

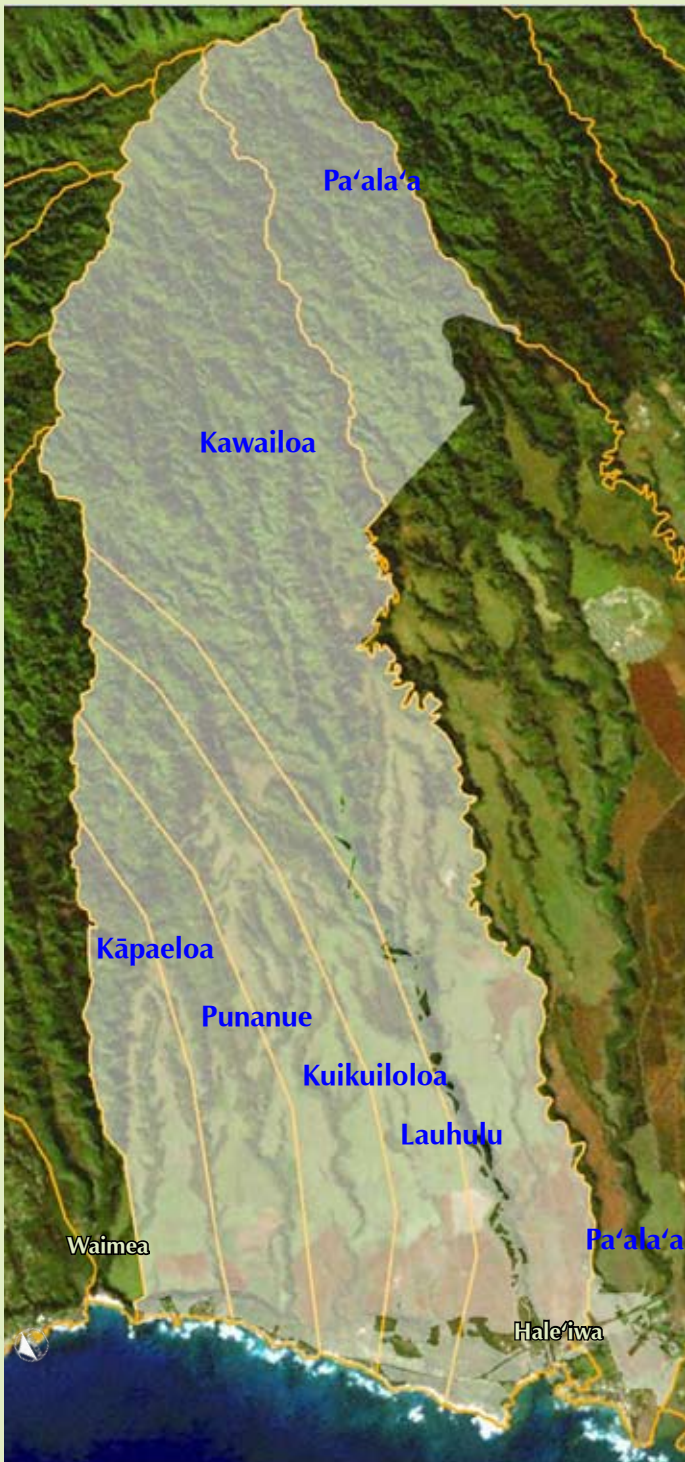
NORTH SHORE INFORMATION

CULTURE AND
HISTORY

ENVIRONMENT

DEMOGRAPHICS

SUSTAINABLE COMMUNITIES
PLAN MAP



Kamehameha Schools North Shore lands include five entire ahupua'a (Kawaiiloa, Lauhulu, Kuikuiloloa, Punanue and Kāpaeloa) and part of one ahupua'a (Pa'ala'a), all within the moku o Waialua. These vast lands constitute one of the largest contiguous ahupua'a and watershed areas on O'ahu still in a relatively natural state. The total acreage of these lands is approximately 26,200 acres, with roughly 15,000 acres in conservation lands, 9,000 acres in agricultural lands, and 2,200 acres in rural lands.

