, as well as the koloa maoli or Hawaiian duck, but you can also find many other birds migrated from all over the world. With sand and water Kawai’ele is a very popular nesting- ground for birds. Kaua’i has the largest population of wetland birds because our less number of mongooses, which makes Kawai’ele such a special safe place for our wetland birds.

Manas location is not much of paradise for the native plants living in the sand banks, but the great thing is there are MANY species of natives living out there. With extreme heat and hardly any rain I like to refer for our native plants out there as survivors.

### **Current Significance and Activities**

Kawai’ele land is owned by the department of Natural land and resources. The Plains face toward Mauka near the Pacific Missile Range Facility ocean side. Wildlife biologist and Kaua’i volunteers spend countless of hours working hard in everything it takes to help conserve a home for our wetland birds.

## Kuia Natural Area Reserve

(NAR)- This reserve is characterized by gradual to moderate slopes cut by sporadic streams. There are two rare ecosystems; a koa-‘ohi‘a mixed montane mesic forest and a Kaua‘i diverse lowland mesic forest.

### **History and Timeline**

Kuia Natural Area Reserve was established in 1981 to protect mesic and wet native forest and shrub land ecosystems which include rare plant taxa. The reserve occupies 1,636 acres in the Waimea district of Kaua‘i with an elevation ranging from 2,000 to 3,900 feet. It is also traversed by the frequently hiked Nualolo Trail, south of the Awaawapuhi Trail, and north of Miloli‘i. Can be used by the public for hiking and hunting; hunters hunt pig and deer in the forests, and goats on the dry lower ridges.

### **Cultural Background Including Mo‘olelo (stories) and Oli**

Some areas of Kuia may have been home to entire Hawaiian communities during earlier times, in which they were able to thrive off the land. The animals and plants that occurred naturally in the area not only provided food for the people, but also the items needed for adornments, such as flowers and leaves for lei making or feathers for capes and kahili.

### **Current Significance and Activities**

Because Koke‘e is a state park, areas which include Kuia receive its fair share of visitors daily. Many locals and tourists alike utilize the trails that exist throughout Kuia to hike or hunt. Although the beautiful trails create memories for tourists and the introduction of game has allowed hunters to provide food for their families, great consequences have resulted from these introductions. The constant foot and hoof traffic from people and animals allow for erosion and the introduction and spread of new and already occurring invasive plant species, which pose a serious threat to the natives. In an effort to help our native species continue to exist, various organizations take on the task of eradicating the invasives and propagating natives, such as NARS, Natural Tropical Botanical Garden (NTBG), and Koke‘e Resource Conservation Program (KRCP).

## Limahuli Garden and Preserve

Stretching from the lush mountain tops to the pristine sea in the district of *Halele‘a* on the North Shore of Kaua‘i you will find the sacred valley of Limahuli.

### **History and Timeline**

In ancient times, Limahuli valley was famous through all of Hawai‘i for its unique winds. ‘Limahuli,’ when translated literally means ‘turning hands.’ This describes the movement of the wind like a turning hand as it funnels through the high cliffs and low gulches of the valley. The turning hands also referred to the movement of the many hands that worked to grow abundant food in the valley for its people.

Limahuli valley is in the *ahupua‘a* of *Ha‘ena* and is one of the last remaining intact *ahupua‘a* systems left in the Hawaiian Islands. An *ahupua‘a* is a designated land division with boundaries extending from the mountain to the ocean. It is a system that the ancient Hawaiians created to manage the resources in that area so they could sustain the needs of their society for generations to come.

In 1848, western colonizers drastically changed the flora and fauna of Limahuli valley by turning it into a cattle ranch. With the downfall of the *ahupua‘a* system in Limahuli valley, many of the resources that

the Hawaiian people once managed so efficiently were heavily degraded. Native plants and animals disappeared, cultural sites such as rock walls and houses were left in shambles, invasive species thrived in the valley and ultimately the ecology from the mountains to the sea suffered.

One hundred years later, the community fought to restore *Ha'ena* back to its native origins. In 1976 Limahuli valley was entrusted to the National Tropical Botanical Garden (NTBG), a non-profit with instruction to restore the *ahupua'a*. This garden was later named Limahuli Garden and Preserve.

### **Cultural Background Including Mo'olelo (stories) and Oli**

Some ways the 1,000 acre garden is restoring the *ahupua'a* is by restoring ancient cultural sites. The original *lo'i* (taro patch) terraces have been restored and are now planted with one of the most diverse collection of Hawaiian taro varieties in the state. The garden provide taro to eat and *huli* (taro stems used to plant) to plant for the Hawaiian community. The garden is now currently restoring an ancient *hale* (traditional house). This is the first traditional *hale* that has been built in *Haena* in over 100 years. The *hale* is being built in a traditional manner by hundreds of members of the community over a period of workshops. The garden involves the community in this restoration process to keep the cultural significance of the traditional thatched *hale* alive by teaching the people how to build this type of *hale*.

Another way that the garden is restoring the *ahupua'a* is by removing invasive species and protecting and planting native plant species, many of which are extremely endangered. For example, *hau*, a Polynesian introduced plant, became very invasive and was blocking the flow of Limahuli stream from the back of the valley's majestic waterfall to where the stream meets the ocean. The conservation staff worked diligently to remove the *hau* from the stream which ultimately restored the stream health. One benefit of this effort is that all five species of o'opu that live in the stream can now easily move up and down the stream for their reproductive cycle. The removal of invasive species and restoration of native plants is also performed in the upper Limahuli Preserve where our conservation staff has to fly a helicopter up to access. The upper Limahuli Preserve is considered to be one of the most pristine watersheds with the most naturally occurring native plants on the island of Kaua'i.



### **Current Significance and Activities**

Limahuli Garden and Preserve is an example of a modern day *ahupua'a* that practices sustainability, the Hawaiian culture and protects the 'aina by re-sorting the native ecosystem. The garden preserves both the natural and cultural history of the valley and is a unique showcase where people can tour the garden to visualize how the Hawaiian people once lived and took care of the land, and what a native forest looks like. The garden is a special place where cultural practitioners can harvest plants such as ferns and *maile* for hula. This is a place where one can ground their roots by working on the land that the Hawaiian people thoughtfully did for many centuries before and engage in the true beauty of the Hawai'i. At the garden we are keeping the spirit and the system of the *ahupua'a* alive. By sharing and providing knowledge, food and land to practice the Hawaiian culture we hope to inspire a more sustainable and *pono* (righteousness) future for generations to come.

## Waipā Foundation

### **History and Timeline**

Waipā foundation located on the beautiful North Shore of Kauaʻi, serves as a Native Hawaiian learning center and community center where all who visit can renew ties to the ʻāina and learn about traditional values and lifestyle through laulima or many hands working together. The 1,600 acre ahupuaʻa of Waipā, is one of the few ahupuaʻa in Hawaiʻi that remain intact and undeveloped. Owned by the Kamehameha Schools, Waipā is managed by the Waipā Foundation, a community-based nonprofit that evolved from an original community initiative which began in the 1980ʻs.

