HONOAPIʻILANI HIGHWAY IMPROVEMENTS PROJECT,
WEST MAUI: UKUMEHAME TO LAUNIUPOKO

Appendix 3.7 – Cultural Resources - Supplemental Information

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Prepared for

Honoapiʻilani Highway Improvements

Prepared by

wsp

Contents

ʻĀina Archaeology, Inc
Cultural Impact Assessment (CIA) Report

AA PROJECT NO. 2216

DRAFT

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Federal-Aid Project No.: RAEM-030-1(59)

Ukumehame, Olowalu, and Launiupoko Ahupuaʻa, Lahaina Moku, Lahaina Modern Tax District, Maui Island

Portions of TMK Plats (2) 4-7-001, 4-8-001, 002, 003, 004, and Honoapiʻilani Highway Rights-of-Way

ʻĀINA ARCHAEOLOGY

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Prepared For:
State of Hawaiʻi Department of Transportation (HDOT)
869 Punchbowl Street
Honolulu, HI 96813-5097

Under Contract To:
WSP
1001 Bishop Street
Honolulu, HI, 96812

Prepared By:
Leah Santos, B.A.
Jennifer Mather, B.A.
and
Tanya L. Lee-Greig, M.A.

ʻĀina Archaeology
Oʻahu: 725 Kapiʻolani Blvd, C400 Honolulu, HI 96813
Maui: 590 Līpoa Parkway, Suite 106 Kīhei, HI 96753

Table of Contents

List of Figures

List of Tables

1.0 INTRODUCTION

At the request of the State of Hawai‘i Department of Transportation (HDOT), and under contract to WSP, ‘Āina Archaeology has prepared a review of current and traditional cultural practices and land use within the ahupua‘a of Ukumehame, Olowalu, and Launiupoko which may be impacted by the planned realignment of the Honoapi‘ilani Highway (State Route No. 30). The location of the proposed project is in West Maui, along a six mile stretch of the current highway, predominantly on the coastal plains of the ahupua‘a of Ukumehame, Olowalu, and Launiupoko (Portions of TMK Plats (2) 4-7-001, 4-8-001, 002, 003, 004, and Honoapi‘ilani Highway Rights-of-Way).

1.1 PROJECT DESCRIPTION AND BACKGROUND

As part of the Federally funded Honoapi‘ilani Highway Improvements, the West Maui Ukumehame to Launiupoko project purpose is to provide reliable and resilient transportation for users of Maui’s belt road system which operates as a two-lane principal arterial on the National Highway System (NHS) and Freight Network System (FNS) (Federal Highway Administration 2023:3). Further, the project proposes to reduce the highway’s vulnerability to coastal hazards including erosion, inundation, and sea level rise while providing a regional transportation system that supports the safe movement of people and goods in a way that conforms to regional land use and transportation plans (Federal Highway Administration 2023:3, 5).

Currently, the segment between Ukumehame and Launiupoko of the existing Honoapi‘ilani Highway is an undivided road with two 12-foot wide travel lanes with 4-foot to 8-foot shoulders (Federal Highway Administration 2022a: Project Overview). As the main travel artery for people and goods between West Maui and the rest of the island, any adverse impacts to this roadway cause severe consequences to island residents and the economy. The project proposes four alternative realignment builds as well as a “no-build” option (Federal Highway Administration 2022b:12). Should the highway be realigned, the intention is for the old roadway to be transferred to the County of Maui with local access would continuing for existing homes and businesses (Federal Highway Administration 2022a: FAQs).

1.2 PROJECT AREA

The proposed project area is located in West Maui between mile marker 11, at the southeastern terminus in Ukumehame near Papalaua Beach Park, and mile marker 17, at the northwestern terminus in Launiupoko (Federal Highway Administration 2022b:1). The current alignment is within the projected Sea Level Rise Exposure Area (SLR-XA) and alternatives have been proposed to mitigate and address negative impacts associated with the coastal location of the arterial road. Among the potential alternatives is moving the highway more inland (mauka) which calls for an extension of the project study area to reach from mauka (mountains) to makai (sea) alongside the six mile stretch running through the ahupua‘a of Ukumehame, Olowalu, and Lauiniupoko.

The areas of potential direct effect (see Figure 1-1) will be bounded by the Pacific Ocean on the makai side except for the portion of the highway that moves inland at the south near Kapaiki Place and at the north past Olowalu Surfing Beach. It will encompass areas mauka from the pinch point at the Olowalu Transfer Dump to east of the Olowalu Petroglyphs and the Ukumehame Firing Range to the southern pinch point near the beginning of the pali (cliff) road.

For this cultural impact assessment, the ahupuaʻa of Olowalu, Ukumehame, and Launiupoko are considered the overall "study areas" while the alternatives and their footprints are considered the "project area." The purpose of this document is to gain an understanding of traditional cultural practices within the study area and identify any potential effects on these practices that may occur during, or as a result of, the implementation of the proposed project.

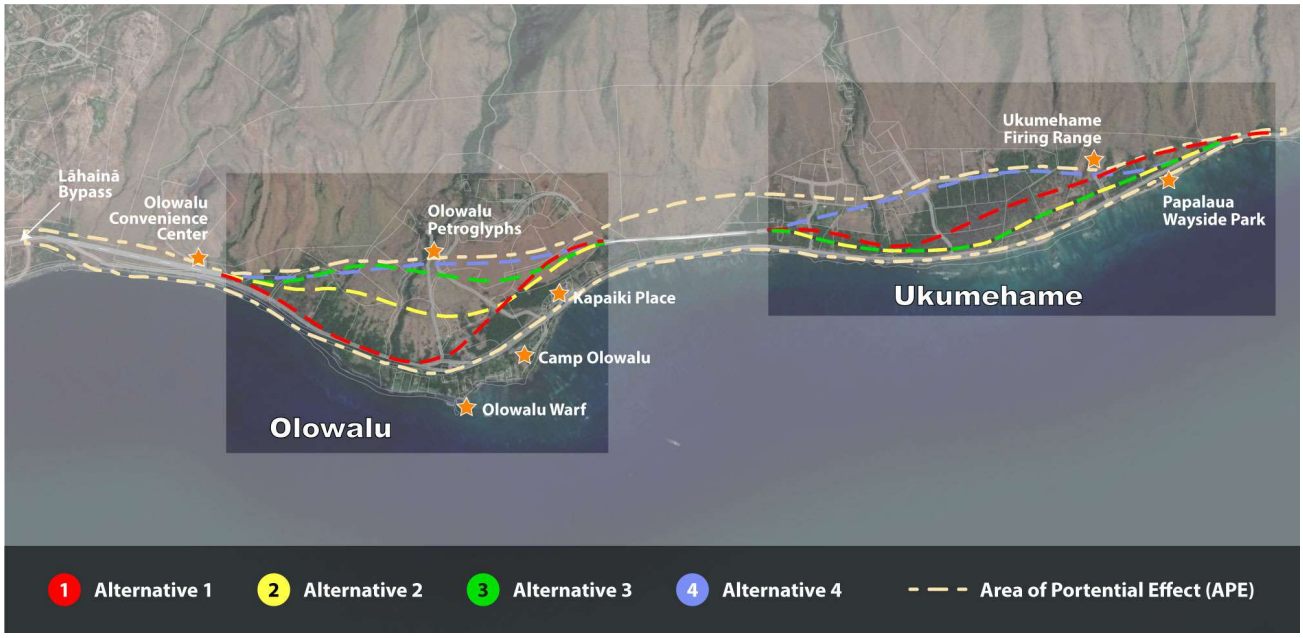


Figure 1-1: A map showing the four build alternatives and associated Area of Potential Effect as indicated by the Federal Highway Administration (Federal Highway Administration 2022a: Section 106).

2.0 ENVIRONMENTAL SETTING

At approximately 728 square miles, Maui is the second largest island within the Hawaiian Island chain (Stearns and MacDonald 1942). The island consists of two major shield volcanoes, the younger East Maui Volcano, referred to as Haleakalā, rises to an altitude of 10,023 feet, and the older West Maui Volcano, referenced throughout the historical and research literature as the West Maui Mountains, Mauna Kahalawai, and Mauna ʻEʻeka, which rises to 5,788 feet at Puʻu Kukui (Juvik 1998:308). The Honoapiʻilani Highway Improvement Realignment proposed project areas are located within Lāhainā moku (district). This unique stretch of land includes Olowalu Stream, Ukumehame Stream, a nearly 1000-acre coral reef system, deep valleys, and lands that have been traditionally and commercially cultivated.

2.1 NATURAL ENVIRONMENT

The climate of Maui is uniformly mild in temperatures with a cool Northeasterly wind, referred to as tradewinds, persisting. The moist, warm tradewinds are orographically forced up the windward slopes of West Maui which creates continual rainfall at Puʻu Kukui (C. L. Cheng 2014:5) which is the highest point of Mauna Kahalawai. The leeward slopes are dry throughout the majority of the year, however, during the winter months when Southerly winds bring low-pressure systems, the coastal leeward areas get much of their annual rainfall (Oki et al. 2010:7).

The ahupuaʻa of Olowalu and Ukumehame are framed by steep valleys and ridges on the southwest flank of Mauna Kahalawai which was formed by the older of the two shield volcanoes that created the island of Maui. The land is then further divided by the Olowalu and Ukumehame Streams and their smaller tributaries and resultant gulches.

In Olowalu, the wide alluvial plain of the ahupuaʻa is compromised of various soils, but predominantly the Pulehu Soil Series is found (Lee-Greig et al. 2015:5), consisting of “well-drained soils on alluvial fans and stream terraces and in basins... developed in alluvium washed from basic igneous rock” (Foote et al. 1972:115). Of that soil series, the Pulehu Cobbly Clay Loam, 0 to 3 percent slopes (PtA) dominates the project area (Lee-Greig et al. 2015:5). According to Foote and others (1972:116) PtA soils have a surface layer of dark-brown clay loam that measures 21 inches thick above stratified dark-brown, dark grayish-brown, and brown, massive and single grain, loam, loamy sand, fine sandy loam, and silt loam that is approximately 39 inches in thickness and is cobbly. The soil has moderate to low permeablility which can result in rapid runoff, poor drainage, and result in low areas being subject to flooding and severe erosion hazards (CWRM 2017:11; Foote et al. 1972:116). Along with PtA soils the other Pulehu Series Soils are Pulehu Clay Loam, 0 to 3 percent slopes (PsA), Pulehu Silt Loam 0 to 3 percent slopes (PpA), and Pulehu Cobbly Clay Loam 3 to 7 percent slopes (PtB) (Lee-Greig et al. 2015:6). Remaining soils in the project area in Olowalu are Beaches (BS), Ewa Silty Clay Loam (EeA), Jaucas

Sand (JaC), Kealia Silt Loam (KMW), Wainee Extremely Stony Silty Clay (WyC), and Stony Alluvial Land (rSM).

As a hydrological unit, Olowalu covers an area of 8.317 square miles from the coast to 5,210 feet in elevation with the longest path of freshwater flow being 6.04 miles in length along a southwesterly direction (CWRM 2017:1). According to the Commission on Water Resource Management's interim instream flow standard (IIFS) report, "Olowalu Stream is composed of one main stem and two ephemeral tributaries, that flow only intermittently in the upper sections in response to rainfall-runoff" (2017:1). Rainfall in the area has an annual average of 56.1 inches with the majority occurring during the winter months between December and January (CWRM 2017:13).

The flora of the Olowalu area consists mainly of scrub and forested areas with over half of the hydrological unit covered in alien forest, grassland, or shrubland with sparse native vegetation like ʻōhiʻa (*Metrosideros polymorpha*) spread through the upper slopes within the West Maui Forest Reserve (CWRM 2017:16). The current highway is lined with large monkeypod trees and kiawe, both are non-native. In the lower, cultivated areas of Olowalu residents grow tropical flowers, dryland and wetland kalo (taro, *Colocasia esculenta*), maiʻa (banana, *Musa paradisiaca*), ʻuala (sweet potato, *Ipomoea batatas*), and papaya (*Carica papaya*) while attempting to remove invasive species so that native ones can thrive including ʻūlei (*Osteomeles anthyllidifolia*), naupaka kahakai (*Scaevola taccada*), akia (*Wikstroemia spp.*), lauaʻe (*Microsorum scolopendria*), and hala (*Pandanus odorifer*) (CWRM 2017:16).

Similarly, the Ukumehame hydrological unit, also situated on the southwest flank of Mauna Kahalawai, covers 8.20 square miles from the sea to 4,610 feet elevation with a slope greater than 30 percent (CWRM 2018:2). Ukumehame Stream is made up of two channels that are fed by many other ephemeral tributaries with intermittent flow responding to rainfall-runoff (ibid). Mean annual precipitation is 76.4 inches at the basin (ibid) and rainfall is variable throughout the entire Ukumehame ahupuaʻa, swinging from a high mean annual of 116 inches at 4173 feet elevation to a low of 13 inches near the coast at 75 feet elevation (Giambelluca et al. 2011). Like Olowalu, Pulehu Soils are prevalent in Ukumehame. Other soils that are known in the area are Rock Outcrop (rRO) and Rock Land (rRK), where rocks cover 25 to 90 percent of the surface with very shallow soil and the land is nearly level to very steep occurring near the pali (Foote et al. 1972:119); Kealia silt loam (KMW) which drains poorly and can pond during heavy rain fall afterwards drying and presenting salt crystals in low lying areas where the brackish water table is at depth of 12 to 40 inches (Foote et al. 1972:67); Jaucas (JaC) near the coast, laying close to the current roadway; and Beaches (BS) made up of sand and often washed by the ocean.

Having been heavily utilized by sugarcane cultivation from the early historic period to modern times, the landscape and watershed of the entire study area has been extremely modified away from native plants and animals. A survey conducted by Robert Hobdy found a total of 114 plant species in Olowalu. Of those, only three were endemic, including nehe (*Melanthera lavarum*), alena (*Boerhavia herbstii*), and wiliwili (*Erythrina sandwicensis*), with a further 15 indigenous

species (see Table 2-1) (2010:4). The Olowalu non-native vegetation includes buffelgrass (*Cenchrus ciliaris L.*), ʻopiuma (*Pithecellobium dulce*), kiawe (*Prosopis pallida*), klu (*Acacia farnesiana*), koa haole (*Leucaena leucocephala*), australian salt bush (*Atriplex semibaccata*), and pickleweed (*Batis maritime*) (Hobdy 2010:7-10; Lee-Greig et al. 2015:8). With the vegetation in the Ukumehame area being mostly introduced, non-native species like buffelgrass and kiawe, with the alien scrub and grassland make up a combined 46.2 percent of the entire vegetative land cover (CWRM 2018:18).