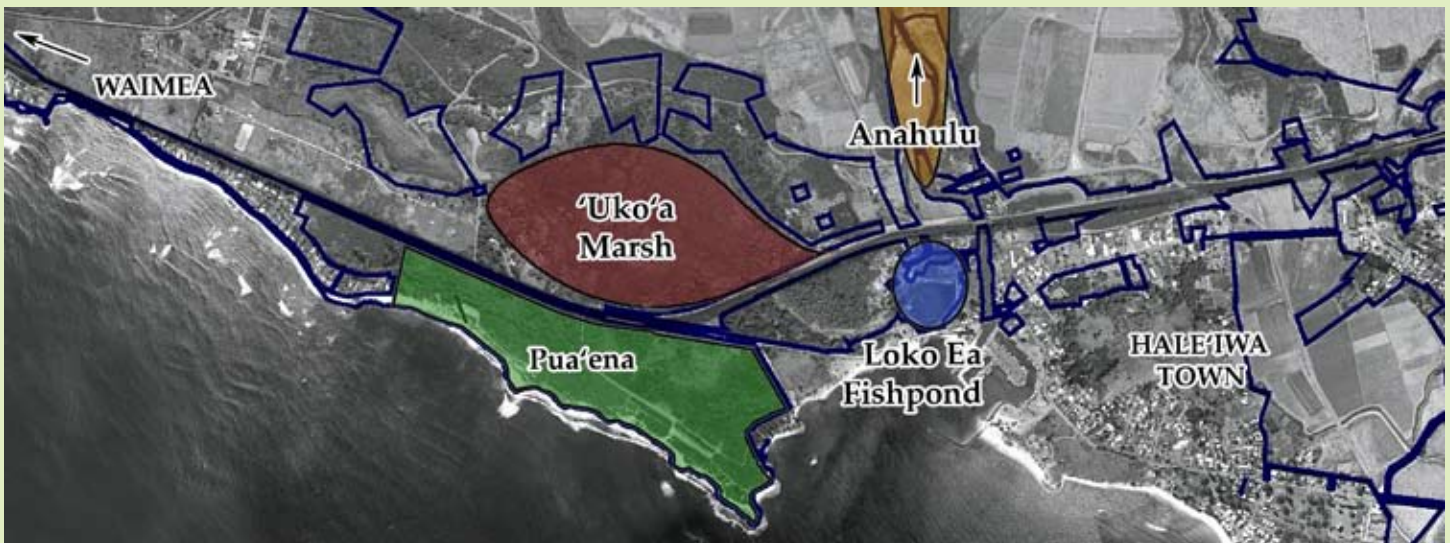
Kamehameha Schools is committed to reviving the use and knowledge of the place names of the area. Look for the use of ahupua'a names and other place names in future projects.

CULTURAL LANDSCAPE & RESOURCES

The Kamehameha Schools North Shore lands are known for their rich abundance of water and fishponds. Native Hawaiians cultivated lo'i kalo near streams, planted dryland gardens, and constructed fishponds which provided food to the kua'āina, the country people, and the ali'i, royalty, entrusted with the protection and sustainable productivity of these resources. The lands in the core area around Waialua and Kaiaka Bay are believed to have supported 6,000-8,000 people prior to Western contact.

One important element of the cultural landscape of Waialua is its strong connective force to the traditional understandings of spiritual realms and forces linked to physical tangible sites. The overall concentration of archaeological sites throughout the moku indicate that, Waialua was viewed as an important area to invoke and sustain mana (spiritual force and energy) for purposes of political and social order.

The concept of wahi pana is a cultural interpretation of spatially defined areas. Wahi pana are sacred spaces that include such cultural properties as heiau sites, sacred pōhaku, burial grounds, weather phenomenon, or any natural or geographical features that are associated with deities or significant natural, cultural, or historical events.



Cultural Sites near Hale'iwa

Pua'ena



The ancestral belief is that Pua'ena serves as a leina, an area of the physical realm where the souls of the departed pass on into the afterlife. This site has an associative linkage, both in name and cultural function, to Ka'ena Point which is also a leina, located on the lae that joins the moku of Waialua and Wai'anae. In modern times, Pua'ena has been the site of a military airfield. Much more remains to be discovered about the significance of Pua'ena and how best to ensure that its cultural relevance and importance is secured.

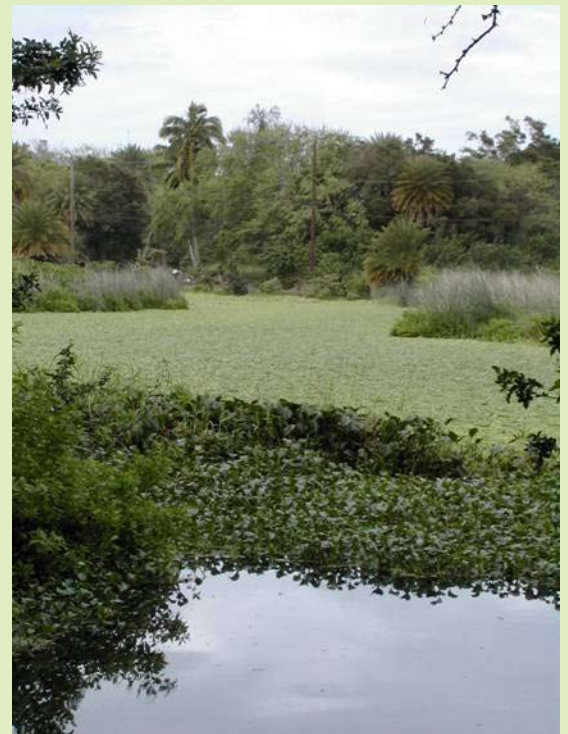
'Uko'a Marsh

'Uko'a fishpond was an abundant source of food for native Hawaiians since the time of Kakuhihewa in the 16th Century. Historic native accounts document that Kamehameha himself helped to restore the life-giving waters of this fishpond after his political consolidation of the islands in 1810.