Native Hawaiians created land divisions called ahupuaʻa to adeptly manage a finite amount of island resources that provided all that was needed for the subsistence of their island communities. A land division from the mountains to the sea, often corresponding to a watershed district, often defined them. The Waipā stream flows through the valley and empties into Hanalei Bay. This way of managing the land encouraged a strong sense of interdependence



between the people and the natural resources. Use of land, water and economic, social and cultural choices flourished in balance. Waipā is a place for culturally relevant practices, teaching, and sharing while we learn how to live in balance with our ʻāina; Restoring health and vibrancy in the ahupuaʻa and in ourselves too!

### **Current Significance and Activities**

As stewards of the ahupuaʻa, we are intently focused on our kuleana (responsibility) to establish and perpetuate a thriving ahupuaʻa as an example of healthy interdependent relationships between people and earth's natural resources. We strive to be a leader in demonstrating a Hawaiian approach to watershed-scale natural resource management.

Waipā Foundation has developed and restored learning sites and physical assets throughout the property, and created and established programs, curriculum and activities which utilize and maintain those learning sites. Some of our core activities include growing taro and a weekly community distribution of poi, a weekly farmer market, regular programming serving community youth, a variety of group visits from 5,000+ learners of all ages every year, efforts to strengthen our local food system, cultural festivals and more.

# Lana'i

## Lana'i Hale

Lana'i Hale is known for being the highest point of Lana'i, the only watershed for the entire island, and nesting ground for the endangered Ua'u (Hawaiian Petrel).

### **History and Timeline**

In 1911 ranch manager George C. Munro found the importance of the fog drip coming from the Lana'i Hale was valuable water. He realized that pine trees collected a lot of water from the fog and clouds. Munro then created program of planting cook pines across the island of Lana'i and also Lana'i Hale to collect fog drip.

### **Cultural Background Including Mo'olelo (stories), and Oli**

The native Hawaiians used Lana'i Hale as their food resource because of the water. In an area called Ka'iholena on Lana'i Hale it is said that the native Hawaiians have raised a lot of bananas back in the day. Native Hawaiians went to harvest the native Ua'u (Hawaii Petrel) which burrows in the mountains to feed the royalty. Legend has said if you see the native fungi called Kukae ke akua it means that Hawaiian Gods have walked on those areas.

### **Current Significance and Activities**

Lana'i Native Species Recovery Program (LNSRP) was given three acres of land on Lana'i Hale by land owner David Murdock at the time to restore the habitat for the Ua'u that was damaged from invasive plants and animals. They also protect, restore, preserve, and conserve this area because it is the only watershed that provides the island with water. Lana'i High school students and the Islanders Club are two volunteer groups that come to help remove invasive plants or plant native plants. LNSRP also focus on building the population of the endangered Ua'u by restoring habitat.

# Maui

## Haleakalā

Nā Alahele covers Maui County—Maui, Lanaʻi & Molokaʻi. We sometimes work on trails in the West Maui Mountains (Mauna Kahalawai), Hāna and Lanaʻi, but most of our time is spent maintaining hiking trails on Haleakalā.

### **History and Timeline**

The oldest lava flow on Haleakalā is thought to have occurred 1.1 million years ago. Ancient Hawaiians considered the summit sacred and reserved it for religious and education purposes.

### **Cultural Background Including Moʻolelo (stories), and Oli**

Known in ancient times as Ala Hea Ka Lā (path to call the sun), the Hawaiian name Haleakalā (house of the sun), is now synonymous with the entire volcano. Early Hawaiians, however, applied the name only to the 10,023 ft. summit, the site where the demigod Maui snared the sun and forced it to slow its journey across the sky.

### **Current Significance and Activities**

Nā Alahele is a statewide program established in 1988 to preserve historic trails from development. The organization is administered by the State's Department of Land and Natural Resources, Division of Forestry and Wildlife.

Haleakalā National Park was designated on October 20, 1976 with 19,270 acres and was expanded to 24,719 acres in 2005.



The Nature Conservancy manages the Waikamoi Preserve on the slopes of Haleakalā, a koa-'ohi'a forest that is home to 63 species of rare plants and 13 species of endangered birds.

Maui Invasive Species Committee works to prevent invasive species from becoming established within Maui County and educates people about how to protect Maui County from invasive species.

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## Honolua Bay

Honolua bay is one of the top locations on the island of Maui for surfing and snorkeling. It is located on the northwest tip of Mauna Kahalawai. Honolua means two harbors and refers to both Honolua and Mokule'ia bay.

The land is owned by Maui Land and Pineapple Company. The future of the bay has been under conflict, with development proposals of golf courses and luxury homes meeting strong opposition from local groups and movements trying to preserve the access, ecological health, and beauty of the bay. The bay is part of a 45 acre marine preserve that started in 1978. Honolua bay contains an abundance of biodiversity in unique coral reefs and other marine life. Honolua also provides resting areas for threatened green sea turtles. Honolua river carries large amounts of silt into the bay and so snorkeling is best further out, also mismanagement of the watershed could result in large changes to the marine life, such as eutrophication.

During the winter months Honolua bay catches the northern swells and turns into one of the best surf locations on the island attracting surfers from everywhere. The wave is a true point break and is a long powerful ride.

Honolua was also the location of the maiden voyage of the Hokule'a, a full scale replica of the Hawaiian double haul voyaging canoe wa'a kaulua. The maiden voyage was to Pape'ete, Tahiti and the captain, Mau, only used traditional navigation techniques which consisted of knowledge of the celestial bodies and the slight variations in the movements of the ocean to guide his path. Honolua was chosen for the launching of first journey of the Hokule'a because Honolua was an important bay that the Hawaiians used. Although the point may be famous for its waves the bay is a calm protected place ideal for ships.

### **Invested parties**

Department of Land and Natural Resources enforces rules and regulations within the preserve  
Maui Land and Pineapple landowners  
Save Honolua Coalition (opposition group to development)

### **References**

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## Kahikinui

### **History and Timeline**

The most recent lava flow on Maui is located in Kahikinui. The lava flowed down from Haleakalā. Back in the 1700s, the Southside of Maui was very populated. Close to 1500 to 1800 early native settlers were spread along the coast. Early Hawaiian settlers preferred settling in low-lands all over Hawai'i, mainly because it was easier for them to reach all of the necessary resources to survive.

Hawaiians on Maui chose to settle on the Kahikinui coast due to the excellent resource of fishing. Alongside of fishing, there had been an abundant source of fresh water springs. The springs had formed over time in the a'ā lava rock moving mauka to makai. Hawaiians made use of the springs by making wells and dams which made it easy for them to collect water. Kahikinui was also well known for its abundant growth of dry-land sweet potatoes and was a main starch in the Hawaiian diet.

Uualo Keakakilohi was a well-known Ali'i/chief from this area. Keakakilohi had ordered his men to build a He'iau in the La Pueo ahupua'a, in Kahikinui. Hakalauai had become the name of this sacred place and its purpose was for multiplying plants of all sorts. There had been a Kahu/priest by the name of Mana who had become the Kahu for that particular He'iau. He'iau was mainly found near or in villages which were very plentiful back in the day, but now it is completely deserted.