Table 2-1: Native Plant Species of Olowalu

Common Name	Scientific Name	Status
kalo (taro)	*Colocasia esculenta*	Polynesian
kō (sugar cane)	*Saccharum officinarum*	Polynesian
kukui	*Aleurites moluccana*	Polynesian
niu (coconut)	*Cocos nucifera*	Polynesian
alena	*Boerhavia herbstii*	Endemic
nehe	*Melanthera lavarum*	Endemic
wiliwili	*Erythrina sandwicensis*	Endemic
no common name	*Cyperus polystachyos*	Indigenous
ʻaʻaliʻi	*Dodonaea viscosa*	Indigenous
ākulikuli	*Sesuvium portulacastrum*	Indigenous
hau	*Talipariti tileaceum*	Indigenous
ʻilieʻe	*Plumbago zeylanica*	Indigenous
ʻilima	*Sida fallax*	Indigenous
kipukai	*Heliotropium curassavicum*	Indigenous
koali awahia	*Ipomoea indica*	Indigenous
kou	*Cordia subcordata*	Indigenous
milo	*Thespesia populnea*	Indigenous
naupaka kahakai	*Scaevola taccada*	Indigenous
pili	*Heteropogon contortus*	Indigenous
pōhuehue	*Ipomoea pes-caprae*	Indigenous
pōpolo	*Solanum americanum*	Indigenous
ʻuhaloa	*Waltheria indica*	Indigenous

The known native fauna in the Ukumehame area are the endemic Hawaiian Nēnē Goose (*Branta sandwicensis*), which is also present in Olowalu which has also been host to the migratory ʻUlili (Wandering Tattler, *Heteroscelus incanus*) (Hobdy 2010:13), however, for both ahupuaʻa, the Hawaiian Petrel (*Pterodroma sandwichensis*), threatened Newell's Shearwater (*Puffinus auricularisnewelli*), and the endangered Hawaiian Hoary Bat (*Lasiurus cinereussemotus*) should be considered as possible faunal inhabitants or visitors of the project areas. Also, both Olowalu Stream and Ukumehame Stream support a "high diversity of native and introduced insect biota in all reaches including native dragonflies (*Anax junius*) and native damselflies (*Megalagrion spp.*) (CWRM 2018:40), but the diversions in Olowalu make it uninhabitable for the snails, ʻoʻopu (goby,

Sicyopterus stimpsoni, Eleotris sandwicensis, Awaous guamensis, and *Lentipes concolor*), and ʻopae (shrimp, *Atyoida bisulcata*) that live in Ukumehame (CWRM 2017:39; 2018:40).

The coastal region of the ahupua'a boasts a vibrant marine ecosystem centered around a mother reef system. This ecosystem supports a diverse array of life, serving as vital spawning grounds and habitats for coral and fish. It also functions as critical nurseries for species such as manō (sharks), honu (turtles), and hīhīmanu (stingrays). Additionally, it serves as a rich gathering ground abundant various species of seaweed, making it a valuable biocultural resource. In 2017, the Olowalu reef was the first Hawaiian location designated as a Hope Spot by the ocean protection non-profit, Mission Blue, identifying it as critical to the overall health of the oceans (Mission Blue 2023).

2.2 BUILT ENVIRONMENT

The main feature of the modern built environment in the project area is Honoapiʻilani Highway. Other elements are residential homes on both mauka and makai sides of the highway and their related infrastructure, Camp Olowalu, the Olowalu General Store, the unimproved cane haul access roads, multiple beach parks, and the Ukumehame Firing Range.

3.0 CULTURAL HISTORICAL BACKGROUND

3.1 HE MOʻOLELO NO OLOWALU A ME UKUMEHAME I KA WA KAHIKO – TRADITIONS OF THE OLOWALU AND UKUMEHAME REGIONS PRIOR TO WESTERN ARRIVAL

The island of Maui has been known by several names throughout history and across the pae ʻāina. The ancient name of Ihikapalaumaewa, after the child of Wakea and Papa who is the ancestral origin of the people of Maui, was once attributed to the island of Maui. Maui has also been referred to as Kulua for the two prominent volcanoes that comprise the island, Nā Hono-a-Piʻilani for Piʻilani, the great 16th Century chief of Maui, and Maui Nui a Kama for Kamalalawalu the grandson of Piʻilani (Kapiikauinamoku 1956; Sterling 1998:126). An origin story of the Hawaiian people speaks to the creation of their islands as being born to the gods Papa and Wakea. In the ancient oli (chant) that tells this origin story, Hawaiʻi Island is first to be born, followed by Maui, and then the rest:

Hanau o Maui he moku, he aina, *Na kama o Kamalawalu e noho.*	Maui was born an island, a land, A dwelling place for the children of Kamalalawalu. (Fornander 1916:2-3)

In this chant, Maui is called "a dwelling place for the children of Kamalalawalu," who was the grandson of Piʻilani, a 16th century mōʻī (paramount ruler) of Maui and founder of one of its greatest dynasties (Barrere 1975:1). Thus, the traditional poetic name for Maui as Maui-a-Kama, named after Kamalalawalu, whose children are the people of Maui. It is because of them that we know the historical names, moʻolelo (traditional stories), cultural sites and practices of the Olowalu and Ukumehame areas (Kozub 2018).

The present study area includes the entire ahupuaʻa of Olowalu and Ukumehame, land divisions which abutt one another on the leeward slopes of Mauna Kahalawai in the moku of Lāhainā. Olowalu's mauka boundaries follow the ridge separating the headwall of ʻĪao Valley from Olowalu Valley, extending makai toward Helu and Līhau, ending at Awalua on the Launiupoko side and Pākala on the Ukumehame side. The mauka border of Ukumehame ahupuaʻa, stretches across the ridgeline toward Waikapu with the coastal border marked at Maʻalaea.

3.1.1 Wahi Inoa (Place Names)

In Hawaiʻi, names were given to virtually everything. In the preface of *Place Names of Hawaii*, Samuel Elbert states that:

> Hawaiians named taro patches, rocks and trees that represented deities and ancestors, sites of houses and heiau, canoe landings, fishing stations in the sea, resting places in the forests, and the tiniest spots where miraculous or interesting events are believed to have taken place.

> Place names are far from static … names are constantly being given to new houses and buildings, land holdings, airstrips, streets, and towns and old names are replaced by new ones … it is all the more essential, then to record the names and the lore associated with them (the ancient names) now (Pukui et al. 1974:x).

Lyons also notes that as a consequence of the long tenancy of the people on land, "every piece of land had its name, as individual and characteristic as that of its cultivation"(Lyons 1903:23). Intrinsic to our knowledge of place names is their ability to tell the story or keep the record of an area's resources or characteristics prior to European contact. Naming conventions were very much an indicator of place, whether it was describing the landscape or the sounds or the smells of the area, the native Hawaiian creation of inoa (names) held a deep descriptive connection to the natural environment. Consideration of the place name meanings for the study area may yield some insight into the stories, patterns of life, and land use within the ahupuaʻa of Olowalu and Ukumehame. The place names listed below are for areas, divisions, and features of the land and sea that comprise these ahupuaʻa and areas of interest around them, as identified through research of the historic and modern maps of Olowalu and Ukumehame, Māhele ʻĀina documents, Hawaiian language newspapers, and other available historic literary resources. Unless indicated otherwise, the spelling and orthography presented below are taken from Pukui and others (1974).

Table 3-1 Wahi Inoa - Place Names

NAME (INOA)	DESCRIPTION AND TRANSLATION
ʻAwalua	Place at the shore; boundary between Launiupoko and Olowalu; *Lit.,* double harbor.
ʻĀweoweoluna (ʻili)	ʻIli kū in Ukumehame Returned by Kekauonohi at the Māhele, retained by Crown. LCAw 7779 to Kaleleiki: "...ma ka ili o Makenewa a me Aweoweoluna... Ap. 4. He pahale a me ke kula..." 7.19 acres (Soehren 2002-2019). *Lit.,* high red fish.
Hāʻai (ʻili)	ʻIli in Ukumehame. *Lit.,* edible taro stalks.
Halepohaku	Puʻu noted on Olowalu qd., Maui on USGS 1956 at elevation of approximately 3,400 ft. *Lit.,* stone house.
Hanaʻula	Mountain (4,616 feet high) and gulch near Ukumehame. A priest, Hua, quarreled with his prophet Lua-hoʻomoe and burned his house down. The priest died or was killed and a drought followed in which the chief died (see 3.1.3.2). *Lit.*, red bay.
Hanaʻulaiki (puʻu)	Puʻu in Ukumehame at 2,956 elevation. *Lit.,* small Hanaʻula.
Hawaiikekee (ʻili)	An ʻili of Olowalu associated with LCA 5829-E to Kawehena: "Apana 1,2. He pahale a me ka pauku aina kalo e moe like ana i kahi hookahi..." 1.79 acres (Soehren 2002-2019). No translation available, however, according to Pukui keke'e means to be distorted, crooked, or twisted (1986).
Hekili Point	Point along the shore line, Olowalu wd., Maui. *Lit.,* thunder.

NAME (INOA)	DESCRIPTION AND TRANSLATION
Hīkiʻi/Hekiʻi (heiau)	"Walker Site 2... On the east side of Ukumehame Gulch... at an elevation of about 200 feet... just above the cane lands and the modern ditch crosses one corner of it. A good sized heiau of rough blocks of red basalt... 130 feet long and 81 feet wide... Graves of recent date fill the interior." [The elevation of the ditch is closer to 100 feet in the probable location.] (Soehren 2002-2019). *Lit.,* binding, tying.
Hōkūʻula (puʻu)	Puʻu in Ukumehame, purported to be part of celestial navigation (Ashdown 1971:10). *Lit.,* red star.
Kalokoiʻaokapāʻiki (loko)	A fish pond located near the coast in Olowalu where Honoapiʻilani Hwy now traverses.
Kaluaaha (ʻili)	An ʻili of Olowalu associated with LCA 1742 to Z. Kaauwai: "Apana 2. Pahale ma Kaluaaha..." 3.39 acres. Also LCA 5620 to Kahele, 1.31 acres; 5829-H to Nahue, 0.825 acre. Misspelt "Kaluaha" in Indices (Soehren 2002-2019). *Lit.,* the gathering pit.
Kaluakanaka (ʻili)	And ʻili of Olowalu, the house site claimed and awarded to John Clark through LCA 240; "the man hole"- land section in Lahaina, Maui (Lorrin Andrews 1922). *Lit.,* oven-baking man.
Kamani (ʻili)	An ʻili of Olowalu associated with LCA 1742 to Z. Kaauwai, 2.98 acres. Also LCA 5113 to Kailaa, 5829-E to Kawehena, 5829-F to Haole, 6058 to Peekauai, 6547 to Hale, 6728 to Mahulu, 8573 to Kailiula, 8657 to Kikau, 8668 to Kaiwi, 8817 to Kanakaole, 10128 to E. Maui, 10592 to Paia, 10714 to Pohakunui (Soehren 2002-2019). *Lit.,* a large tree whose wood was made into calabashes (*Calophyllum inophyllum*).
Kamaohi Gulch	Stream in Ukumehame that rises to about 1,600 feet elevation and flows to sea (Soehren 2002-2019). *Lit.,* young child.
Kapāʻiki	Translated as "the small enclosure" and presented as a moʻo (small land section) of aliʻi lands in Olowalu Ahupuaʻa (Mr. Hinano Rodrigues in Lee-Greig and Hammatt 2006).
Kaʻulu (ʻili)	ʻIli in Ukumehame. *Lit.,* the breadfruit.
Kaunukukahi (ʻili)	An ʻili of Olowalu associated with LCA 6728 to Mahulu: "Apana 2. Pahale ma Kaunukukahi..." 0.91 acre. Also LCA 4376 & 4454 to Keahi, 5620:4 to Kahele, 5952 to Minamina, 6058:1 to Peekauai, 8817:2,3 to Kanakaole (Soehren 2002-2019). No translation available.
Kawaialoa (heiau)	"Walker Site 4. Location: On the rising ground south of Kilea Hill above the ditch... A large walled heiau in good condition. It measures 156 x 110 feet. The walls range in thickness from 8-1/2 feet on the west to 12 feet on the south and east..." Coordinates uncertain. Cf. Kaiwaloa heiau (Soehren 2002-2019)
Keahuakamalii (puʻu)	Puʻu and boundary point between Olowalu Valley and Kauaʻula Valley at 5,200 elevation; no translation available (Soehren 2002-2019).
Kekenui/Keekeenui (ʻili)	ʻIli in Ukumehame. *Lit.,* perhaps kēkēnui meaning very big belly or big kēkē (kind of fish).
Kīlea (puʻu)	Small cinder hill (269 feet elevation), Olowalu qd., Maui. Cemetery. *Lit*., small but conspicuous hill.
Kuekue (ʻili)	An ʻili of Olowalu associated with LCA 8573, Apana 2 to Kailiula for .525 acres. *Lit.,* sound of tapping, tap, as of a mallet on a tapa anvil.