The distinguishing feature of the pond was its ample fish stock; comprised of a distinctive school of 'anae and āholehole whose skin colorings emulated the markings of various types of other fish species. Historical accounts indicate that there was a kapu of extracting the white 'anae, which was considered as belonging to Laniwahine, the mo'o kia'i of this pond.

The waters of 'Uko'a emanate from streams originating in the upper ma uka lands and from lower springs. However, records from 1883 indicate that 'Uko'a fishpond was believed to have a subterranean connection with the ocean since the waters of the pond would be adversely affected during the presence of strong offshore conditions and stormy weather. Over time, the erosion from intensive sugar cultivation carried soil into the pond and the siltation and other changes were results due to accommodating the demands required by the sugar era.

While the marsh is mostly being managed for bird wetland habitat today, remnants of the fishpond history and significance remain.



Loko Ea Fishpond



Loko Ea fishpond is linked physically and historically to 'Uko'a fishpond. The ponds of 'Uko'a and Loko Ea were considered as bountiful sources of choice fish, and as such were considered favorite locales of the ruling ali'i. In recent history it was leased to various families who continued its operation as a fishpond. With the expiration of the most recent caretaker agreement, it has not been let out again.

Work days here established as a first step to clean-up the site, and the fishpond house was renovated, with the overall goal of restoring the fishpond as a healthy and productive ecosystem.

Anahulu Gulch

The Anahulu Gulch or Stream corridor is known for its abundance of post-contact archaeological sites, as evidence of the many kaukau ali'i who lived here in the historic period. Today it is a quiet stream area with a patchwork of ownership which makes access for education and stewardship activities challenging. Dole Food Company owns most of the Anahulu kuleana parcels which are surrounded by Kamehameha Schools' lands.



Nā Heiau

Encroachment of cattle, overgrowth of invasive plant species, ease of access, and a lack of known information are prevalent issues for several heiau situated on Kamehameha Schools lands. Of critical importance is developing a comprehensive understanding of each site to inform how best to restore and protect these sensitive sites.

References:

Anahulu: The Anthropology of History in the kingdom of Hawai'i. 1992. Patrick Kirch and Marshall Sahlins.
Cultural Impacts Assessment for Proposed Green Waste Recycling Improvements in Kawaiiloa. 2002. Group 70 International.
Documentary Review of Resources Regarding the Ahupua'a of Kawaiiloa and Pa'ala'a, O'ahu. January 2007. Hui Maka'āinana.
Pele and Hi'iaka: a Myth from Hawai'i. 1915. Emerson, Nathaniel.

ENVIRONMENT

The Kamehameha Schools North Shore lands are one of the single largest land holdings on O‘ahu that is still in a relatively natural condition from ma uka to ma kai.

Natural resources are inherently cultural resources from a Hawaiian perspective. For example, each of the elements of the natural world (plants, land, rocks, ocean, animals, etc.) has a connection to the spiritual realm; these are reinforced with cultural protocols that are a part of resource utilization.

Water Resources

These lands are known for their abundant water resources. The vast undeveloped 15,000 acres of upper conservation lands contain a rainfall hot spot with the highest annual rainfall on O‘ahu. The ma uka lands are also home to O‘ahu’s only true bog (Lehua Mahanoe Bog). The high precipitation of the ma uka lands coupled with a large recharge area equate, to abundant ground and surface waters. These water resources were economically important in the sugar cane plantation era and are also essential for today’s agricultural uses.

Partial previous drainage with quality and quantities of freshwater flowing into the nearshore waters play in important role in the marine ecosystems.



‘Uko‘a Marsh



This marsh was once a productive fishpond as previously discussed. Siltation and other changes have created what is now a marsh that provides bird habitat to four endangered species of water bird: ae‘o (*Himantopus mexicanus knudseni*), ‘alae ‘ula (*Gallinula chloropus sandwicensis*), koloa maoli (*Anas wyvilliana*) and ‘alae Ke‘oke‘o (*Fulica alai*). Nearly all the plant species in this area are introduced and not native.

Kamehameha Schools is the process of engaging a company, that provides ecosystem services to landowners in Hawai‘i, to conduct restoration and stewardship at the marsh.