From Pukalani through Kahikinui all the way to Kaupo and on was a very abundant dry-land forest reaching all the way down to the coast. It provided resources and beyond for Hawaiians to survive. As time went on, due to climate change, ranching, goats and other animals had caused the dry-land forest to recede far in-land. The Southside on Maui has now turned to mostly dust, cinder, invasive trees, cattle and a population of about less than a hundred people. Only 5% of the dry-land forest is left in the state, which can be found only on Maui and the Big Island.

The natural area reserve systems mission is to preserve in perpetuity specific land and water areas which support communities, as relatively unmodified as possible, of the natural flora and fauna, as well as geological sites, of Hawai'i. and through that it's important to know your history.

## [Kanaha Pond Wildlife Sanctuary](#)

Kanaha Pond is a 280-acre artificial wetland located between Kahului harbor and Maui airport. It is home to three endemic and endangered species: the Hawaiian Stilt (*Himantopus mexicanus knudseni*), the Hawaiian Coot (*Fulica alai*), and the Hawaiian Duck (*Anas wyvilliana*). A total of 86 bird species have been observed at the Kanaha Pond.

### **History and Timeline**

Kanaha Pond was one of two royal fish ponds constructed in the 1700's by King Kapiihookalani. In the 1800's, King Kamehameha named Kanaha pond in honor of King Kapiihookalani's daughter and used the pond to produce large quantities of mullet (*Mugil cephalus*). In the early 1900's, mullet production ceased as half of the pond's area was filled with rubble to accommodate the construction and dredging activity of the Kahului harbor. During World War II, the military took control of the pond and built roads, bunkers and a drainage outlet. In 1951, it was designated as a Waterfowl Sanctuary by the Territory of Hawai'i, Board of Agriculture and Forestry.

### **Cultural Background Including Mo'olelo (stories) and Oli**

According to the legend relating to the construction of the Kanaha Pond and its twin pond, Mauoni, men formed lines over a half a mile long and passed stones back and forth to build the walls of the pond. Most of the workers were taken from Moloka'i. The pond provided a constant source of food to the Hawaiian people during the annual four-month period where they were prohibited from catching fish from the ocean for breeding purposes. Lastly, the Kanaha Pond is home to the Makaloa sedge, which was used by ancient Hawaiians to weave mats that were then offered as tribute to Hawaiian chiefs.

### **Current Significance and Activities**

Currently, the Kanaha Pond is at the center of a huge debate between the Department of Transportation (DOT) and the Department of Land and Natural Resources (DLNR). Due to its proximity to the Maui airport, the pond is currently under the jurisdiction of the DOT. However, in 1973 the DOT and DLNR established that DLNR would manage Kanaha Pond under certain conditions. The Federal Aviation Administration (FAA) and DOT are concerned that the birds within the Kanaha Pond may increase the risk of airstrikes, which are a human health hazard. Therefore, the FAA and DOT are extremely hesitant to allow any restoration or management of the Kanaha Pond that may lead to an increase in bird populations. This attitude has inhibited the further clearing of invasive species (such as Kiawe and Ironwood) and the development of a recreation area within the pond. Other issues preventing the restoration of the Kanaha Pond include the failure of the water pump during the 2011 tsunami, the presence of predatory mammals such as cats, rats, and mongoose, and the lack of funding and volunteer labor force.

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## **Waikamoi Preserve**

A 5,230 acre upper-elevation native forest nature preserve on the eastern slope of Mt. Haleakalā. It protects some of Maui's most unique plant and animal species and helps to maintain the valuable East Maui Watershed.

### **History and Timeline**

Waikamoi Preserve is in the northern section of the Kalialinui ahupua'a, and along with the rest of Maui, came under the rule of Kamehameha I in the 1790's. The royal family eventually gave management of Kalialinui to the steward Kamaikaaioa and his heirs in 1848 and after Kamaikaaioa's death, his daughter, Kalalawaiu, sold Kalialinui to the Haleakalā Ranch Company. Formed in 1888, the Haleakalā Ranch company was an association of local business men to manage a 30,000 acre cattle operation, which included TNC Waikamoi preserve. The most famous member and founding father of the ranch was Henry P. Baldwin.

In 1927, the ranch provided the Territory of Hawai'i with the land for Haleakalā National Park, the upper bonds of the future preserve, and continued to use the forest for ranching and timber collection. It wasn't until 1983, through a conservation agreement with The Nature Conservancy, that the 5,230 acre Waikamoi Preserve was established. Today it is managed by a partnership between The Nature Conservancy and the State Department of Land & Natural Resources for the protection of its native plants, animals, and ecosystems.

### **Cultural Background Including Mo'olelo (stories) and Oli**

TNC's Waikamoi Preserve is part of the *wao akua*, believed by ancestral Hawaiians to be the realm of the gods and spirits. *Wao akua* lands were not inhabited, but Native Hawaiians occasionally ventured into its misty forests for the gathering of bird feathers and medicinal plants, hunting, the harvesting of hardwoods, and for special royal occasions. Trees from the *wao akua* were considered so valuable that a human sacrifice was sometimes necessary before harvesting.

The water that the preserve now helps to supply for Maui communities was traditionally not accessed by Native Hawaiians, who used lower elevation irrigation.

### **Current Significance and Activities**

Waikamoi Preserve helps protect native high-elevation forest where many endangered Hawaiian species are still found. The Maui Forest Bird Recovery Project conducts critical research and surveys on Hawaiian forest bird populations in Waikamoi. It has become a key habitat for further studies on the critically endangered Kiwikiu honeycreeper. As part of the East Maui Watershed, Waikamoi Preserve helps provide 60 billion gallons of water to Maui communities.



In cooperation with the National Park Service, TNC and other conservation organizations, environmental education hikes are lead through specific areas of the preserve. The Nature Conservancy continues to manage invasive species inside the preserve and has reached a less than 1% detection rate of ungulates (goats, pigs).

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## **West Maui Mountains**

### **History and Timeline**

Maui- named after the famous child of Wakea and Papa who is the ancestor of the people of Maui. The ancient name of Maui was Ihikapalaumaewa and formerly Kulua because of the division of land between East Maui and West Maui that makes the land mass appear as a double island (Sterling).

West Maui Mountains- Moku were larger parcels of land like regions of the island that were broken up into ahupua'a. West Maui is broken up into 3 different Moku: Lahaina, Wailuku, and Kaanapali. (Sterling)

History of West Maui Mountains- The mountain peaks found in West Maui have been instrumental to native Hawaiians for much of their history. Formed from at least three series of volcanic eruptions, the West Maui Mountains expand across the leeward side of Maui representing one-quarter of the island. The highest peak, Pu'u Kukui stands at 5,788 feet (Kepler).

### **Cultural Background Including Mo'olelo (stories), and Oli**

Ahupua'a is a style of land management that sees the land divided into wedges, with the focal point originating from the mountain peaks and extending outward towards the sea.