NAME (INOA)	DESCRIPTION AND TRANSLATION
Lāhainā (moku)	District, quadrangle, town, roadstead, West Maui, formerly the gathering place for whalers, and the capital of the Islands from 1820 to 1845. Surfing sites on both sides of the harbor are known as Lahaina Lefts and Lahaina Rights. *Lit.,* cruel sun (said to be named for droughts).
Līhau (puʻu)	Boundary point between Launiopoko and Olowalu (Soehren 2002-2019). Mountain (4,197 feet), Lahaina qd., Maui, *Lit.,* gentle cool rain (considered lucky for fishermen). Also associated with the moʻolelo of Puʻulāina (see 3.1.3.1).
Makahuna Gulch	Stream that rises at 1,800 feet elevation and flows to the sea (Soehren 2002-2019). *Lit.,* hidden point or hidden eyes.
Makaīwa/Makiwa Gulch	Stream in Ukumehame that rises to 1,600 feet elevation, flows to the sea. Misspelt "Makiwa" on USGS 1955 (Soehren 2002-2019). *Lit.,* mother of pearl eyes (asn in an image).
Makenewa (ʻili)	ʻIli in Ukumehame associated with LCAw 6408 to Kalaikini: "Ap. 1. He mau moo kula eha i Makenewa... 9.11 eka. Ap. 2. He mau loi kalo eha... 0.2 eka." Also LCAw 6758 to S. Golia, 2.45 acres; LCAw 7779 to Kaleleiki, 13.18 acres (Soehren 2002-2019). No translation available.
Manawainui (gulch)	Boundary point and stream in Ukumehame. Stream rises to 3,400 feet elevation and flows to the sea, creates boundary between Lāhainā and Wailuku districts (Soehren 2002-2019). *Lit.,* large water branch.
Manawaipueo (gulch)	Boundary point and stream in Ukumehame. Stream rises to 2,500 feet elevation and flows to the sea (Soehren 2002-2019). *Lit.,* owl stream branch.
Maomao (ʻili)	An ʻili of Olowalu associated with LCA 5620 to Kahele: "Apana 2. Aina kalo ma ka ili o Maomao..." 0.53 acre. Also LCA 7719 to Haia, 5207-B to Kalaipaihala (Soehren 2002-2019). *Lit.,* type of fish or far, calm, clear.
Mōpua	Village, Olowalu qd., Maui. *Lit.*, melodious (said to be the name of a legendary character).
Mokumana (gulch)	Boundary point and stream in Ukumehame. Stream rises to 2,120 feet elevation and flows to the sea (Soehren 2002-2019). *Lit.,* divided island or divided district.
Nalowale (heiau)	On the west side of Ukumehame Gulch at about 180 ft. elevation on USGS 1955; *Lit.,* forgotten (Soehren 2002-2019).
ʻŌhiʻa (ʻili)	ʻIli in Olowalu associated with LCAw 6058 to Peekauai: "Apana 1. Aina kalo i Ohia..." 0.31 acre (Soehren 2002-2019). *Lit.*, the ʻōhiʻa tree.
Olowalu/Oloalu (ahupuaʻa)	Quadrangle, village, canyon, land division, shaft (well), ditch, stream, and wharf, West Maui. More than a hundred Hawaiians were treacherously killed here and many wounded on orders from Captain Simon Metcalfe in 1790. Many petroglyphs are seen on a cliff face here. *Lit.,* many hills. Also by Pukui and others: simultaneous sounds; din of many voices, sounds, as of horns or roosters; to rush or attack in concert (Pukui and Elbert 1986).
Ōpūnahā (gulch)	Boundary point and stream that rises to 1,420 feet elevation and flows to the sea (Soehren 2002-2019). *Lit.,* broken cluster.
Pākalā	Place located between Mōpua and Kapaʻiki. *Lit.,* sun shines.
Paapa (ʻili)	An ʻili of Olowalu associated with LCA 9906 to Pikao. No translation available.

NAME (INOA)	DESCRIPTION AND TRANSLATION
Pāpalaua (gulch)	Boundary point and stream in Ukumehame; stream rises at about 3,100 feet elevation and flows to the sea (Soehren 2002-2019). Beach park also known as "Thousand Peaks" (Clark 2002). Coastal area and gulch, Māʻalaea qd., Maui. *Lit.*, rain fog.
Paumaumau (ʻili)	An ʻili of Olowalu associated with LCA 9906 to Piako "Apana 1. He pahale a me na loi kalo i Paumaumau..." 2.70 acres. Also LCA 8546 to Kaawili (Soehren 2002-2019). No translation available.
Polanui	Place in Ukumehame on USGS 1954 at 3,000 feet elevation. *Lit.,* large Pola (flap, as of a malo).
Puaaloa (ʻili)	An ʻili of Ukumehame retained by C. Kanaina at the Māhele, LCA 8559:4 (Soehren 2002-2019). *Lit.,* long pig.
Puolaia (ʻili)	An ʻili of Olowalu associated with LCA 5732 to Kawaaiki and LCA 10128 to Maui with loʻi. No translation available.
Puʻu Kauoha (puʻu)	Puʻu in Ukumehame at 1,100 feet elevation, but not a clearly defined peak (Soehren 2002-2019). No translation available.
Puukoleohilo (ʻili)	ʻIli in Olowalu associated with multiple Māhele ʻĀina claims, most prominently, LCA 4376 to Keahi with a loko situated next to Apana 1 (see Figure 3-3). No translation available.
Puʻu Lūʻau (puʻu)	Puʻu in Ukumehame at elevation of 2336 feet on USGS 1954. *Lit.,* taro tops hill.
Ukumehame (ahupuaʻa)	Land division, canyon, gulch, stream, reservoirs, and shaft (well), Olowalu qd., Maui. *Lit*., paid mehame wood.
Ulaula (puʻu)	Puʻu located at 3078 ft elevation on Lahaina qd., Maui, USGS 1956. *Lit.,* red.
Uwai (ʻili)	ʻIli in Ukumehame associated with LCA 10206 to Mauikuaole: "Pahale, 11 loi, kula ma ka ili o Uwai..." 4.5 acres. Also LCA 310 to Pikanele, 5380 to Hulu, 6480 to Keawe (Soehren 2002-2019). *Lit.,* variant of uai meaning to move, push aside, to move from place to place as a tethered animal.
Wailoa (ʻili)	ʻIli in Olowalu associated with LCA 5429-F to Haole: "Apana 4. Aina kalo a me ke kula i Wailoa..." 4.5 acres. Also LCA 10128:1,3,4 to E. Maui, 9.44 acres (Soehren 2002-2019). *Lit.,* long water.

3.1.2 ʻŌlelo Noʻeau, Winds, and Rains Associated with Olowalu and Ukumehame

MacCaughey highlights in "Nature Themes in Ancient Hawaiian Poetry" that most indigenous people source their songs and myths from nature themes and "find[s] them plentiful in old Hawaiian verse, which was rich in nature-imagery and local allusion" (1917:205). The connection of Hawaiians to the natural environment is especially prevalent in the many moʻolelo which center around the lyrical portrayals of the ʻāina (land) and its people.

Handy and others (1991) further encapsulate the relationship between Hawaiians and their natural surroundings best in the subsequent excerpts:

> The sky, sea, and earth, and all in and on them are alive with meaning indelibly impressed upon every fiber of the unconscious as well as the conscious psyche.

> Hawaiian poetry and folklore reveal this intimate rapport with the elements, (E. S. C. Handy et al. 1991:23-24)
>
> (T)he relationship which existed from very early times between the Hawaiian people … is abundantly exemplified in traditional mele (songs), in pule (prayer chants), and in genealogical records which associate the ancestors, primordial and more recent, with their individual homelands, celebrating always the outstanding qualities and features of those lands. (E. S. C. Handy et al. 1991:42)

Along with the aforementioned creations, Hawaiian proverbs and poetical sayings, referred to as ʻōlelo noʻeau, have been passed down through oral traditions. Many ʻōlelo noʻeau have been collected and published in Hawaiian language newspapers and other primary and secondary sources. They often have both a literal and metaphorical meaning, referred to as kaona, which is given where applicable and when available. ʻŌlelo noʻeau can help us to understand natural phenomenon, land use, and the history of a place. Although there were no ʻōlelo noʻeau that mentioned Ukumehame, various were found for Olowalu:

> **Olowalu ka moa.**
> Roosters all crowing. Much talk.
> (Pukui 1983, #2503)
>
> **Konohiki lua ka lā i Olowalu.**
> The heat of the sun rules in Olowalu.
> Said of one who permits the heat of anger to possess him. Olowalu, Maui is known for its warm climate.
> (Pukui 1983, #1848)
>
> **Na lehua o Līhau i pehia e ka noe.**
> The lehua blossoms of Līhau, weighted by the mist.
> Līhau, a mountain of Maui, was noted for its beautiful lehua blossoms.
> (Pukui 1983, #2250)

Līhau is a picturesque mountain located in Olowalu toward the back of the valley. The lehua blossoms of Līhau are also featured prominently in a mele inoa (name chant) for Queen Kapiʻolani, the wife and consort of King David Kalākaua who ruled from 1874 - 1891. The mele inoa entitled "*He lei no ka Moi Wahine Kapiolani*" (A Wreath for Queen Kapiolani) was composed by those in her retinue for the queen at her coronationin 1883 (Stillman 1996:121). Another mele attributed to Mrs. Pa-upa-u, "*Aia i Līhau kō Lei Nani*," which may have been one paukū (verse) of a longer lei chant for Kapiʻolani (N. K. Lum and Lum 2019) became the mele for Maui:

Aia i Lihau ko lei nani	At Lihau is your beautiful lei,
O ka ao lehua i poe i ka manu	Made of the full blown lehua loved by birds.
Ke haku a mai la e ka lau makani	It is braided together by the wind's deft fingers
Na hono o Lele ua lai lua	On the calm and peaceful realm of Pi'ilani.

Luana i Hauola kahi manao	Two thoughts enter the mind With
I ka lai huli lua o ka Maaa	the conflicting blowing of the Maaa.
Hanohano ka opua i ka malie	Proudly appear the clouds in the calm
I ke kau a ke ao i Maunalei	As they gather on Maunalei.
He lei hoi no ua lai nei	The lei is to be worn by you on a calm day
No ka nalu haihai maka a Uo	On the rolling surf of Uo.
Ke noho nei no au i ka lulu	The sea dwells there before the calm
Me na lai elua a ka manu	Beside the pleasant haunts of birds.
Alia oe la e Haleakala	Wait there, Haleakala,
E alai nei ia Kauiki	Before you hide Ka'uiki from view.
Ua maikai ke alo o Piiholo	Beautiful is the face of Pi'iholo
I ka noho a ka ua ulalena	For there dwells the 'ulalena rain.
Haina ka wahine nona ka lei	This is in praise of the chiefess whose lei chant this is,
O Kapiolani i ka iu o ka moku	Kapi'olani, so high above.
	(Stillman 1996:145-146, translated by Mary Kawena Pukui)

Referring back to ʻōlelo noʻeau, descriptions of the harsh winds of Olowalu can be found in the following:

> **ʻAʻohe umu moʻa i ka makani.**
> No umu can be made to cook anything by the wind.
> (Talk will not get the umu lighted and the food cooked. This saying originated in Olowalu, Maui, where it was very windy and hard to light an umu.)
> (Pukui 1983, #215)
>
> **Ka makani haʻihaʻi lau hau o Olowalu.**
> The hau-leaf tearing wind of Olowalu.
> (A gusty wind.)
> (Pukui 1983, #1457)
>
> **Olowalu ihu pāpaʻa.**
> Crusty nosed Olowalu.
> (Disparaging expression for the people of Olowalu, Maui, where the wind is said to blow into the nostrils, drying the mucus into crust.)
> (Pukui 1983, #2502)

Another valuable repository of Hawaiian wind names is a book called *The Wind Gourd of Laʻamaomao*, which is a translation of a traditional legend, compiled by Moses Kuaea Nakuina in 1902 from various references including Fornander (1918b). The titular wind gourd was believed to contain all the winds of Hawaiʻi, which could be summoned by chanting their names. Winds on different islands could share the same name because they had shared attributes or were

located at similar places on the various islands, such as the famous Kona winds of the leeward sides of the islands. Olowalu's house shaking wind and Kilihau, defined by Andrews as "to fall gently, as a soft shower" (Lorrin Andrews et al. 2004), along with Ukumehame's wind, Olaukoa, are mentioned specifically:

> Olaukoa i Ukumehame,
> Makani wāwahi hale i Olowalu,
> Kilihau iho nō i laila,
> (M. Nakuina 1992:54-55)

This "makani wāwahi hale," or house shaking wind, is a nature theme that has pervaded the written accounts of the area. In the nūpepa (newspaper), *Ka Makaainana*, an article entitled "Ko Olowalu mau Anoai" from February 19, 1894 illustrated the sustained and devastating winds of Olowalu:

> E oluolu mai, ma ko oe poli aku au, a nau ia e hoomahana iho i na anoai o kahi i haiia maluna ae.
> He mau la makani heleululu keia o na aina nei a na Alii i aloha ai o ke au i hala aku. He mau makahiki i hala ae nei, akahi no a wehe hou mai ke Kuahiwi o Lihau i na kikiao makani ikaika e naka ai na hale me ka haalulu, me he la ua eehia i keia mea hou i loaa ia lakou.
> Hoomanao ae la kou mea kakau i ke mele a ke keiki o ka Malu Ulu o Lele, i mioia ai ka pilialo e ka oiopapio i ke Kula o Kamaomao:
> "Olowalu ka leo a ka makani ia Ukumehame,
> Pohapoha ka ihu o ka waa i na ale a ke Kaumuku,
> Huleilua i na nalu o Launiupoko,
> Keikei Lahaina, i ka Ua Paupili."
> Ua pa ikaika iho iloko o na la eono e hoomaka ana i ka Poakolu, Jan. 31, a e hoomaha ana i ke ahiahi o ka Poakahi, Feb. 5. Ua lilo na kumulaau kiawe i mea ole i kona ikaika hoonee, o na pou uweaolelo, ua unuaia iho a ahua mokaki ilalo, mawaena o Olowalu a me Lahaina.
> A no ia ino huhu ua hiki ole i ka mokuahi

> Please be patient, in your embrace I find warmth to comfort the chill of the place spoken of.
> These are days of restless winds across these lands loved by the chiefs of yore. Many years have passed, only now has Mount Lihau opened again, its strong gusts shaking homes with a familiar hum, like a day recalled by those who dwell here.
> Your writer recalls the song of childhood "Ka Malu Ulu o Lele," capturing the longing amidst the mist of Kula o Kamaomao:
> "Olowalu, the voice of the wind at Ukumehame,
> The spray upon the canoe's prow at Kaumuku,
> The dance of waves at Launiupoko,
> Exalted Lahaina, in the Paupili Rain."
> We endured through six days starting Wednesday, Jan. 31,
> resting on the evening of Monday,
> Feb. 5. The kiawe trees, once a symbol of steadfastness, now bend and break, strewn between Olowalu and Lahaina.
> Such wrath could not be contained as the Malulani ship failed to anchor at the

Malulani ke ku ae i ke awa o Kamaalaea i ka po o ka Poalima, Feb. 2 nei, a ua hiu loa aku oia no na Kona i ka pohu maokioki.	mouth of Kamaalaea on the night of Friday, Feb. 2, carried far by the furious waves. (Kalei 1894)

The various rains of Hawaiʻi were also given names. Some were named after people, others after their particular traits or the way they interacted with the area and local vegetation. Similar to wind names, rains from different parts of the islands often share the same name. The book *Hānau Ka Ua Hawaiian Rain Names* contains many of the rain names that were recorded in newspapers from the 1800s and other primary source materials. The specific rain associated with Olowalu is Papawai according to Pukui and Elbert (1986:319), along with the previously mentioned Kilihau showers. Although there is no rain specifically associated with Ukumehame, Papawai may be assumed as the area rain, as well, when considering the proximity of the ʻāina of Papawai further southeast along the pali.

3.1.3 The Mythical Era

Preserved in the moʻolelo created by kūpuna are tales about a period in Hawaiʻi before kānaka (humans), when gods and deities inhabited the islands, often bringing about the creation of lands and resources. Olowalu is known as a wahi pana (storied place) and moʻolelo center around it being a puʻuhonua, or place of refuge, of Maui since ancient times (Ladana 1858). Furthermore, moʻolelo around these areas were created to anthropomorphize the characteristics of the area and ensure notable descriptions are passed down through generations.