Ma Uka Lands

The ma uka lands have relatively intact native forest areas compared to other forests on O'ahu. This is in part because the terrain is largely inaccessible. The upper ma uka lands, with protected and preserved large intact communities of native species, are similar to areas near Volcano on Hawai'i Island and the H-3 Corridor.

Drum Road at the ma kai edge of the ma uka conservation area, provides vehicular access. This is also a dividing line between a higher abundance of native species ma uka of Drum Road and the higher abundance of introduced/alien species ma kai of the road. The map to the right highlights areas with native versus introduced species using Gap Analysis Program (GAP) data. This data is part of an effort to "keep common species common" by providing information on common native species. For the North Shore, native forest species commonly include 'ohi'a, lama, koa and uluhe.

A portion of the KS' conservation lands are leased to the U.S. Army through the lease of conservation lands for training purposes. The U.S. Army has developed the O'ahu Training Areas Integrated Natural Resources Management Plan 2002-2006 and Environmental Assessment for all the lands under its management.

Both Kamehameha Schools and the U.S. Army are members of the Ko'olau Mountains Watershed Partnership (KMWP), a hui of conservation landowners which coordinates cooperative conservation management initiatives.

The existing fenced enclosure, Pe'ahinā'ā, at the summit was constructed under KMWP and is designed to protect native species.



Threats

The two primary threats to the native ecosystem include invasive species and fire. Invasive species can spread quickly and push out native plants and animals. The weed species that most needs to be monitored is Albizia trees. If allowed to grow uncontrolled, these trees could quickly change the ecosystem of the entire watershed. Other weed species to monitor include rubber tree and kahili ginger. Ungulates (hoofed animals like pigs, goats and cows) are invasive species in this region that can also destroy native plants and habitat.

Fire, as evidenced by the Waialua fires on the slopes of the Wai'anae Mountains in 2007, can have a destructive force with lasting impacts. Initially, there is a loss of natives and introduced species; then, the bare ground without intervention is re-vegetated with the robust introduced species out competing the native species.

References:

Conservation Management of 'Uko'a Wetland. August 1999 Jennifer Maile Crummer.

'Uko'a Marsh Reconnaissance – Level One Report. 1995 U.S. Fish and Wildlife Service Pacific Islands Ecoregion.

O'ahu Training Areas Integrated Natural Resources Management Plan 2002-2006 and Environmental Assessment. 25th Infantry Division Light and U.S. Army, Hawai'i.

Integrated Wildfire Management Plan O'ahu and Pohakuloa Training Areas. October 2003. 25th Infantry Division Light and U.S. Army, Hawai'i.

DEMOGRAPHICS

The Kamehameha Schools North Shore lands serve as a resource for both the local community and the entire island. However, Kamehameha Schools' goal is to first serve and involve the local community, especially those of native Hawaiian ancestry. Within the census tracts that include KS lands, 1,582 persons, or 19% of the total population, are native Hawaiian. This is slightly above the O'ahu average of 17% native Hawaiians (see table right).

Employment & Income

Native Hawaiians on the North Shore have a higher unemployment rate (11%, compared to other North Shore residents at nearly 7%) and have a higher percentage of public assistance (25%, compared to 8% for other North Shore residents). While household income for native Hawaiian households is above the average North Shore total, when calculated based on average household size, the per person income for native Hawaiians is less than for the total population.

Household Size

The median household size for native Hawaiians on the North Shore is 3.96 persons per household. This is greater than the O'ahu-wide average of 2.95 and for the O'ahu native Hawaiian population of 3.47 persons per household. This statistic may relate to the limited opportunities for native Hawaiian families to purchase additional housing for the next generation. It may also relate to the relative higher unemployment numbers and limited resources and purchasing power for the native Hawaiian demographic group on the North Shore.

Education

The percentage of native Hawaiian preschool age children on North Shore at 10% is far below the island-wide percentage of 27%. However, the percentage of North Shore native Hawaiians who are 5-18 year old, at 31% is above the island-wide percentage of 27%. Higher educational levels differ for native Hawaiians versus total population on the North Shore; while nearly 32% of native Hawaiians have attended and or graduated from college, the percentage is over 55% for all North Shore residents.

NORTH SHORE SUSTAINABLE COMMUNITY PLAN

The City and County of Honolulu Sustainable Communities Plan (2000) provides planning guidance for maintaining “the rural character, agricultural lands open space, natural environment, recreational resources and natural beauty of Oahu’s northern coast. ...growth is limited to ‘infill’ areas within or adjacent to built-up areas to accommodate existing and future housing and employment needs.”

The Kamehameha Schools North Shore Plan honors the values and efforts to implement the North Shore Sustainable Communities Plan by proposing projects consistent with its guidance.