([www.westmauiwatershed.org](http://www.westmauiwatershed.org)) Ancient Hawaiians understood this was how the water resources flowed and reached them for their use and consumption. As the water flowed, ancient Hawaiians felt that it began in the wao akua, the realm of gods, to the wao kanaka – the realm of man, thus attached spiritual values to both the land and the water that came from it. Each ahupua'a was marked by alters which served to distinguish the boundaries between one ahupua'a and another. A konohiki, appointed by the ali'i would dictate the use of the water to those within each ahupua'a functioning as a land manager similar to today's resource managers. (Personal Communication with Kainoa Marchello)

### **Current Significance and Activities**

Water is now diverted out of most of the valleys such as Honolua, Honokohau, Honokowai, Iao, and Waihe'e where it is used for residential, commercial, and agricultural purposes. West Maui Mountains Watershed Partnership manages the West Maui Mountains for ungulates and weeds along with The Nature Conservancy, DOFAW, DLNR, and other state and private entities.

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# Moloka'i

## Ka Honua Momona

*Ali'i Fishpond of Moloka'i, Hawai'i.*

*Kalokoeli Fishpond of Moloka'i, Hawai'i*

### **History and Timeline**

Both Ali'i and Kalokoeli Fishpond are dated to be from the 15th Century.

Ponds are measured to be at 30 acres so that is 60 acres of fishpond to tend and restore.

### **Cultural Background Including Mo'olelo (stories) and Oli**

Native Hawaiians of old, or the Kanaka Oiwi, were able to make these stone walls that formed a semi-circle radius from one part of the shore to the other. The island of Moloka'i are famous for these structures on the south shore. There are 58 recorded fishponds throughout the south shore, some being as small as 10 acres and as big as 500 acres (Pala'au fishpond).



Ali'i Fishpond derives from the name Ka Huli Ali'i which translates to The Flipping Chief. This refers to King Kamehameha the Great in his younger days. After conquering the nation of Maui (which at the time included Moloka'i and Lana'i) he made his way to the soft shores of Moloka'i to ready his invasion of the nearby island of O'ahu. Since at this time Kamehameha had conquered five islands, it was said he was a little arrogant, he did not go with protocol. In old tradition, WHENEVER your canoe was about to come to shore you would ALWAYS do an oli kahea, which was a chant asking for permission or to let it be known that you were coming ashore. King Kamehameha did not follow this procedure, and according to tales of old the winds flipped him and his canoe. Hence the area became known as Ka Huli Ali'i, in remembrance of an arrogant chief who learned some humility. However later on the name was changed to Ke One o Ali'i or The Sands of the Chief out of respect for the passing of Kamehameha. It is unfortunate that the previous name of Ka Huli Ali'i did not survive through mo'olelo or oli but that is how Ali'i Fishpond's name came into being and what we still call it today.

### **Current Significance and Activities**

Ka Honua Momona has secured a 35 year lease of both fishponds. KHM plans on removing mangrove and restoring both fishponds to full productivity levels like the times of old.

KHM currently has an Estuary Restoration grant from NOAA. As we remove the invasive mangrove plants that have been choking our fishpond walls, limiting shoreline access, trapping sedimentation in the ponds, destroying important native bird habitat and blocking our freshwater sources as well as our makaha (sluice gates) we are truly beginning to restore the function of Alii and Kalokoeli Fishponds. Native and endangered birds such as the ae'o, 'auku'u, and ulili are increasing in number and can often be seen on the mud flats (what is left when we remove mangrove from the shoreline) of Kalokoeli fishpond. The opening up of one of our makaha has increased the tidal exchange between the fishpond and the near-shore reef.

# O'ahu

## Capitol District (Downtown Honolulu)

The Capitol District is in the eastern part of downtown Honolulu. It is roughly bounded by Richards Street on the west, Ward Avenue on the east, Vineyard Boulevard to the north, and Nimitz Highway to the south. The area contains government buildings including the Hawai'i State Capitol, the Department of Land and Natural Resources, City Hall (Honolulu Hale,) Iolani Palace, Washington Place and State Library.

### **History and Timeline**

The Honolulu harbor port made this area significant for commerce, transportation and politics. In 1845 Kamehameha III moved the capitol from Lahaina to Honolulu and was responsible for building the Iolani Palace, which is located in the Capitol District along with other historically significant buildings. The Iolani Palace was the official statehouse until the commissioning of the second state capitol building by the second Governor of Hawaii, John A Burns, in 1969. Another historically significant building in the Capitol District is Washington Place, which was home to the last Hawaiian monarch, Queen Liliuokalani. She moved there after her forced abdication in 1893 and lived there until her death in 1917.

### **Current Significance and Activities**

The Capitol District is the political center for the state and a popular tourist destination for walking and bus tours. Tours are also given at the Iolani Palace to educate visitors about the political and cultural history of Hawai'i. Three of the four floors are open to the public as a museum. Government administrative buildings such as the DLNR and judicial buildings are also an important part of the political process in Hawai'i.

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<http://honoluluguide.com/neighborhoods/capital-district/>

## He'eia Ahupua'a

The He'eia ahupua'a is located between the Kane'ohe and Kahalu'u ahupua'a on the windward side of O'ahu. He'eia, the foster son of the goddess Haumea, grandson of Olopana, and uncle of Kamapua'a is the namesake of this ahupua'a (Kane'ohe A History of Change, Dennis M. Devaney 1982). He'eia extends all the way from Moku lo'e (coconut island) to the base of the Ko'olaupoko mountain range.

### **History and Timeline**

He'eia, along with the rest of the Ko'olaupoko range, was one of the most agriculturally productive regions on O'ahu. Housing at least 30 loko i'a (fishpond) and of course, innumerable lo'i fields. In the mid to late 1800's, He'eia Agricultural Company was developing plantations on 250 acres to grow sugar cane. The business was so productive, that HAC had He'eia Kea pier built to transport their goods to Honolulu. After forty years of sugar cane, there was also the production of rice, pineapple, and cattle farming.

### **Cultural Background and Mo'olelo- He'eia**

meaning 'washed out' which was the name of a tidal wave that washed the inhabitants of this region out to sea and back again; helping them conquer their adversaries. There were many heiau in he'eia, unfortunately many were destroyed because of western agriculture. Several culturally significant events took place in he'eia. King Kamehameha coveted He'eia and took it as his personal property through the 1800's.

### **Current Significance and Activities**

Paepae o He'eia loko i'a, the largest fishpond currently on O'ahu. Kako'o 'oiwi, Mahuahua 'ai o hoi, a 405 acre property being restored for traditional cultivation of kalo, ulu, uala ect., environmental restoration of the marshes and streams of the land, and cultural restoration. He'eia State Park is a place to get a nice view of Kane'ohe bay and Paepae o He'eia. Also the home of Kealohi point, a heiau that is known as leiana 'uhane, a place where souls of the dead leap into the sea.