Inez Ashdown interprets the name Lāhainā as "land of prophecy," attributed to the presence of ancient aliʻi prophets who made predictions there (as cited in Graves and Goodfellow 1991:A1). Mythology recounts that Pele's initial arrival on Maui occurred at Lāhainā, where she left her footprint on the hill of Laina (Ashdown 1971:10). The various mountain peaks and ridges of Lāhainā are associated with Lāina's mother, Līhau (Mauna Līhau), his father (ʻEʻeke), and Līhau's sister (Puʻuwaiohina). Additionally, the two ridges shaping Ukumehame valley are linked with celestial bodies. Hokuʻula, the highest mountain ridge on the west side of Ukumehame, translates to "sacred star," while Hoku Waiki, a smaller ridge traversing the center of Ukumehame valley, derives its name from the smaller stars within the Taurus constellation (Ashdown, 1970: 10). Below are excerpts of moʻolelo set specifically in Olowalu and Ukumehame, as well as passages that speak more generally of the moku of Lāhainā.

3.1.3.1 Puʻulaina, ʻEʻeke, and Līhau – Mountainous Moʻolelo

The origins of the previously mentioned prominent mountain peak, Līhau, (see Section 3.1.2) located at the back of Olowalu ahupuaʻa, can be found in the story of Puʻulaina, a hill located in the ahupuaʻa of Wahikuli. The moʻolelo also connects Līhau to the formation of Puʻu ʻEʻeke and the islet of Molokini in the ʻAlalākeiki Channel.

The story, relayed by Fornander (1919b:532-536) involves Līhau and her adulterous husband, ʻEʻeke, who had a son they named Lāina. Angry at her husband for cheating with her sister,

Puʻuwaiohina, Līhau attempts to strangle her son and free herself to also be adulterous, but she fails to kill the child. ʻEʻeke takes the boy to live with his mother, Maunahoʻomaha, where he is well cared for and grows to be a handsome young man. Upon the delivery of the boy to his grandmother, the god of ʻEʻeke and Līhau, Hinaikauluau, forbids the couple to live together and to engage in sexual relations with any others. Unable to abide by this rule, ʻEʻeke once again lays with Puʻuwaiohina, and the punishment for this infraction was immediately meted out; ʻEʻeke was turned into a mountain and Puʻuwaiohina was transformed into a ridge at Kauaʻula. After the punishment of her husband and sister, Līhau felt an upwelling of fondness for her son and asked her mother-in-law to once again see her child. Līhau and Lāina were reunited and soon he was married to the beautiful Molokini. At the same time, Pele was making her way through the island chain along with her sisters, one of whom saw how handsome Lāina was and asked Molokini to have him, to which the reply was no. For her refusal, Molokini was changed into the little islet that remains in the channel between Kahoʻolawe and Maui, and her beloved Lāina was made the husband of Pele's sister. Līhau greatly grieved her daughter-in-law and consulted Pele on the matter, at which point the goddess changed the woman into the hill we see at Olowalu and even though her sister begged for Lāina to be spared, Pele angrily turned him into a hill where he, too, remains to this day.

3.1.3.2 Drought and the Lesson of Hua

Fornander offers another moʻolelo with the mountains of Olowalu as the backdrop. The uaʻu (Hawaiian Petrel, *Pterodroma sandwicensis*) that nest there are also central to the story regarding a Lāhainā aliʻi who, having forsaken his kahuna (priest), Luahoʻomoe, caused a drought that impacted the entire island chain. The following is an excerpt from the story:

> There lived here in Lahaina a chief named Hua ... he desired to get some uaʻu squabs to eat; he sent some men up to the mountains above Oloalu [sic] to get some uaʻu squabs to satisfy his desire. He did not wish for birds from the beach. When the birds were obtained, they were to be taken to the priest for him to ascertain where the birds came from; if he should give out the same information as the men had given to the chief as to the source of the birds, then he would be safe; if he should give a contrary answer, he would be killed. The name of this priest was Luahoomoe and he also had children. When the men went up, they could not find any mountain birds at all, so they decided to get some shore birds. When they caught some, they daubed the feathers red with dirt so that the chief would think the birds came from the mountain. When they returned and handed the birds to the chief, he was exceedingly glad because he thought the birds came from the mountain. The chief told the men to take them to the priest for his inspection. The priest perceived, however, that the birds came from the seashore. Then the chief said to the priest: "You shall not live, for you have guessed wrongly. I can very well see that these are mountain birds." Then and there an imu was prepared in which to bake the priest. Before he was placed in the imu, however he said to his children: "You two wait until the imu is lighted, and when the smoke ascends, should it break for the Oloalu mountains, that indicates the path; move along; and where the smoke becomes stationary, that indicates where you are to reside ... Then the priest was cast into the oven and the opening closed up tightly. The smoke arose and darkened the sky ... after the priest had been in the imu for two days, he

> reappeared and sat by the edge of the imu unknown to any one; the chief thinking all the time that he was dead; but it was not so. When the smoke ascended and leaned towards the Oloalu mountains, the two sons went off in that direction; the cloud pointed towards Hanaula, and there it stood still, so the two sons ascended to the place and resided there… Then the whole of Maui became dry; no rain, not even a cloud in the sky, and people died from lack of water. The smoke that hung over Hanaula became a cloud, and rain fell there. Hua, the chief, lived on, and because of the lack of water and food he sailed for Hawaii, the home of his elder brother; but because Hawaii also suffered from lack of water and food he came back and lived at Wailuku. Wailuku also did not have any water, and that caused the chief to be crazed, so he leaned against the edge of the precipice and died, and that was the origin of the saying "The bones of Hua rattle in the sun." (Fornander 1919a:514-516)

Fornander additionally observes that the phrase, "The bones of Hua rattle in the sun," symbolizes the fate of a chief whose malevolent actions provoked the ire of his community. As a final act of disdain, they left his remains exposed to the elements, allowing his bones to bleach under the sun and rustle in the wind. This proverb serves as a cautionary tale, urging others not to emulate Hua's destructive deeds, which led to the suffering of Luaho'omoe and inflicted great harm upon the people of Hawai'i, culminating in the ultimate disrespect of his remains by his own people.

3.1.4 Traditional Hawaiian Settlement of Olowalu and Ukumehame

The mythical era's oral traditions lay the framework for the record of early Hawaiian settlement of Olowalu and Ukumehame as a captivating testament to the coexistence between nature and culture. The region's biocultural landscape intimately connected the people of the area to a substainable, subsistence living through an intricate web of extensive cultivation, knowledgeable fishing practices, and resourceful craftsmanship.

3.1.4.1 Ka ʻOihana Mahiʻai no Olowalu a me Ukumehame

Handy and others (1991) underscore, in the subsequent overview, that the allure of the Lāhainā district for both the aliʻi (chiefs) and makaʻāinana (common people) stemmed from its abundant natural resources and strategic geographic location.:

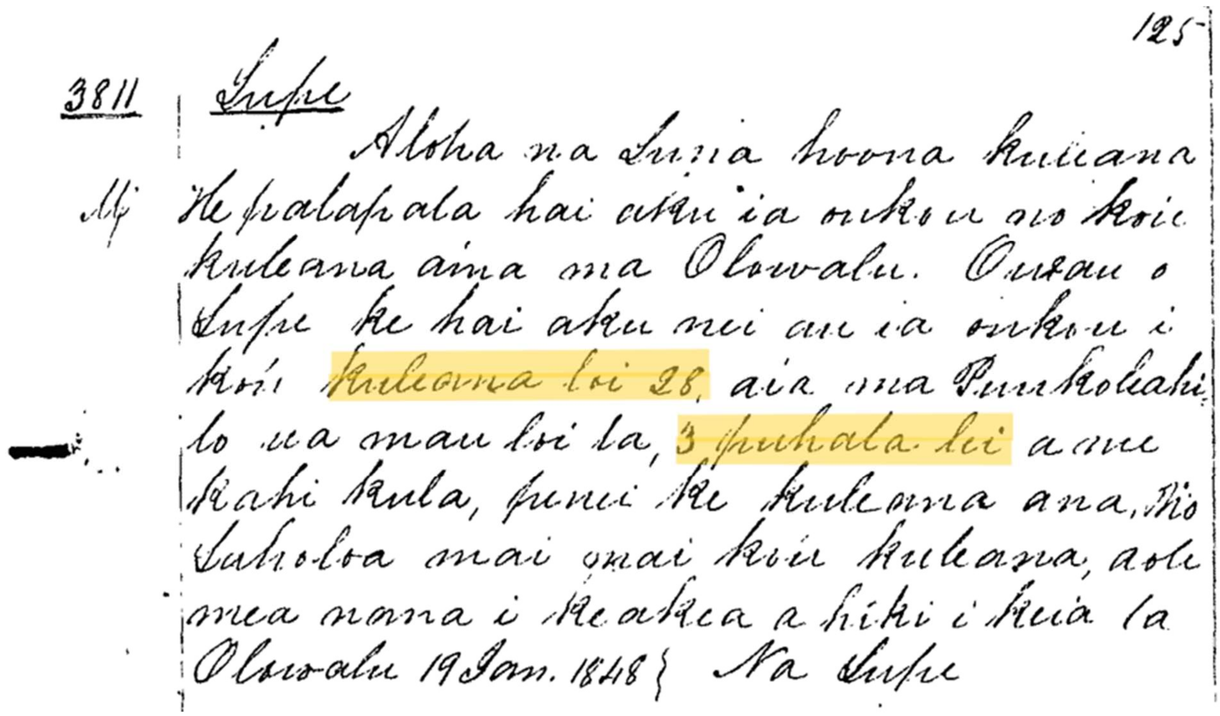
> Lāhainā District was a favorable place for the high chiefs of Maui and their entourage for a number of reasons: the abundance of food from both land and sea; its equable climate and its attractiveness as a place of residence; it had probably the largest concentration of population, with its adjoining areas of habitation; easy communication with the other heavily populated areas of eastern and northeastern West Maui, 'The Four Streams,' and with the people living on the western, southwestern and southern slopes of Haleakala; and its propinquity to Lanai and Molokai. (E. S. C. Handy et al. 1991:492)

Handy also suggests that Olowalu Stream, along with Ukumehame, Launiupoko, and Kauaʻula, three other primary watercourses in the Lāhainā District, offered a fertile leeward setting conducive to cultivating a diverse array of agricultural products:

> Southeastward along the coast from the aliʻi settlement (the kalana of Lāhainā) were a number of areas where dispersed populations grew taro, sweet potato, breadfruit

> and coconut on slopes below and in the sides of valleys which had streams with constant flow. All this area, like that around and above Lāhainā, is now sugar-cane land ... Olowalu, the largest and deepest valley on southwest Maui, had ... extensive loʻi lands both in the valley and below. Just at the mouth of the valley we found in 1934 a little settlement of five kauhale (family homes) surrounded by their flourishing loʻi. There are said to be abandoned loʻi far up in the valley. (E. S. C. Handy et al. 1991:492)

Land claims to traditional resources and agricultural lands during the Māhele period also shed light on the customary subsistence methods employed in the Olowalu Ahupuaʻa before Western contact. Claims included resources such as kalo maloʻo (dry land taro), loʻi kalo (wetland or pond field taro patches) (see Figure 3-1), maiʻa (banana), ʻuala (sweet potato), ʻulu (breadfruit), and wauke (paper mulberry). Other land types and garden areas were also found in the claims (e.g. kula, moʻo, pā, laʻau, mala, mahina), as well as explicit claims presented to the Land Commission for hala or pūhala (Screwpine), hau, niu (coconut), kou, and kukui (candlenut). Of particular interest are kuleana claims for pūhala, which were directly associated with specific uses such as pūhala lei for lei making or pūhala (also lauhala) moena for the manufacturing of sleeping mats (Helu [Claim Number] 3726 to Malaea, 3772 to Alapaʻi, 3811 to Lupe [see Figure 3-1], 3877 to Pikao, 3934 to Niʻau, and 4376 to Keahi), distinguishing preferred locations for hala that was grown for specific products and tasks.



125

3811 Lupe

Aloha na Luna hoona kuleana
Ke palapala hai aku ia oukou no koi
kuleana aina ma Olowalu. Owau o
Lupe ke hai aku nei au ia oukou i
koi kuleana loi 28, aia ma Puukoliahi
lo ua mau loi la, 3 puhala lei a me
kahi kula, pau ke kuleana ana, Ko
Kaholoa mai mai koi kuleana, aole
mea nona i keakea a hiki i keia la
Olowalu 19 Jan. 1848 } Na Lupe

Figure 3-1: Native Register Claim by Lupe for Helu 3811, highlighting for emphasis of the 28 kuleana loʻi and 3 pūhala lei resources [Native Register, Reel 3, Volume 6, Image 01287 (Office of Hawaiian Affairs 2011)].

Ukumehame was once a natural marshy area, plentiful with paʻakai (sea salt) and a regular place for visiting aliʻi to stop their large fleets, to come ashore, and be welcomed in a bountiful environment. It was also a place for nesting koaʻe (*Phaethon lepturus dorotheae*) in the high cliffs that line the pali. An article entitled "*Paakai*" from the newspaper, *Ka Hae Hawaii*, recounts this salt rich area where seabirds frequented:

> Salt.
>
> O *Hae Hawaii*,
>
> Aloha oe:–Please spread the word about this new thing at Ukumehame, that being Salt. This Salt is in the uplands of Papalaau; it is among the high cliffs, as if man gathered it in heaps.
>
> The nature of this Salt: it is hard and expansive like the Salt of Alia at Moanalua on Oahu. The reason that this Salt spread among the cliffs is from water that trickled over the rocks and dirt and became salt.
>
> The reason that the Salt was known of and found, was because men saw some Koae (tropic birds) entering caves in those cliffs; then the two men went to probe for the Koae. As they were making the climb, the two men came across the Salt piled at the Cave. As the[y] looked, there was a lot of Salt in piles here and there.
>
> The Salt was taken to Lahaina and I saw it first hand; I was not the only one who saw it, but there were many who saw the Salt.
>
> This is amazing Salt from the cliffs where the Koae soar. Who piled this Salt among the cliffs? It was the one who made the heavens and the earth, the great things and the tiny. That being eternal Jehovah. With aloha,
>
> J. W. KUHELEMAI,
>
> Lahaina, Maui, May 24, 1858.
>
> (Kuhelemai 1858, translated by nupepa-hawaii.com)

Along with the rocky cliff areas adjacent to the pali, there were green and verdant areas closer to the river where freshwater spring systems allowed large communities to live and thrive. The loʻi complex that existed in this area was an example of the balance of natural and built environmental systems. The mahiʻai (farmers) of the time utilized the existing stream structures to efficiently create self-watering food production parcels that were connected through a series of dug, irrigation trenches, or ʻauwai, as detailed below:

> In the ahupuaʻa, Hawaiian farmers created extensive gravity irrigation schemes using ʻauwai irrigation ditches that took fresh stream water to all parts of the valley basin. The current concrete ditch, built by twentieth-century sugar planters, runs down the northern edge of the Olowalu kula and dumps into deep water north of Hekili Point. This ditch follows the same course as the main ʻauwai used by pre-contact Hawaiian planters. The difference is that concrete contains all the water, unlike mud channels, which allowed water to percolate into the aquifer. The Hawaiian's complex cooperative system of irrigation and fresh water conservation is a practical model for water conservation today. (Smith 2011:9)

These hospitable, agricultural areas were accessible to both upland and coastal resources which made it favorable to the ruling elite of Maui as noted by Smith, “High Chiefess Kalola Pupukahonokawailani was ruling in 1786. After her time, two famous konohiki in Olowalu were Aliʻi Makakehau and Aliʻi Naʼehu” (2011:8).