### **References**

<http://kakooiwi.org/>

[http://www.malamaaina.org/files/hawaiian\\_culture/koolaupoko.pdf](http://www.malamaaina.org/files/hawaiian_culture/koolaupoko.pdf) history-of-heeia

[http://oeqc.doh.hawaii.gov/Shared%20Documents/EA\\_and\\_EIS\\_Online\\_Library/Oahu/2010s/2010-05-23-OA-FEA-King-Int-School-CIA.pdf](http://oeqc.doh.hawaii.gov/Shared%20Documents/EA_and_EIS_Online_Library/Oahu/2010s/2010-05-23-OA-FEA-King-Int-School-CIA.pdf)

## **Kalihi Valley**

### **History and Timeline**

Ho'oulu 'Aina-is made up of two ili, 'Ouaua and Maluawai these two ili sit in the ahupua'a of Kalihi. This site is one hundred acres and has many mo'olelo the first two who inhabited this land were Papahanamoku and Wakea. But the first Pair of human hands that we know of is Kamamalu family who farmed kalo. In the 1920's the land was slowly turning in to wild bush. Shortly after there was a Koa reforestation project which did not last very long. In the 1930's the land was used as an orchard which ended around the 60's. After this period was over it was owned by a man of the name Maverick, who was a soil miner and he mined the soil of these two ili. He later sold the land to Herbert Horita who leased the land to the zen dojo who used it as an exotic plant nursery. Towards the 70's the land started to be overrun by squatters. Until two community members spoke up and advocated for KKV (Kokua Kalihi Valley) take ownership. Then in 2005 the papers were signed and working hands soon followed to create what is now Ho'oulu 'Aina.

### **Current Significance and Activities**

Ho'oulu 'Aina is now part of KKV which is a non-profit that provides a multiple of services and opportunities to the community of Kalihi.

## Kualoa Ko'olaupoko

Kualoa, is the ahupua'a situated on the northern most end of the Ko'olaupoko district. It is bordered by Hakipu'u, and Kaaawa of the Koolauloa district. Off the shore of Kualoa sits the islet, Mokolii.

### **History and Timeline**

On November 20, 1850, the lands of Kualoa and all adjacent fishing grounds including the islet of Mokolii, was deeded to Gerrit P. Judd by Keaweaweula Kiwalao Kauikeaouli Kaleiopapa (Kamehameha III), for \$1,300. In 1864, near Kualoa point, Judd and S.G. Wilder opened up their sugar plantation for business. However, by 1868 all operations had ceased due to poor agricultural conditions, and the mill closed its doors for good. Fast forward to December 19, 1870, S. G. Wilder, for \$15,042.66 deeded the lands of Kualoa, Kaaawa, and Hakipu'u to G. P. Judd. Following Judd's death his land was given to his children, who until this day still own the property. As of May 31, 1927, they have been operating as the well known, Kualoa Ranch, Ltd.

### **Cultural Background and Mo'olelo- He'eia**

The ahupua'a of Kualoa was once known as Paliku. Kahahana, in 1773 became the newly elected chief of O'ahu, was asked by his foster-father, Kahekili, the king of Maui, for the lands of Kualoa and all the palaoa that washed up on its shores. Kahekili claimed it would be a gift, for it was he who had got Kahahana to the position he was at. However, the chiefs of O'ahu advised Kahahana not to relinquish Kualoa, doing so would mean practically surrendering O'ahu's independence. Kualoa was and still is a very sacred place; its wealth came from the palaoa that was found on its shores. Koholalele, is the fishpond associated with Kualoa. Mokolii islet, said to be some of the scattered remains of a moo that was defeated by Hiiaka. Holoapee, an area on the Kanehoalani ridge with swales said to be dug by Kamapuaa, during his escape from Pele. Kualoa was once a pu'u honua for the entire island of O'ahu.

### **Current Significance and Activities**

Kualoa Ranch, Ltd. is operated by the Morgan Family, descendants of the late G.P. Judd. The ranch serves kamaaina and malihini alike, preserving sacred lands while providing various outdoor tours and activities.

### **References**

[www.kualoa.com](http://www.kualoa.com)

Fornander, Abraham. *Fornander's Ancient History of the Hawallan People: To the times of Kamehameha I.* Honolulu, H.I.: Mutual Pub., 1996. Print.

Kamakau, Samuel Manaiakalani. *Ruling Chiefs of Hawai'i.* Honolulu: Kamehameha Schools, 1992. Print.

Sterling, Elspeth P., and Catherine C. Summers. *Sites of O'ahu.* Honolulu: Bishop Museum, 1978. Print.

## Kualoa Ahupua'a

Kualoa is the last ahupua'a within the Ko'olaupoko moku (land division).

### **History and Timeline**

Kualoa was the birthplace of Hōkūle'a. On March 8, 1975, Herb Kāne and Nainoa Thompson collaborated on the ideas on traditional navigating and the Polynesian Voyaging Society was born. The idea was for the Hōkūle'a to be launched from Kualoa, but due to the reef structure around the beach, Hakipu'u is now the area the canoes are launched from.

### **Cultural Background and Mo'olelo- He'eia**

Kualoa was a pu'uhonua, a place of refuge to the maka'ainana that broke kapu laws. Kualoa was the place where young aali'i were taught by kahuna. Sperm whales beached themselves at Kualoa. They were harvested for their bone to make various implements and one example was the bone hooks for lei niho palaoa.

### **Significant archeological features in the area:**

Mokuli'i – Island outside of Kualoa beach, it is said to be the remnants of the tail of a great Mo'ō that battled with Hi'iaka in her epic journey from Hawai'i to Kaua'i.

Kānehoalani – The great mountain range from Kualoa. This mountain is said to be one of Pele's many brothers who came with her on her journey to find a new home from Kāhiki. The mountain range is also the remnant back bone of the Mo'ō that Hi'iaka defeated in her battle at Kualoa.

Nānāhoa stone – The legend says of a boy that was kapu and could never look upon or be seen by women. He was raised in the mountains of Kualoa by kahuna and was not allowed to leave his home. One day out of curiosity, he ventured down the mountain to the shore and came across a girl. The boy was aroused by the site of her and fled back to the mountains, where he turned into stone. The stone can now be seen on the cliff face of Kānehoalani.

## **Kualoa**

Kualoa is a valley on the eastern end of Kane'ohē Bay on the Island of O'ahu. Formerly known as Paliku, this valley has great cultural significance to native Hawaiians.



### **History and Timeline**

Kualoa is was and still is a very significant place for native Hawaiians. It was an area of great importance to ancient Hawaiians and contains many cultural sights and burial areas to this day. Kualoa was formerly known as Paliku until around 1880 when Julie Judd Swanzy renamed the area Kualoa. This area was a place of refuge for native Hawaiians who were condemned to die much like Pu'u Honua o Honaunau on Hawai'i Island. The lands of Kualoa has a rich place in Hawaiian History.

In 1850, 622 acres of land in Kualoa were sold to Dr. Gerritt P. Judd. It really is interesting that I

am a Judd and didn't know that the land was owned by a Judd. Growing up I know there was a family home up on the slopes of Kanehoalani, however when this house was sold I thought that our connection to the area of Kualoa was gone.

### **Current Significance and Activities**

Currently the lands of Kualoa are primarily used for tourist usage. Many areas are used for adventure vacations including hiking, zip lines, atv riding, etc. This area is also featured in many films produced for Hollywood.

## Le'ahi/Diamond Head Crater

Hawai'i's iconic landmark is a popular natural attraction and experience for local communities and tourists. The crater is along the southeastern coastline of O'ahu and has been a backdrop for many of Hawai'i's important events over time. The monument's biggest feature is a historic trail that ascends 761 feet above sea level to a summit originally used as a major vantage point by the military in the early 1900s. The summit offers spectacular views of O'ahu's east-end with an intricate fire station built in at the top. Le'ahi receives about 800,000 visitors a year.

### **History and Timeline**

Some 300,000 years ago long after O'ahu had been volcanically active, a massive explosion erupted earth and sea into the sky. The matter that came down as a result formed a tuff cone of great proportion. The crater is an oval-like shape and is 3,520 feet in length in the interior. Le'ahi became a spiritual place for Hawaiians and was also used for navigational purposes. In 1906 after the Federal government took over what had been King Lunalilo's land the US army founded Fort Ruger and a military set-up was installed. With new satellite technology Le'ahi was no longer a key military interest. In 1962 Gov. William F. Quinn recognized Le'ahi as a natural gem worth preserving and established Le'ahi as the state's monument. (Master Plan, Diamond Head State Monument)

### **Cultural Background including Mo'olelo (stories) and Oli**

Home to Pele, Le'ahi was a sacred place for early Hawaiians. There were at least five heiau's located on the outer rim used for different sacrificial offerings and communal rituals to the gods. Papa'ene'ena was one of the most important Hawaiian heiau's in the start of the nineteenth century under King Kamehameha. The name "Diamond Head" is said to have been from when British sailors came to visit Le'ahi and had mistaken sparkly calcite crystals for diamonds! Hawaiians around Le'ahi could utilize its spiritual places and enjoy activities like swimming, fishing and surfing along its coastal beaches. Le'ahi's surrounding lands have transformed into today's urban group of neighborhoods of Kaimuki, Kahala, Waikiki, Black Point, and Kapahulu. (Diamond Head: Hawai'i's Icon Allen Seiden, 2002)

### **Current Significance and Activities**

The Department of Land and Natural Resources under the Division of State Parks maintains a beautiful public park at the beginning of the hike. Much of the trail and summit structure remains however a large portion of the park has become a delightful outdoor area for the public to enjoy. It is purposely decorated with tropical flowers and trees that are mostly native. State Parks helps to protect and restore some of the natural environment inside the crater. There are extensive improvements in the Master Plan that include projects like a gift shop and the new linear park currently under construction. Volunteer Groups like The Outdoor Circle and Friends of Diamond Head also help to keep Le'ahi beautiful and work to restore natural Hawaiian plants in and around the crater.

## Lyon Arboretum

The Lyon Arboretum is known for its botanical garden, research and community education.

### **History and Timeline**

The Lyon arboretum established in 1918 is located at the top of Manoa watershed and consists of nearly 200 acres. In 1919 the 124 acre land was purchased by the Hawai'i Sugar planters association (Fred Harrison) and the arboretum was founded by a young Botanist named Dr. Harold L. Lyon. In 1953 was

when the University of Hawai'i took over the Arboretum. In the last 30 years nearly 2000 ornamental and economical plants have been introduced within the more recent years emphasizing on propagation and restoration of native Hawaiian plants.

Before the Lyon Arboretum came to be it was a wasteland of grasses and thickets. There were free-ranging cattle that devastated the Hawaiian landscape. The property was once called Haukulu and belonged to Charles Kana'ina the father of King William Lunalilo.

Manoa valley where some of the highest points of the island and where the Lyon Arboretum is located was once the home of the owl-god "Pueo". In almost the middle of the valley there is a hill where a temple was built for Pueo. The hill is now named Pu'u-Pueo (the hill of the owl).

The Lyon arboretum has many different classes the public is able to sign up for and educational activities on plants, arts, culture, geography, and a range of other sciences. Some of the organizations involved are Kupu, Hui Hana, Garden Club of Honolulu, and the Friends of Lyon Arboretum.



## References

<http://www.hawaii.edu/lyonarboretum/>

<http://www.sacred-texts.com/pac/hloh/hloh22.htm>

<http://www.hawaii.edu/lyonarboretum/>

## Makiki Valley

Well known for its many trail systems ( Honolulu Mauka Trail System).

### History and Timeline

In 1893 the Kingdom of Hawai'i formed a Commission of Agriculture and Forestry. In 1903 this became the Territorial Board of Agriculture and Forestry. The Board acquired upper Makiki Valley in 1904, and began a much-needed reforestation effort in 1910.

In 1913 Makiki-Tantalus was declared a Forest Reserve by the Territorial government.

Makiki Valley, after statehood, the division of Forestry was transferred to the newly established Department of Land and Natural Resources and Makiki-Tantalus was zoned as a conservation district.

### Cultural Background including Mo'olelo (stories), and oli

Makiki Valley in 1980 revealed numerous prehistoric agricultural sites. The early Hawaiians grew taro in the swampy land near the valley mouth, where runoff from Tantalus collected, and on the small alluvial flats along the streams. The lowland taro lo'i reached into the neighboring valleys of Manoa and Pauoa. Legend tells of sweet potato gardens grown on Round Top, whose Hawaiian name, Pu'u 'Ualaka'a means

"hill of the rolling sweet potato." Undoubtedly the ahupua'a of Makiki provided the ancient people with a wealth of resources. Water was plentiful in Moleka and Kanealole Streams which join to form Makiki Stream.

### **Current Significance and Activities**

The DLNR base yard currently houses storage units and workshops for organizations, and also serves as an office for DLNR and managers of Forestry and Wildlife, Na Ala Hele, and DLNR Makiki Baseyard.

### **References**

History, Jennie Peterson, Hawai'i Nature Center, <http://www.tantalus.ws/tantalus/history.html>

## **Maunalua Bay**

Due to its calm waters, Maunalua Bay is known for its ideal canoeing conditions and recreational water activities. It is also home to Kanewai Spring, the last remaining intact fresh water spring remaining in Honolulu.

### **History and Timeline**

As was the case for many other regions in Hawai'i, Maunalua Bay has experienced significant change in the past century. During the 1880's-1950, Maunalua Bay was largely known for its vast crops and farmlands. The bay was an ideal place for cattle grazing, farming, and fisheries. In fact prior to western contact, Maunalua Bay housed multiple fishponds, which were intricate fishing systems designed by the Native-Hawaiians to raise/nurse certain species of marine life. This fishpond system provided the Hawaiians with a sustainable method of feeding the people while controlling the consumption of certain species of fish. However with the introduction of the Western Civilization came changes to Maunalua's land use, which led to the clearing of vegetation for grazing, farming and fishing. Urbanization started to hit this region in the 1950's, further deteriorating the natural land use that Maunalua once had.



### **Cultural Background including Mo'olelo (stories), and Oli**

Maunalua Bay is rich with Native-Hawaiian history/mo'olelo. What we can tell from the place names associated with Maunalua Bay (Kuli'ou'ou-which refers to a knee drum and Wailupe, which literally translates as kite water, or where kites were flown) is that this area was a festive place for the Native-Hawaiians and was enjoyed by many. Legendary figures in Native-Hawaiian folklore such as Pele and Kamapua'a as well as various water spirits are associated with Maunalua, which was known for its abundance of fish during these times.