A network of overland trails facilitated pedestrian passage from Lāhainā to the north coast of West Maui and into the higher forests for activities such as bird-catching and gathering wild plants. According to Handy and others (1991:490), the trail extended mauka in Olowalu Valley to the highest point of the West Maui summit at Puʻu Kukui, then descended to Waiehu on the northern side (E. S. C. Handy et al. 1991:490; Sterling 1998:26).

Kealaloloa, situated within the confines of Ukumehame ahupuaʻa, constitutes a broad ridge on the southeast flank of West Maui, rising mauka from a traditional Hawaiian coastal settlement (Walker 1931:43). Proceeding along the ridge mauka, it offers a direct and easily navigable route, to the West Maui summit region, where the headwaters of Pohakea Stream on the east and Ukumehame Stream on the west converge. It is conjectured that from this juncture, known as Hanaʻula, the trail likely continued along the summit ridge to intersect with the inland Olowalu-Puʻu Kukui-Waiehu "overland" trail (C. E. S. Handy and Handy 1972:490). Beyond its utility in traversing the West Maui Mountain range, Folk and Hammatt (H. H. Hammatt 1991:17) propose that Kealaloloa may have granted access to more humid upland environments conducive to agriculture. Mauka to makai trails have been observed on adjacent ridges of Kealaloloa (Robins et al. 1994); however, it appears that the more accessible portions of the Kealaloloa trail itself have been obliterated by modern usage.

The cultivation of loʻi within the irrigated regions of Olowalu Ahupuaʻa, along with the addition of dry land crop staples from the kula areas and coastal resources, would undoubtedly have sustained a considerable population. The 1832 missionary census shows the total population of Maui as 35,062, and gives the following population counts: Lāhainā, 4028; Ukumehame, 573; and Olowalu, 832 (Schmitt 1973). When aggregated, these three figures encompass 15 percent of Maui's total population. Considering potential distortions post-contact (such as diseases and population shifts driven by commerce), the population totals of 1832, along with the aforementioned assertions regarding arable agricultural plots, imply that this area of Maui probably housed a significant portion of the island's population before Western contact.

Further evidence of agriculture and habitation lies in the findings from one of Maui Island's initial archaeological surveys, led by Winslow Walker of the Bishop Museum, highlighting the widespread existence of loʻi (taro patches) and ancient dwellings throughout the Olowalu Ahupuaʻa. This study enhances our understanding of traditional agriculture and settlement by pinpointing the physical remnants of terraces and residential areas within the valley, as detailed in the subsequent account (Walker 1931):

> “Terraces for the cultivation of taro were seen on West Maui in the vicinity of... Lāhainā, Olowalu, and Ukumehame.” (71)

> Above Mrs. Nahoʻoikaika's house (at Olowalu), old taro patches and house sites, old auwai (traditional Hawaiian irrigation ditches) were used for sugarcane ditches...at the edge of a house platform (15 by 28 feet) there is a large red stone used as a papamu for konane. (77)

Additionally, a moʻolelo about Kalaepuni, a strong, mischiveous man who vowed to kill all the high-ranking aliʻi of Hawaiʻi, underscores the significance of Ukumehame as a vital agricultural trade hub that extended beyond the shores of the mokupuni of Maui. Kalaepuni fights a group of sharks from Kauhola on Hawaiʻi Island across the ʻAlenuihāhā Channel to Kahoʻolawe where he meets an old couple living at Keanapou and the following exchange occurs:

> Kalaepuni then asked the old people: "Have you any food?" The old people said: "No, there is no food in this place. The only food that you can get in this place is what is brought here in canoes. When any one comes from Honuaula or Ukumehame, then we get food. The only food that grows here is the kupala." (Fornander 1918a:202, underlining for emphasis)

3.1.4.2 Ka ʻOihana Lawaiʻa no Olowalu a me Ukumehame

The greatest treasure trove of descriptions regarding native fishing traditions was compiled by the Hon. Daniel Kahāʻulelio, born in Lāhainā at Wailehua in 1835, for *Ka Nupepa Kuokoa* and ran as a series for five months in 1902. Kahāʻulelio, having graduated from local schools and finally, from Lahainaluna College in 1855, was a teacher, legislator, and judge, but is most well known for his descriptive accounts of fishing practices through his own experiences and knowledge (Kahāʻulelio 2006:XI).

As a native son of Lāhainā, the majority of Kahāʻulelio's traditions have an intimate relationship with that place. One such tradition describes the communal, cooperative pakū (curtain) net fishing that was practiced at Unahi in Olowalu to catch akule (*Selar crumenophthalmus*). Although they are usually known as deep sea fish, akule occasionally came close to shore in Unahi at Olowalu and could be seen from shore, making the waters red. It was at this time that those who were not skilled at akule fishing could be successful at catching them. The skilled lawaiʻa (fishermen) of Olowalu are described in the following:

> When the fishermen who are well-supplied with papa (bag) and pākū (curtain) nets see the fish, they call for their canoes, or boards today, and go out to surround the fish with the nets. Two canoes would go ahead and they carried the curtain nets. The head fisherman watches from the shore and when he sees that they have reached the right places, he makes signs by waving his hands. The curtain nets are lowered and every effort is made to draw them shoreward. If the fish are surrounded in this time that the net is lowered, then the bag net is quickly set in place, for the fish are excited then. At this time, no one is allowed to speak nor to make a noise on the canoe until the space in the net begins to decrease. (Kahāʻulelio 2006:201)

Kahāʻulelio attested to further fishing traditions in the Olowalu area where the ocean from Lāhainā to Maʻalaea was referred to as Kai-o-Haui (Sterling 1998:5), noting the people were also known for mamali ʻōʻio fishing along the reefs and shorelines stretching from Māʻalaea to

Kūnounou in search of ʻōʻio *(Albula glossodonta*). They used hooks for this type of fishing unlike other places where nets were used to catch ʻōʻio (Kahāʻulelio 2006:141). Aku (*Katsuwonus pelamis*) fishing for those of Ukumehame, Olowalu, and all of Lāhainā, prior to the arrival of the missionaries, was carried out five to seven miles from the coast with the pā hook and a bait carrier (malau) filled with *ʻiao* (*Pranesus insularum*) (Kahāʻulelio 2006:25).

Fishing koʻa and triangulation points based on landmarks that fishermen could see while on the ocean were extremely important to the success of a catch. Kahāʻulelio explains about one such expedition using these points that he took off the coast of Olowalu:

> "Where are we?" asked Kauka Wilder. "Almost there." "If so point it out to me." I told him, "Watch until this point on Lanai and Kalaau point seem to kiss each other and when the place where yonder man stands by the stream of Launiupoko seem to be by the side of Olowalu, then tell the man to let down the stone anchor." Ten minutes after I had showed Kauka Wilder the land marks, we heard him call out to let down the stone anchor. Alapaki asked in English, "How do you know the mark?" "Myself... When the anchor reached the bottom I let down my line. The current drew toward the cape of Kealaikahiki, I said to Alapaki, "There is lot of fish below." "How do you know?" "I know this is the current that brings fish to this ground." There is Kawaawaa which is about seven miles from Lahaina. (Maly and Maly 2003:123)

Fishponds, or loko iʻa, were also important parts of the subsistence of Olowalu. Ka Loko Iʻa o Kapāʻiki was an aquaculture resource that was meant for the aliʻi. The location of the fishpond is mentioned by Smith: "Remains of an inland fishpond... rest near Olowalu shoreline" (2011:9). "The land where Kalola's kauhale stood in Olowalu is on Saffery land, near the Loko o Kapaiki" (2011:12). Fishponds and other types of fisheries like the oʻopu fishery in Helu 10128, provided further sustainable sources of fish protein for the aliʻi and people of the Olowalu area (see Figure 3-2 and Figure 3-3).

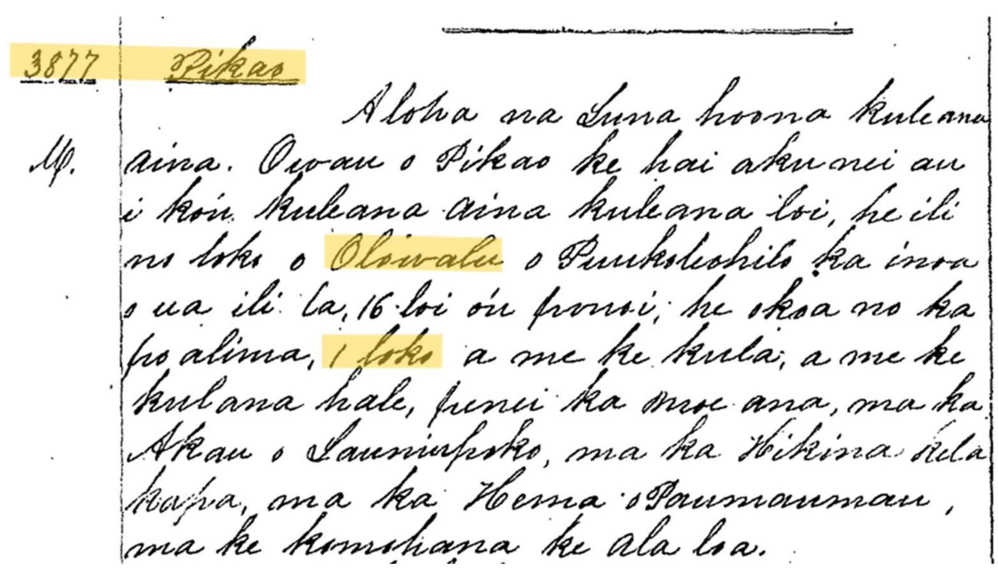

3877 Pikao
Aloha oe Luna hoona Kuleana
Mo. aina. Owau o Pikao ke hai aku nei au
i kou Kuleana aina kuleana loi, he ili
no loko o Olowalu o Puukoleohilo ka inoa
o ua ili la, 16 loi ou pono'i; he okoa no ka
poalima, 1 loko a me ke kula; a me ke
kulana hale, penei ka moe ana, ma ka
Akau o Launiupoko, ma ka Hikina Kula
kapa, ma ka Hema o Paumaumau,
ma ke komohana ke ala loa.

Figure 3-2: Native Register Claim by Pikao for Helu 3877. Highlighting for emphasis of the loko claimed in Olowalu. [Native Register, Reel 3, Volume 6, Image 01293 (Office of Hawaiian Affairs 2011)].

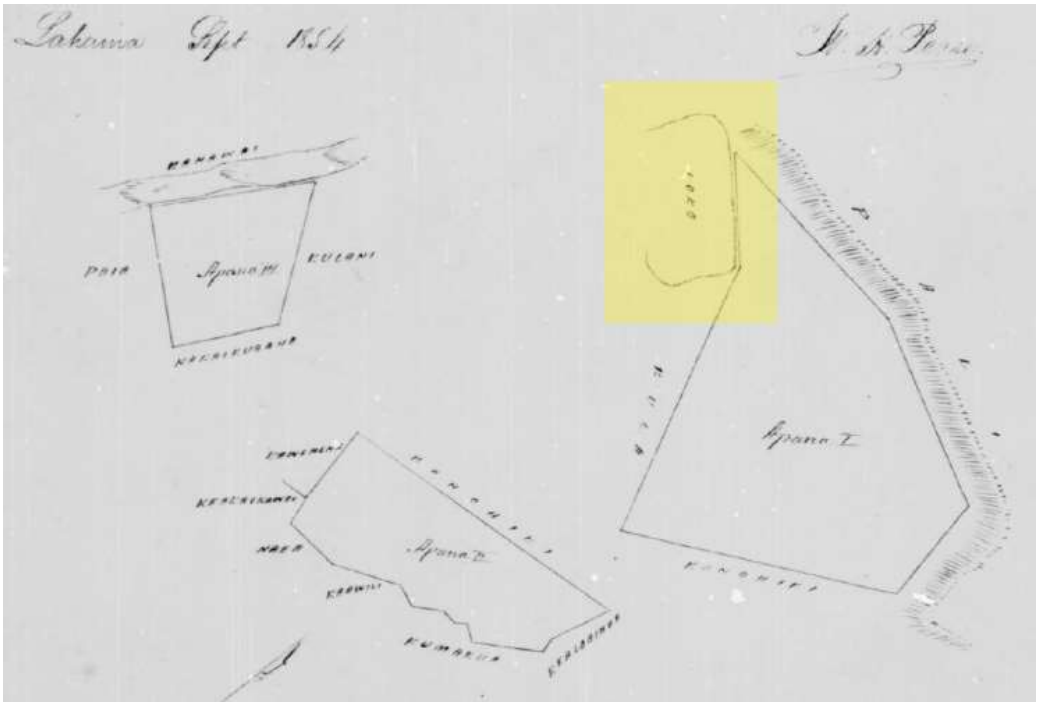


Figure 3-3: Māhele Award to Keahi for Helu 4376 showing the loko next to Apana 1. [Māhele ʻĀina Index, Reel 10, Volume 8, Image 00124 (Office of Hawaiian Affairs 2011)].

3.1.4.3 Politics and Warfare

Revolution, rebellion, and usurpation is a theme throughout the stories of chiefly lines in the Hawaiian Islands. Tales of wars and the many battles that ensued, sometimes stretching across vast geographical areas and over many years, extend the breadth of histories that have been transmitted through the ages. Frequently told, retold, and then documented by historians and scholars like Samuel Kamakau, these moʻolelo about the forging of power, chiefdoms, and geneaologies open another perspective into the biocultural landscape.