As mentioned earlier, Maunalua bay had an abundant marine life, which made it an ideal place for fishing and the construction of fishponds. Keahupua O Maunalua, which is now referred to as Kuapā was one of the largest fishponds on O'ahu. Based off of the various shrines found in Maunalua, we can deduct that 'ama'ama (mullet) akule (scad) weke (goatfish) and he'e (octopus) were plentiful in these

parts during this time. According to Native-Hawaiian folklore Maunalua was the landing spot of some of the first people to migrate to Hawai'i.

### **Current Significance and Activities**

NOAA's Hawaiian Islands Humpback Whale National Marine Sanctuary O'ahu office is currently located in Maunalua Bay at the Hawai'i Kai Towne Center. Other organizations based in Maunalua include Mālama Maunalua, and Maunalua Fishpond Heritage Center (MFHC). Mālama Maunalua is best known for its efforts in removing invasive alien algae species from the bay, and MFHC focuses its efforts on projects such as the replenishment of Kanewai Spring.

### **References**

[www.placenamesofhanauma.weebly.com/maunalua.html](http://www.placenamesofhanauma.weebly.com/maunalua.html)

[www.malamamaunalua.org/problems/problems-history](http://www.malamamaunalua.org/problems/problems-history)

## **Moku'auia Island**

Moku'auia island is located in the southern part of Lā'ie Bay offshore of O'ahu from Malaekahana State Recreation Area. The island is 13 acres in size and has an elevation of about 15 feet ([www.hawaiiirc.org](http://www.hawaiiirc.org)). Moku'auia is commonly known as Goat Island and is a popular fishing spot for local fisherman and divers as well as other visitors who wander over to visit the beaches.

### **History and Timeline**

The US Fish & Wildlife Service designated Moku'auia as a critical habitat for the plant *Sesbania tomentosa* ('ōhai) in 2003. Following this designation, in 2005 a plant survey was conducted and found that only 16 of the 52 plant species present were native, however, much of the islands vegetation cover consists of native plants due to the high levels of salt present ([www.hawaiiirc.org](http://www.hawaiiirc.org)). Many invasive insects, such as the crazy ant, are found on Moku'auia and historically rats have present there as well which may have been a reason for previous low populations of nesting wedge-tail shearwaters.

### **Cultural Background including Mo'olelo (stories), and Oli**

Hawaiian legend explains that Moku'auia, along with Kīhewamoku, Pulemoku, Kukuiho'olua and Mokuālai we formed when the demigods Kana and Nīheu cut up a giant mo'ō (lizard) and threw the pieces into the sea. Moku'auia literally means "island set aside."

### **Current Significance and Activities**

Moku'auia is a State Wildlife Sanctuary which is managed by the Hawai'i Department of Land & Natural Resources (DLNR) Division of Forestry & Wildlife (DOFAW). The regulations restrict human activity in the interior of the island in order to protect the habitat for nesting wedge-tail shearwaters as well as various shorebirds, seabirds and other threatened or endangered species that are native to Hawai'i. Currently, many fisherman frequent the area as it is a popular site to throw net and also for shore fishing for various species of fish. Lā'ie Bay is also known for its surf so many surfers visit Moku'auia and catch waves in waters located just offshore.

### **References**

[www.wehewehe.org](http://www.wehewehe.org)

## Moku o Lo'e (Coconut Island, Gilligan's Island)

The Hawai'i Institute of Marine Biology is located on Moku o Lo'e, more commonly called "Coconut Island". Moku o Lo'e is located in the south end of Kaneohe Bay on the windward side of O'ahu, just outside of Kaneohe Town.

### **History and Timeline**

In 1933, Christian R. Holmes II purchased Moku o Lo'e, and set to work building his vision of a tropical paradise. He transformed the original 12.8 acre Moku o Lo'e into the 28 acre Coconut Island, including constructed lagoons.

Bettie Fleishman Holmes bought the Hawaiian Tuna Packers company for her son, Christian, in an effort to keep him occupied. The company had a net house, dry dock, and other resources on Coconut Island. Interestingly enough, Kewalo Basin was home to the Hawaiian Tuna Packers wharf and cannery.

Holmes had a love for exploration as well as exotic plants and animals. When he would go on safari, he would return with live specimen as opposed to mounted trophies. On Coconut Island, he had an elephant, camel, zebra, a variety of monkeys, tropical fish, shark pond, and over 30 dogs. Many of his exotic animals were eventually given to the county and became the founding attractions of the Honolulu Zoo.

The island was turned over to the military to be put to use as an officer's rest and recuperation facility after the Japanese attack in 1941. The officer's R&R only lasted a few years due to the soldiers' preference to be in Waikiki.

After the military, the island was sold in 1946 to the Coconut Island Club International, who were interested in building a millionaires' resort on Coconut Island. Similar to the military officers, potential patrons were more interested in the sunnier Waikiki rather than the small windward island.

One of the investors, a man by the name Edwin Pauley, fell in love with the island. He bought out his fellow investors' interest in the island, and used it as a private retreat for his family. Pauley, like Holmes, had a great appreciation for the natural world. By chance encounter, Edward came to the aid of a sailor who was having boat trouble near Coconut Island. The sailor was Robert Hiatt, a marine biologist. Afterwards, the two became close friends, and Pauley donated a laboratory to Hiatt to research marine biology. After Pauley passed away, his wife, Barbara, donated the island to the University of Hawai'i Foundation; ushering in the Hawai'i Institute of Marine Biology.

### **Cultural Background including Mo'olelo (stories), and Oli**

Moku o Lo'e means Island of "Lo'e". It is thought that the island received the name for one of two reasons. The first is that the original shape of the island resembles an ancient Hawaiian fishing hook called a Lo'e. The second origin is derived from the legend of several siblings from Ewa. As the story goes, the siblings continually fought with their parents until they were finally banished from Ewa to the windward side of O'ahu. The sister, Lo'e, took up residence on the small island which adopted her name.

In the time before King Kamehameha I, the island was used by fishermen as a place to stop and repair nets. During the Great Mahele of King Kamehameha III in 1848, the island along with the ahupua'a of He'eia was given to Abner Paki. From Paki, it was inherited by Princess Bernice Pauahi Bishop. It is said that Princess Pauahi wanted to have a luau for her aunt, Queen Emma, on Moku o Lo'e. To prepare the

shrub and rock encrusted island for the luau, Princess Pauahi organized a monumental public works project that enlisted the service of many Hawaiians. Using their outrigger canoes, they dug up whole coconut trees and transplanted them onto Moku o Lo'e. From this project the island was nick-named "Coconut Island."

### **Current Significance and Activities**

Currently, Coconut Island is home to the Hawai'i Institute of Marine Biology (HIMB). The institute is part of the University of Hawai'i Foundation. HIMB is a premier research institution, attracting researchers, faculty, and student from all over the world. The institute is uniquely located in a bay (possibly the only one) that hosts the three types of reef found in the world; patch reef, fringing reef, and barrier reef. It offers researchers the extremely rare ability of direct access to coral reef and laboratories where researchers can run DNA analysis on their specimens within the same day. "HIMB partners with NOAA, TNC, DNR, and a variety of educational, conservational, governmental, and scientific organizations in the pursuit of marine science and marine biology.