As the island second in landmass in the Hawaiian archipelago, Mokupuni o Maui played a pivotal role as a major hub for political advancements during the pre-contact and early historic eras (Patrick V. Kirch 1985:135). Numerous battles occurred between the polities of Maui Island and Hawaiʻi Island, with the earliest conflicts predominantly concentrated on Maui's east coast. There was a period of relative peace under the reign of King Kekaulike, however, following his death in the early 18th century, tensions resurfaced between the chiefs of Maui and Hawaiʻi. These tensions lead to conflicts that brought long, bloody battles closer to the present study area.

3.1.4.3.1 The Battles of Kamehameha-nui and Kahekili

The lands of Lāhainā, stretching from Ukumehame to Māla became the backdrop of one such war when after the death of their father, Kekaulike, Kauhiʻaimokuakama, the brother of the Maui heir, Kamehameha-nui, attempted to usurp his brotherʻs rule. After an initial defeat, Kamehameha-nui turns to his uncle, Alapaʻi, ruler of Hawaiʻi Island, to form an alliance to win back Maui. The preparations take more than a year, but when the war is again taken up on Maui,

we find Kauhiʻaimokuakama hunkered down in Lāhainā. Kamakau writes about remarkable seige tactic employed by Alapaʻi:

> What was the war like? It employed the unusual method in warfare of drying up the streams of Kauaʻula, Kanaha, and Mahoma [Kahoma] (which is the stream near Lāhaināluna). The wet taro patches and the brooks were dried up so that there was no food for the forces of Ka-uhi or for the country people. Alapa'i's men kept close watch over the brooks Olowalu, Ukumehame, Wailuku, and Honokowai. (1961:74, underling for emphasis)

Bloody battles were fought throughout the lands of Lāhainā moku and the war ended at the fiercest encounter at Puʻunēnē near Mailepai in Kāʻanapali. Alapaʻi and Peleioholani, the Oʻahu ally of Kauhiʻaimokuakama whom Alapaʻi had defeated once before, both having lost many men to the slaughter, agreed to peace. After this immense bloodshed, Kamehamehanui became the ruling chief of Maui, and unlike his brother, he was not overly ambitious, nor a lover of war, heralding a time of peace during his reign.

Following his rule, however, Kahekili, a powerful and ambitious chief of Maui, once again took up the bloody mantle of war. By 1786, Kahekili ruled Maui, Oʻahu, Molokaʻi, and Lānaʻi (Kamakau 1961:159). Two battles are noteworthy for their significance to the entirety of Maui, as well as the following impacts of unification, and their connections with the study areas. The first great battle was "Ahulau ka piipii i Kanikanilua," also referred to as Kakanilua, fought on the sand dunes of Kalua in Wailuku where the famous Hawaiʻi Island regiment, the Alapa, consisting of highly trained, artisocratic warriors, was defeated by the soldiers of Kahekili (E. M. Nakuina 1904:59). Nakuina states that of the 800 warriors that were sent to Wailuku, only two were spared by Kahekili to act as tale-tellers to Kalaniopuʻu (E. M. Nakuina 1904:60).Upon this great defeat, Kalaniopuʻu sent his great warrior, Kamehameha, who would later unite the Hawaiian Islands under a single ruler, to the puʻuhonua of Olowalu where the sister of Kahekili and the wife of Kalaniopuʻu, Kalola Pupukahonokawailani, resided (Kamakau 1961:85-88; Smith 2011:11). Joseph Mokuhai Poepoe (in Sterling 1998:24) relays this story about Kamehameha and the other Hawaiʻi chiefs at Olowalu:

> Four days after the battle of Kakanilua the chiefs of Hawaii received a kind of welcome from King Kahekili of Maui. Kahekili told the Hawaii chiefs to pause awhile on Maui and rest. The land which Kahekili gave them is the place where they stayed. It was Puuokapolei at Olowalu. Their division of land reached as far as Lahaina.

Many years later, after the death of Kalaniopuʻu and the ascension of Kamehameha to ruler of Hawaiʻi Island, the ambitious chief returned to Wailuku with thousands of warriors to further the conquest of the islands and avenge the death of the Alapa (E. M. Nakuina 1904:60). With the aged Kahekili on Oʻahu and thereby unable to lead his warriors, the soldiers of Kamehameha, armed with cannon, cornered the Maui island defenses in the narrow pass of Īao where they were slaughtered (Kamakau 1961:148). This battle is known as Kepaniwai (the damned waters) because the many bodies of the slain Maui warriors and commoners dammed the river of Īao

Valley (Kamakau 1961:149; E. M. Nakuina 1904:60). Smith further relays details that connect Kepaniwai with Olowalu:

> Kalola watched the great Battle of Kepaniwai from a panoramic flat area in the back of ʻĪao Valley called Manienie. Kamehameha stormed Maui with over twenty thousand men, and after several battles Maui troops retreated to ʻĪao Valley. ʻĪao was not only a geographic stronghold; it was the burial place of Maui's ancient rulers, from twelfth century Kapawa to Kalanikuihonikamoku, who died in 1736. When the sacred valley was penetrated by Hawaiʻi warriors, Kalola, her family and seven high chiefs of Maui escaped through the pass to Olowalu, where they boarded canoes for Molokaʻi and Oʻahu. (2011:12)

Among those that escaped from the battle through the overland pass to Olowalu was the young granddaughter of Kalola, Keōpūolani, who would later become the most sacred wife of Kamehameha and birth his ruling heirs, Liholiho (Kamehameha II) and Kauikeaouli (Kamehamemeha III). Keōpūolani would prove instrumental to the end of the ʻai kapu (eating taboo) and was one of the first converts and native evangelists of Christianity (Richards 1825). A differing account of her escape to Olowalu from the one offered above by Smith is relayed in Fornander:

> Kalanikupule, his brother Koalaukani, Kamohomoho, and some other chiefs escaped over the mountain and made their way to Oahu. Kalaniakua, Kekuiapoiwa Liliha, and her daughter Keopuolani, crossed over to Olowalu, where they joined their mother, Kalola, and after a hurried preparation they all left for Molokai, and took up their residence with Kekuelikenui at Kalamaula. (Fornander 1880:237, underlining for emphasis)

3.1.4.3.2 The Olowalu Massacre

During the five-year span from Cook's arrival in Hawaiʻi to the event precipitating the Olowalu Massacre, the waters surrounding the islands bustled with foreign ships, including those deemed "friendly" and others with intentions described as "bent on destroying men and governments" (Kamakau 1961:144). The *Eleanora* arrived from Liverpool, England in February 1790, and found anchorage off the shore of Honuaʻula (Kamakau 1961:145). Kalola, now remarried to Kaʻopuiki after the death of Kalaniopuʻu, was staying at Honuaʻula when the *Eleanora* and her captain, Simon Metcalfe, arrived and these precipitous events occurred:

> Ka-ʻopu-iki was glad to go on board to trade for iron, muskets, and red cloth; but muskets were the objects he most desired. The people brought in exchange hogs, chickens, potatoes, bananas, and taro. Night fell before they had finished their bargaining, and the next day Ka-ʻopu-iki and others went out again to trade further; but the strangers were unfriendly and beat them off with ropes. When Ka-ʻopu-iki heard from the people of Honuaʻula about the small boat which it was customary to keep tied to the back of the ship, he determined to steal the boat at night. At midnight when the guard on the skiff and the men of the ship were sound asleep, Ka-ʻopu-iki and his men cut the rope without being seen from the ship. As they were towing it along, the guard awoke and called out to those on board the ship, but he was too far away to be heard; he was killed and his body thrown into the sea. The boat was taken

> to Olowalu and broken up, and the iron taken for fishhooks, adzes, drills, daggers, and spear points.
>
> The next morning when the men on the ship awoke and found both skiff and watchman missing and realized that the boat had been stolen and the watchman killed, they shot off the cannon upon Honuaʻula and killed some men, among them a peddler from Wailuku, named Ke-aloha, who had come to Honuaʻula to peddle his wares. Two men were held on board the ship, one from Honuaʻula and one from Olowalu, perhaps because these men had given information about the theft or perhaps because the foreigners suspected that Ka-opuiki and the others … were from Olowalu, [and] were responsible for the theft. That evening they sailed to Olowalu, and in the morning Ka-lola declared a tabu restricting canoes from going out to the ship on pain of being burned to death of they disobeyed. "Withered grass" (Mauʻuae) was the name of this law…on the fourth the tabu was ended, and canoes in great numbers went out to trade with the foreigners … Little did they suspect the terrible carnage that was to follow, a carnage without any effort to apprehend and punish the offenders or any pity for the innocent. So these Christians murdered the Hawaiian people... the captain was pretending to trade, and the people were busily eyeing the objects they desired, just as Aka-kane and another man had climbed upon the deck, the ship opened fire and shot the people down without mercy... Even those that swam away were shot down. At noon that day the *Eleanor* sailed, and the people went out and brought the dead ashore … and the dead were heaped on the sands at Olowalu. Because the brains of many were oozing out where they had been shot in the head, this battle with the ship *Eleanor* and her captain was called "The spilled brains" (Kalolopahu). It was a sickening sight… (Kamakau 1961:145-146)

The arrival of the *Eleanora* holds great significance in Hawaiian history, not only due to the tragic event of the Olowalu Massacre but also because of the presence of John Young aboard the ship. Alongside Isaac Davis, Young would rise to prominence as an aikāne punahele (favorite companion) of Kamehameha I, both playing pivotal roles as leaders in the wars of unification that ultimately brought all the islands under a single ruler. Both Young and Davis manned the cannon that slaughtered the Maui warriors at the battle of Kepaniwai (see 3.1.4.3.1). This drive for unity resulted in a shift from the traditional sociopolitical system of various complex chiefdoms to a monarchy under the Kamehameha lineage, paving the way for rapid transformations throughout the islands.

3.1.4.4 Heiau and Religious Sites

As alluded to in previous sections (see Section 3.1.3), Olowalu was considered a puʻuhonua for all of Maui and, in the case of Kamehameha after the battle of Kakanilua (see Section 3.1.4.3.1), for visiting chiefs, as well. As defined by Pukui and others, a puʻuhonua is a "place of refuge, sanctuary, asylum, place of peace and safety" (1986:358). According to ethnohistorian Marion Kelly, puʻuhonua inherited their power of asylum and protection from the high chief associated with it and were often overseen by priests who could call out the name of the aliʻi and invoke the spiritual, sacredness of that individual, protecting those within (1986:148-150). Aliʻi, themselves, could be considered puʻuhonua, protecting people who made themselves prostrate before them (Bryan et al. 1986:148). The puʻuhonua of Olowalu is mentioned, along with many others

including Lahaina, as a place where people could escape (pakele) and enter freely (ke komo) (Pogue 1858:21). Kelly states that "in Hawaiʻi the institution of the puʻuhonua was much more fully developed than in any other area in Polynesia, with the one possible exception of Tonga" (1986:150).

Olowalu and Ukumehame are also home to several different types of religious sites, including heiau. Kaiwaloa (also referred to as Kawaialoa) heiau is located at Olowalu and measures 51 x 32 meters and has been understood as a site where significant religious ceremonies took place, often attended by high priests and ruling aliʻi from the Lāhainā moku region (Smith 2011:10). In a presentation given to the Maui County Cultural Resources Commission, Kaiwaloa is determined to be a luakini (the highest and largest class of heiau often associated with human sacrifice) based on the design and size of the structure (Planning 2012:16). According to Smith, a system of terraces and loʻi close to Olowalu Stream in the upper valley has been interpreted as a rare "Hale o Papa" or women's heiau (2011:10) which was traditionally positioned in alignment with Kaiwaloa that, as a luakini, would have been the ceremonial kuleana (responsibility) of the kāne (men) of high-rank (Planning 2012:16). Only the highest ranking men and women of the area would have been allowed into their respective heiau to observe the rituals and ceremonies within.

Ukumehame has two documented heiau, one which is unnamed with many graves inside of it, and the other, Hikiʻi (sometimes Hekiʻi) heiau, named after Chief Hikii (Thomas G. Thrum 1917:128). According to Thrum's 1917 informant, Kaahui, Hikiʻi is located:

> On a knoll east side of the stream about a mile from the sea and 200 feet elevation. Northwest and northeast walls changed and interior used for grave-yard. Two remaining walls would indicate a sixe of 55 feet square. (Thomas G. Thrum 1917:128)

3.1.4.5 Puʻu Kīlea Olowalu Petroglyphs

Located nearly a mile inland of the Olowalu coastline, Puʻu Kilea is a hill derived from a fissure eruption of fine-grained volcanic rock (Powers 1920:270). On a cliff face just below the hill, on Olowalu gulch's east side are shallow human, dog, and sail figures pecked into the rock surface (P.V. Kirch and Babineau 1996:64).

The Olowalu petroglyphs are similar to others found on Maui with the ancient cliff site exposed to moisture that creates a patina on the surface of the rocks that can be "bruised" to knock away the surface layer, "which tends to produce broad, unformalized, rough-edged images" (Cox and Stasack 1970:10). The compact surface of the cliff side results in the bruised images showing up as discolorations as the moisture created patina continues to darken the shallow images.

Cox and Stasack presented a thorough study of Hawaiian petroglyphs that attempted to explain the function and meaning of the rock pictures, positing they could have been for:

> (1) Recording of trips and communication concerning other events, on trails and at boundaries; (2) A concern for insuring long life and personal well being; and (3) The commemoration of events and legends. (Cox and Stasack 1970:13)

> "The petroglyphs reflect a population factor, most of the sites being near the shore on the trails between the habitation sites"(Cox and Stasack 1970:24).

Further in the study, Cox and Stasack also suggested that the original cultural context of petroglyphs may have evolved as the creation and use of them continued. They state:

> After the first one or two pictures were made by passing travelers, others might have been made simply from the stimulation of the existing example-by suggestion. In time the making of the petroglyphs at the rest riste could have become a custom or even a magic action, required for luck, well-being, or safety. In this view the reasons for creating the first petroglyphs at the site may be immaterial; rather, the meanings and reasons grew out of or became attached to the continued activity. (Cox and Stasack 1970:25)

3.2 Western Contact and 19th Century Culture Change

Although there are no written accounts of contact with the expeditionary forces of Captain James Cook in West Maui, it is documented that the English ships were encountered in the waters of Haaluea off of Wailuanui in East Maui at the time of Kalaniopuʻu's campaign against Kahekili (*Ka Moolelo Hawaii* 1838:9). Later, the H.M.S. Discovery under Captain George Vancouver landed in Lāhainā in 1793 whereby Archibald Menzies, the ship surgeon and naturalist, took detailed notes of his time spent collecting plants and admiring the agriculture he described as "cultivated and watered with great neatness and industry" (Menzies 1920:105).