### **References**

Information presented was taken from the guided tours of HIMB through the Community Education Program, and the book cited below.

Klieger, P. Christian., Philip Helfrich, and Jo-Ann Leong. *Moku O Lo'e: A History of Coconut Island*. Honolulu, Hawai'i: Bishop Museum, 2007. Print.

## **Pahole Natural Area Reserve**

Pahole Natural Area Reserve is known for its rare native Hawaiian forestry of lowland native mesic zones.

### **History and Timeline**

Pahole Natural Area Reserve, a 658 acre reserve that was established in 1981 and listed as a NARS (Natural Area Reserves System). This area is ranging in approximately 1,200 to 2,590 feet in elevation, providing facilities and protected habitats for cultivation and storage of mid-elevation species. Pahole fencing was completed in 1998 for protection towards threats such as feral pigs and human disturbance. Additional improvements were made to Pahole Rare Plant Facility in 2006 at the former Nike site to enhance outplanting programs, propagating rare native plants for reintroduction.

### **Current Significance and Activities**

DLNR (Department of Land and Natural Resources) is a Hawai'i state government dedicated to managing natural resources. NARS (Natural Area Reserve System) is a statewide system which attempts to preserve specific land and water sites. DOFAW (Division of Forestry and Wildlife) is a state of Hawai'i department which they manage and protect native ecosystems. PEP (Plant Extinction Prevention Program) is a program which they protect Hawai'i's rarest native plants from extinction. OANRP (O'ahu Army Natural Resource Program) is a program balancing requirements of the Army's training mission with natural resource



responsibilities. Lyon Arboretum Micro-propagation Lab is a laboratory of recovery and multiplication of plants in vitro that are rapidly produced in large numbers of collective offspring. Lyon Arboretum Seed Conservation Lab is a research, storage and support facilities for seeds of native Hawaiian plant conservation.

## References

<http://hawaii.gov/dlnr/dofaw/nars/reserves/oahu/pahole>

<http://hawaii.gov/dlnr/dofaw/rareplants/facilities/pahole-rare-plant-facility/paholefy06>

## Sand Island

### History and Timeline

The island right in the middle of the natural harbor in Downtown Honolulu, bordering Keehi Harbor, and within in sight of Aloha Tower, the Honolulu International Airport, and even Diamond Head in the distance, once served as quarantine for incoming ships and remains a hub of international commercial activity among other things. As such, it was named Quarantine Island during the 1800's and early 1900's. At some point during the 1940's, the harbor was dredged and the resulting sand that was brought up was used to landfill over Quarantine Island making it larger and renaming it Sand Island. During World War II, shortly after the attack on Pearl Harbor on December 7, 1941, the island was used as a temporary internment camp for Japanese Americans (primarily), Germans, and Italians. Many of these individuals were eventually moved to internment camps on the mainland U.S. or to the Honouliuli internment camp on leeward O'ahu. At one point, numerous homeless individuals took up residence on the island and built homes for themselves. The State of Hawai'i evicted all people and re-designated the island for the purposes it now pursues. (Perhaps until recently, the Sand Island has had an underlying tone of segregation in its history over the past couple hundred years.)

The island now houses the Coast Guard, various industrial, boating and shipping businesses, and the Anuenue Fisheries Research Center (AFRC). Prior to funding cuts, AFRC engaged in numerous restocking and cultural programs involving the growing of moi, native catfish, and rainbow trout (among others).

### Current Significance and Activities

Currently, they still grow rainbow trout for markets on neighboring islands, fingerlings for restocking, and tilapia. The newest addition to AFRC is the conversion of the fish hatchery to spawning and raising urchins for out planting as biocontrol agents to combat invasive algae re-growth. The Aquatic Invasive Species Removal team shares the other side of the facility and is tasked with both the initial removal of the algae and the transport and distribution of the urchins on the reef.

## Waimea

The Hawaiian term "Waimea" translates to both "sacred water" and "reddish water." The valley currently encompasses an undivided property from estuary near Waimea beach to the mountains covering a little more than 1500 acres. Only about 100 of those acres are currently managed as a park open to the public.

### History and Timeline

Sometime during the eleventh century Waimea had been endowed to the stewardship of a priestly class (Kahuna nui). Three major Heiau were built, two of which were human sacrificial temples (Pu'o o

Mahuka and Kupopolo), the third (Ke Ahu Hapu'u) was a fishing shrine dedicated to the shark god Kaneaukai.

In 1779, Captain Cook's ships, Resolution and Discovery, landed in the bay. This marks the first landing on O'ahu by foreign explorers.

In the 1800s Waimea bay became a major port for the trade of Sandalwood.

In the 1970s, Bishop Corporation purchased Waimea valley and created Waimea Falls Park (arboretum). Recently the land of Waimea has been purchased by a partnership of and stewardship has been assumed by the non-profit Hi'ipaka LLC and the OHA (Office of Hawaiian Affairs).

### **Cultural Background including Mo'olelo (stories) and Oli**

Waimea Valley has great cultural significance. Visitors from around the world come to learn about native plants and Hawaiian culture. There are several cultural sites of special significance: old agricultural terraces, living sites and burial mounds. Recent archeological surveys assume much has been buried in the valley due to the fluctuation of water flow over many years. Tours covering specific historical features of the park are given daily.

### **Current Significance and Activities**

The arboretum forms a collection of 5000 species, both native and exotic tropical plants. Efforts are being made to fortify native species in areas outside of the arboretum. This includes ungulate control, plant propagation and weeding of invasive species.

### **References**

Mitchell, Rudy L. Waimea History, Time Line (leaflet)  
History and Culture (of Waimea Valley), <http://www.pupukea.org/history-culture.php>  
Ahupua'a, <http://www.waimeavalley.net/ahupuaa.aspx>

## **Waimea Valley**

### **History and Timeline**

One of the last remaining partially intact ahupua'a on the island of O'ahu, "The Valley of the Priests" has been referred to as a sacred place in Native Hawaiian history for over 700 years. Around the year 1090, the ruler of O'ahu, Kamapuaa, awarded the land to the high priest Lono-a-wohi, and in the hands of kahuna nui of the Paoa line it remained until Western contact and the eventual turnover of the indigenous Hawaiian religion.

Two large heiau were created by the priests: Pu'u o Mahuka, O'ahu's largest heiau, overlooking the bay and valley; and Kupopolo, standing near the beach on the Wailua side of the river. Evidence of fishing shrines, burial caves, house lots and agricultural terraces can be found within the valley.

The Office of Hawaiian Affairs acquired the property in 2006 as part of a cooperative conservation land purchase, and Hi'ipaka LLC was established in 2008 to manage the 1,875 acres within Waimea Valley.

### **Current Significance and Activities**

Waimea is now the home to a world class botanical collection, containing over 5000 accessions including rare and endangered plants from around the world, as well as native Hawaiian collections.