In an 1846 census of Lāhainā, several demographic and societal changes are documented, reflecting the transformations occurring in the area during the mid-nineteenth century. The census recorded 3,445 Hawaiians, 112 foreigners, and 600 seamen, alongside 155 adobe houses, 822 grass houses, 59 straw and wooden houses, and 529 dogs. This data illustrates a notable presence of both indigenous and non-indigenous inhabitants in the region. With an influx of foreigners into Lāhainā, there emerged a necessity to augment the traditional agricultural surplus, primarily overseen by the aliʻi class, to meet the demands of economic trade.

An article in the Pacific Commercial Advertiser dated February 12, 1857, highlights the growing Western influence in the area:

> The anchorage being an open roadstead, vessels can always approach or leave it with any wind that blows. Vessels generally approach through the channel between Maui and Molokai... To whale ships no port at the islands offers better facilities for all their business (with the exception of heavy repairs) than does Lahaina. S it is on this island, and but a short distance that the extensive potato fields are located that have furnished an almost inexhaustible supply for many years and also the large sugar plantations from which the best sugar and molasses are procured, and fine herds of cattle which dress up better than any beef slaughtered for market...
>
> ...Fruits are generally abundant. The grape seems to luxuriate in the rich soil, and the sunny, clear weather of Lahaina, as it is, *par excellence*, the fruit of this place or Islands. Figs, bananas and melson are produced in abundance, and pumpkins enough for all

> New England to make pies for a general Thanksgiving. All other supplies needed by merchant or whale ships can always be procured at this port. (Advertiser 1857:2)

In 1865, an article written in *Ka Nupepa Kuokoa* regarding the view of Lāhainā from the ocean, referred to the area as a "dense large forest" with coconut, kou, banana and other trees (A. U. i. T. Lum and Rivera 2020:29), belying the cultural and economic shifts that had occurred and would continue to occur throughout the nineteenth century.

3.2.1 Foreign Transient Trade

During the reign of Kamehameha I the right to harvest ʻiliahi (sandalwood, *Santalum spp*.) was delegated to the aliʻi, who, recognizing the fragrant wood as a highly sought after commodity in China, began to change the relationship between makaʻāinana (the common people reliant on subsistent agriculture) and ʻāina (Isabella Aiona Abbott 1992:132; C. H. Hammatt 1999). Olowalu took part in the provisioning of the trans-Pacific sandalwood trade in the late eigtheenth century (C. H. Hammatt 1999). According to Smith, "When the Olowalu hills were cleared of sandalwood and hardwoods in the early 1800s, Olowalu Valley became much dryer, from mountains to shore" (2011:7-8).

Lāhainā witnessed the greatest influx of transient foreign trade with the 1819 discovery (Starbuck 1878:96) of Japanese waters rich with sperm whales to supply the immense need for whale oil during the early nineteenth century (Wong 1987:122). Japan was still operating under Sakoku (closed country), which restricted commerce and foreign relations outside of its own borders (Totman 2007). This made Hawaiʻi the closest, accessible safe harbor for American, British, and other international whaling vessels in the Pacific (Wong 1987:122). The first American whaler, the *Balena*, to find port in Lāhainā on October 1, 1819, would herald the next 40 years of whaling in Hawaiʻi. By 1822 there were at least thirty sperm whalers from America cruising the waters of Hawaiʻi, using the anchorage of Honolulu and Lāhainā to hunt the many Pacific whale species (Starbuck 1878:96; Wong 1987:122). At the peak of whaling the total number of ships in Lāhainā numbered 429 (Speakman 1978:98), creating an impact that was in direct opposition to the other foreign incursion occuring at the same time: the missionaries.

3.2.2 Christian Missions & Missionaries

According to *Memoirs of Henry Obookiah* (ʻŌpūkahaʻia), ʻŌpūkahaʻia was a young Hawaiian born in 1792 who, after the tragic death of his family, was taken aboard a ship under Captain Britnell The ship was bound for New England in America and ʻŌpūkahaʻia became one of the earliest converts to Christianity (Dwight 1819). Although ʻŌpūkahaʻia died in Cornwall, Connecticut in 1818, well before the missions he inspired made their way to his homeland, his zeal was seen as the driving force behind the American Board of Commissioners for Foreign Missions' (ABCFM) journey to Hawaiʻi. In 1820 the first mission landed on Hawaiʻi Island, and by 1823 they had established a mission in Lāhainā. With the baptism of the high chiefess, Queen Keōpūolani, heralding the acceptance of the Christian faith, the mission soon began to extend pass Lāhainā town.

The Reverend William Richards, the lead missionary of Lāhainā, having traveled with Queen Keōpūolani to Maui in 1823, established the Olowalu Mission around 1829, providing Christian meetings for the possible converts of the area. In a letter dated October 2, 1830, authored by Rev. Richards and Jonathan S. Green, an evaluation of the state of public worship on the Sabbath was documented as follows:

> In every considerable village from one end of the island to the other, the people have erected a house for the worship of God … At Olualu [sic], a village eight miles distant from Lāhainā, we have preached during the season, nearly thirty sermons to a congregation of five to six hundred. This and a single Sabbath at Kanepale, a village equally distant from Lāhainā in another direction, is all that we have been able to do for the people on this side of the island … The congregation at Olualu [sic] listen with seriousness to the preaching of the gospel. A few teachers of schools there have formed themselves into a Bible class, who have been instructed in the interval between the services of the Sabbath. (Richards and Green 1831)

In a report to the American Board of Commissioners for Foreign Missions in 1837, an assessment of meeting-house construction in the Hawaiian Islands included a remark on the advancement in Olowalu, "A doby meeting-house, or one the walls of which are of clay hardened in the sun … has been built at Oloalu [sic], on Maui" (American Board of Commissioners for Foreign Missions 1837).

3.2.3 The Great Māhele (1840-1851)

In 1848, King Kamehameha III and 245 aliʻi (royalty) and konohiki (landlord) came together to divide the lands of the kingdom into three classifications. The Crown and the aliʻi received their land titles and awards for whole ahupuaʻa, as well as individual parcels within an ahupuaʻa, which were then subsequently formally granted in 1850 (Alexander 1890:114). The lands given to the aliʻi and konohiki were referred to as Konohiki Lands and lands retained by the King as Crown Lands. The distinction of Crown land is important and defined as:

> ... private lands of His Majesty Kamehameha III., to have and to hold for himself, his heirs and successors forever; and said lands shall be regulated and disposed of according to his royal will and pleasure subject only to the rights of tenants. (Kingdom of Hawaii 1848)

At the death of Kamehameha IV and with lack of a clear heir some confusion as to the inheritance of Crown lands and whether or not it followed the family line or the throne. It was decided by the Supreme Court that under the confirmatory Act of June 7th, 1848, "the inheritance is limited to the *successors* to the *throne*," "the wearers of the crown which the conqueror had won," and that at the same time "each successive possessor may regulate and dispose of the same according to his will and pleasure as private property, in the manner as was done by Kamehameha III" (Alexander 1890:121).

The third classification of lands partitioned out was termed Government lands that were defined and set aside for management in the following manner:

> ... those lands to be set apart as the lands of the Hawaiian Government, subject always to the rights of tenants. And we do hereby appoint the Minister of the Interior and his successors in office, to direct, superintend, and dispose of said lands, as provided in the Act ... (p)rovided, however, that the Minister ... shall have the power, upon the approval of the King in Privy Council, to dispose of the government lands to Hawaiian subject, upon such other terms and conditions as to him and the King in Privy Council, may seem best for the promotion of agriculture, and the best interests for the Hawaiian Kingdom ...(Kingdom of Hawaii 1848)

In 1850, most of the chiefs ceded a third of their lands to Kamehameha III in order to obtain an allodial title for the remainder. The majority of these lands were then placed into the Government land base (Alexander 1890:114). The designation of lands to be set aside as Government lands, paved the way for land sales to foreigners and in 1850 the legislature granted resident aliens the right to acquire fee simple land rights (Moffat and Fitzpatrick 1995:41-51).

In designations of lands as either Crown or Government, and through all awards of whole ahupuaʻa, ʻili, and later land sales to foreigners classified as Land Grants, the rights of the native tenants were expressly reserved, "Koe na Kuleana o Kanaka" (Reserving the Rights of Native Tenants) (Alexander 1890:114). In an Act ratified on August 6th, 1850, the gathering rights of the common people for personal use, which included the gathering of both terrestrial and marine resources, in addition to the right to water and the right of way on the lands of the Konohiki, were guaranteed and embodied in Section 10477 of the Civil Code (Alexander 1890:114-115). By this same Act, resolutions passed by the Privy Council granted fee simple titles, free of all commutation, with the exception of awards granted within the towns of Honolulu, Lāhainā, and Hilo, to all native tenants for their cultivated lands and house lots (hereafter referred to as kuleana land) (Alexander 1890:115). Claims of the native tenants, or kuleana land claims, were presented to and heard by the Land Commission whose duty was to:

> ...ascertain the nature and extent to each claimant's rights in land, and to issue an Award for the same which is prima facie evidence of title "and shall furnish as good and sufficient a ground upon which to maintain an action for trespass, ejectment or other real action against any other person or persons whatsoever, as if the claimant, his heirs or assigns had received a Royal Patent for the same." (Alexander 1890:110)

Testimonies regarding kuleana lands often encompassed claims for multiple ʻili or apana, situated both mauka and makai. These claims were cataloged under a single helu, or case number, and presented to the Land Commission for review. Kuleana land grants, known as kuleana claims, endorsed by the Land Commission, were bestowed upon occupants of the land, comprising native Hawaiians, naturalized foreigners, non-Hawaiians born in the islands, or long-standing resident foreigners who could demonstrate residency on the parcels before 1845 (hereafter referred to as Land Commission Awards [LCA]). Despite endeavors to allocate lands to the makaʻāinana, a significant portion of these lands would eventually be acquired by foreigners as compensation for services rendered to the Hawaiian Kingdom.

Although the greater part of Olowalu Ahupuaʻa was maintained by Kamehameha III as Crown Lands, there was a school lot allocated within the ahupuaʻa, and individual kuleana claims were considered with successful issuance of subsequent awards. Observing the distribution of lands awarded during the Māhele period it becomes clear that inland occupation and agricultural pursuits were widespread along the major stream gulches and upper alluvial plains. Furthermore, in Olowalu, the majority of individual kuleana claims were clustered in the upper valley, following the original path of Olowalu Stream (see Figure 3-4), and along the southeastern coastline near the mouth of the original stream location. The kuleana parcels in Olowalu claimed primary usage for agricultural pursuits, including 974 loʻi kalo, 19 mala ʻuala, 57 kauhale, as well as a paʻakai production area. In Ukumehame there were 33 awarded parcels that included 508 loʻi kalo, 10 mala ʻuala, and 18 kauhale in the adjacent valley. These land claim testimonies further affirm that loʻi were cultivated in the wetter gulch basins adjacent to streams and kula crops, or kihapai, presumably along the dryer, upper alluvial plains growing sweet potatoes, wauke, and dryland taro.

The coastal areas' claims mainly comprised house sites with home gardens, along with one notable claim for “he wahi kaka paʻakai” or a place for pounding salt (Helu 10128, E. Maui). References to adjunct poalima, or agricultural lands tended for the aliʻi, and konohiki lands are also included in the claims or testimonies summarized in Table 3-2 and Table 3-3 (Helu 3772, Alapai; Helu 8867, Kapaakea).

Two mentions of loko (ponds) within the Olowalu region were documented: Helu 3877 claimed by Pikao (see Figure 3-2) and Helu 4376 awarded to Keahi. There is the community acknowledged presence of Kalokoiʻaokapāiki on the Ukumehame side of the ahupuaʻa, however, it seems that there was an additional inland pond situated on the Launiupoko side of the ahupuaʻa boundary. Both ponds are clearly depicted on a 1906 map of the Olowalu Sugar Plantation by Alexander (see Figure). This additional pond is also found on the metes and bounds map of Helu 4376, Apana 1 to Keahi (see Figure 3-3).

As mentioned previously, despite efforts to allocate lands to the makaʻāinana, aliʻi control of the majority of lands persisted, and, as future developments would show, much of these lands would ultimately be acquired by foreigners for sugarcane enterprises. For Olowalu a total of 91 claims were presented to the Land Commission. Only 13 claims were fully awarded, 17 were partially awarded, and the remaining 61 were not awarded at all.

The following Māhele ʻĀina tables summarize the land claims that could be found for the ahupua’a of Olowalu and Ukumehame. The tables list, when available, the acreage, resources present, and whether the claims were awarded.

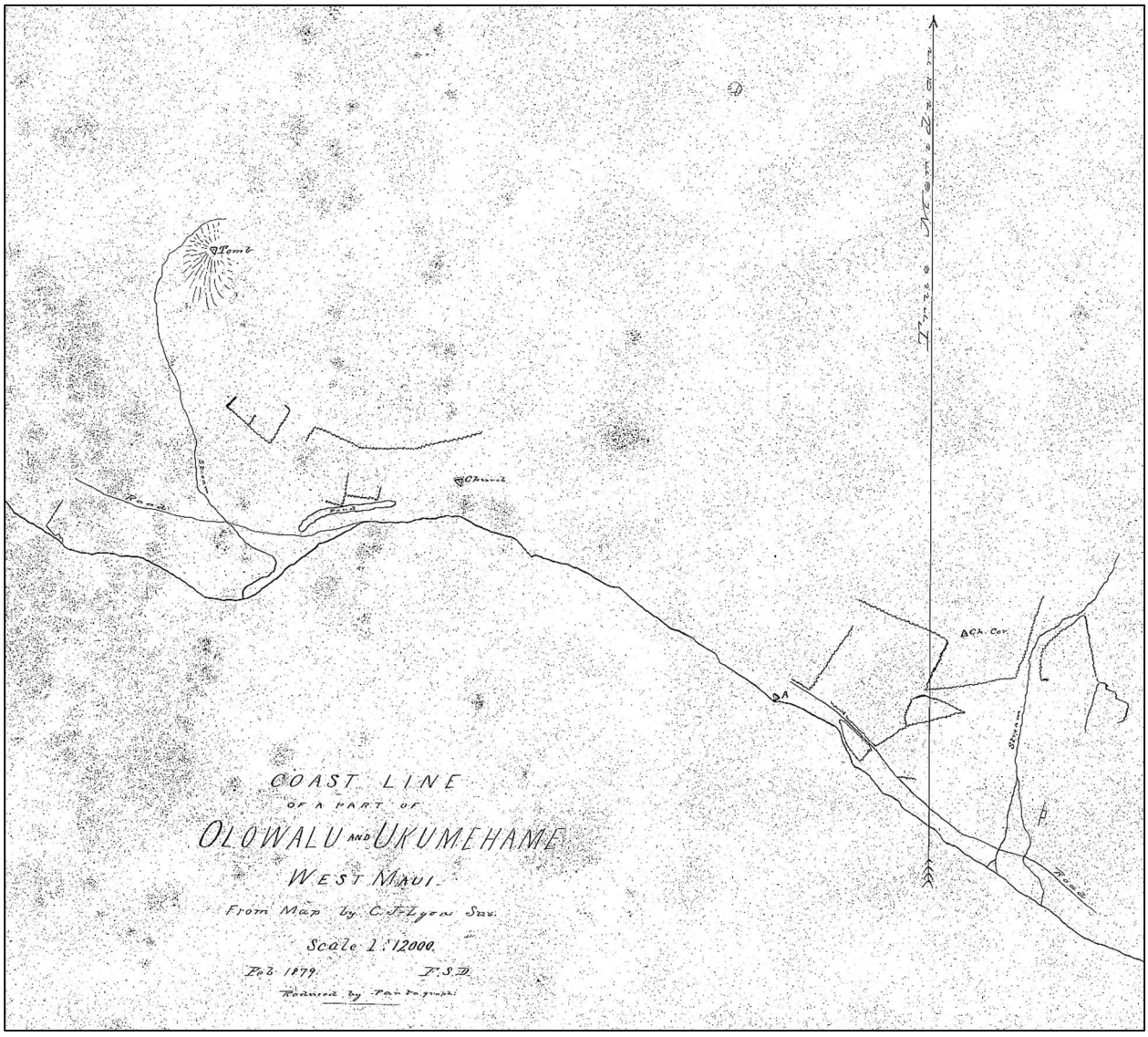


Figure 3-4: Original route of Olowalu Stream as surveyed by Lyons (Dodge 1879).

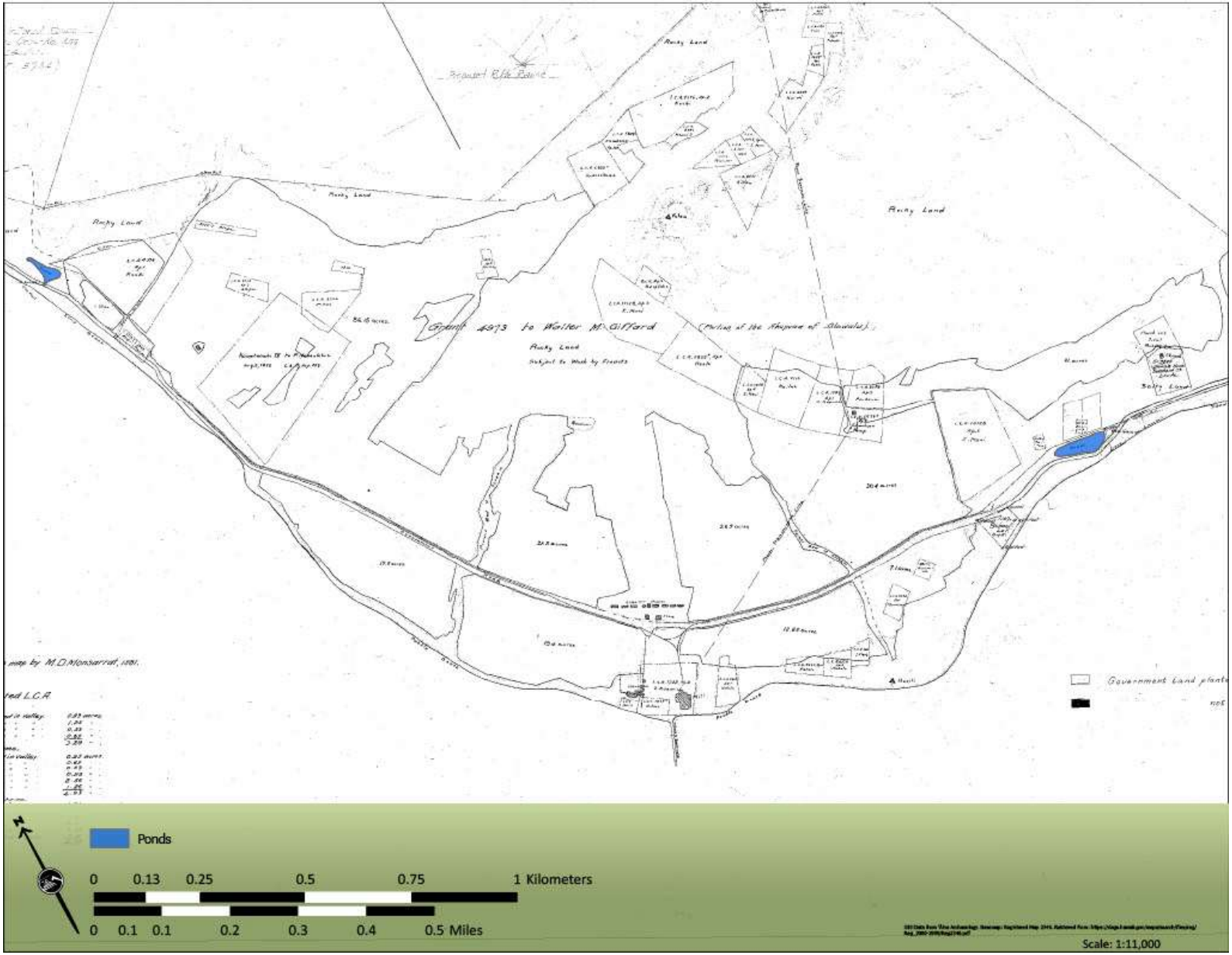


Figure 3-5: Map showing location of both loko in the project area.

Table 3-2. Māhele ʻĀina Claims for Olowalu

Helu	RP	Claimant	Ahupuaa	Ili	Land Claim	Awarded	Acreage
240		John Clark	Olowalu	Honuaula, Kaluakanaka	**LCA**: permission from Kekauluohi **FT**: House lot built in 1845, provided to J. Clark because it was barren unfarmed land	Yes	survey done by J. Metcalf says area is 721 fathoms - 28 feet; Apana 1: .595 Ac 28 ft
342		Kaauwai, Z.	Olowalu	Kamani/Keawanui/Wailoa/Kaluaaha	**NT**: 3 lots received in 1843 in different ili of Olowalu (Kamani, Keawanui/Wailoa)	No	
358		Kawehena	Olowalu		refer to 5829E	No	
386		Kaweawea	Olowalu	Honokowaikukui	**NT**: pahale, 1 hoi pa	Yes	Apana 1: 26 rods; Apana 2: 1 rood 34 rods
475		Mu & Paahana	Lahaina	Puako	**NT**: 15 loi in Wailoa mauka, 1 pahale (may be shared and claiming 1/2 for each family) **FT**: house lot,	No	
479		Peekauai	Olowalu		**NT**: reference to second plot (5829C or 6058)	No	
495		Kauahuliwaa	Olowalu	Kamani 2	**FT**: 5 pieces of land, #1 is kalo land in Kamani 2, #2 is a house lot in Kamani, #3 is kula land Kamani 3, #4 is kula lani in Kamani 3	No	
603	1724	Hoonaulu	Lahaina		**NR**: pahale in Waiahao, **FT**: disputed land in Lahaina that was heard on Oahu as well as Maui.	Yes	Apana 1: .12 acre
1742		Kaauwai, Z	Olowalu	Wailoaiki Wailoanui	**NT**: 2 ili aina of his wife (Lale) **FT**: land was two ilis belonging to his wife who received the land from her first husband Hauhani, #1 is kalo land with kula land with a poalima loi within, #2 is kula land, #3 is kula land up mauka	Yes	Apana 1: 2 Eka, 3 Ruda, 36 Roda Apana 2: 3 Eka, 1 Ruda, 22 Roda
3288		Mu	Olowalu		**FT**: also a part of helu 475, 15 loi in Haleu (?)	No	
3300		A. Moku	Olowalu		**NT**: Apana 1: Ili of Paehala no house, Apana 2: Ili of Kamaneo **FT**: relinquished this claim for claim 4878 part 34,	No	
3726		Malaea	Olowalu	Puukoleohilo	**NR**: 24 loi in Puukoleohilo, 2 puhalalei, 1 kahuahale **FT**: piece of kalo land	No	
3742		Waa/ Kauahuliwaa	Olowalu	Kamani 3	**NR**: 24 loi, 5 uala, 1 pahale, **FT**: #1 is a house lot, #2 is a kalo land, #3 is kula land, #4 is kalo land, #5 is kula land	No	

Helu	RP	Claimant	Ahupuaa	Ili	Land Claim	Awarded	Acreage
3772	6285	Alapai	Olowalu	Puukoliolio	**NT**:4 apana in the ili of Puukokohilo and 1 apana in Keomokua in Olowalu. Received land from parents. #1 pauhale mauka alanui Aupuni, #2 Kula land mauka Paahao, #3 Kula land mauka Paahao, #4 Kalo land mauka poalima, #5 Kalo land in Keomakua mauka Keahi mā **NR**: 1 loi, 3 uala, 1 kauhale in Puukoleaohilo, 4 puhala moena, 1 puhala **FT**: In the ili of Puukoleohilo, #1 is a house lot in Puukoleohilo, #2 is kula land in the same ili, #3 is additional kula land in the same ili, #4 is kalo land in Puukoleohilo, and #5 is kalo land in Keamekua	Yes	Apana 1: not specifically listed Apana 2: 3 Ruda, 27 Roda Apana 3: 2 Ruda, 22 Roda
3811		Lupe	Olowalu	Puuheleohilo (?) Puukoleahi	**NT**: 28 loi, 3 puhala, **FT**: #1 is a pauka of kalo land, #2 is a pauka of kalo land	No	
3858		W. Piiku	Olowalu	Kamani 3	**NT**: #1 is pauku kalo, #2 is also kalo **FT**: #1 is a section of kalo land, #2 is a section of kula land	No	
3877		Pikao	Olowalu	Puukoleohilo	**NR**: 16 loi, 1 hale, 1 loko **FT**: claim already heard under his heir, (4376 - Keahi)	No	
3888	6620	Paniooi	Olowalu	Kuekue	**NT**: 3 Apana, #1 kalo land in Kuekue, #2 1 Pauhale mauka alanui aupuni, #3 kula land **NR**: 13 loi in Kuekue, 2 uala **FT**: kalo land in Kuekue, house lot in Puukoliohilo, and kula land in Paapa (?)	Yes	Apana 1: 1 Ruda, 11 Roda
3935		Napoelua	Olowalu	Paumaomao	**NR**: 8 loi **FT**: kula land received by Pikao in 1834	No	
4453		Kaaihue	Olowalu	Puukoleohilo	**NT**: 3 apana, #1 is kalo land in Puukoleohilo, #2 kalo land, #3 is kula land in Papaa **NR**: 8 loi **FT**: 3 sections of land, #1 is section of loi, #2 is a section of loi, #3 is kula land in Paapaa, received from his father	No	
4459		Keaumakalani	Olowalu	Kuekue, Paapaa	**NR**: 19 loi in Kuekue, kula land **FT**: 2 sections of land, #1 is section of kalo land, #2 is kalo land	No	
4462		Kauhena	Olowalu	Kamani 3	**NR**: 1 apana with 3 kuleana loi mauka in Kamani 3 from Kaumuloa **FT**: 3 loi in Kamani 3, received land from Kaumuloa in 1843	No	

Helu	RP	Claimant	Ahupuaa	Ili	Land Claim	Awarded	Acreage
5005		Kalaipaihala	Olowalu	Maomao	no documentation outside of papakilo listing	No	
5113	3776	Kailaa, W.	Olowalu	Kamaunu	**FT**: kula land in Kamani 1	Yes	Apana 1: 4 Eka, 1 Ruda, 14 Roda
5229		Kamana	Olowalu		**NR**: 21 loi **FT**: a woman called Kamana, stated she had no claim	No	
5620	5477	Kahele	Olowalu	Maomao	**NT**: #1: kalo land, #2 kalo land, #3 kula land, #4 2 loi in Wailoa, #5 is pahale in Kaunukukahi, #6 pahale in Kaluaaha **FT**: #1 is kalo land, #2 is kalo land, #3 is kula land, #4 is 2 loi in Wailoa, #5 is a house lot in Kaunukukahi and #6 is another house lot in Kaluaaha	Yes	Apana 1: 1 Eka, 1 Ruda, 10 Roda (pahale in Kaluaaha) Apana 2: 2 Ruda, 5 Roda (aina kalo in Maomao) Apana 3: 2 Ruda, 19 Roda (aina kalo) Apana 4: 3 Ruda, 21 Roda (pahale in Kaunukukahi)
5732		Kawaaiki	Olowalu	Puolaia, Kaluaha	**NT**: #1 is kalo land mauka of Honokawaikukui, #2 is pahale **FT**: land lot in Puolaia, house lot in Kaluaaha received lands from Naea in 1834	No	
5737		Keakaikawai	Olowalu	Hawaiikokeo	**NT**: #1 is pahale, #2 is paukukalo, #3 is kula land **NR**: 14 loi **FT**: 3 sections, one a house lot, a section of kalo land and section of kula land	No	
5740		Kawehena	Olowalu		refer to 5829E		
5757		Kamakahiki / Kamukahiki	Olowalu	Kaunakukahi	**NT**: #1 is kalo land in Kaunukukahi, #2 is kalo land in Kaunukukahi, #3 is a pahale in Kaunukukahi, #4 is kula land in Kamani 1, #5 is 1 loi in Kamani 1, #6 is kula land in Kamani 1, #7 is 1 loi #8 is pahale and kula land in Wailoa, #9 is 1 loi in Hawaiikeokeo **FT**: #1 is kalo land in Kaunukukahi, #2 is kalo land in Kaunukukahi, #3 is a house lot in same ili, #4 is kula land in Kamani 3, #5 is one loi in Kamani 1, #6 is one section of kula land in Kamani 1, #7 is 1 loi in Wailoa, #8 is a house lot and kula land in Wailoa, #9 is is 1 loi in Hawaiikeokeo, received land from Laaluli in 1829	No	

Helu	RP	Claimant	Ahupuaa	Ili	Land Claim	Awarded	Acreage
5834		Kaweawea	Olowalu	Honokowaikukui	**NR**:2 pahale, 1 loi in Polapola, 23 loi, moo uala, moo pu, 6 moo kahuahale, 2 dry loi **FT**: kula land with house lot and 23 kalo patches with 2 dry patches. claimant is deceased but represented by his wife, Kamakana, house lot in Lahaina, lands in Olowalu, received in 1836 by Kahaona, also lists kalo patch in Bolabola	No	
5952	5181	Minamina	Olowalu	Kaunukukahi	**NT**: 13 loi in Kumukumukahi, **FT**: #1 is a house lot, #2 is a section of kalo land, received land from his grandfather Kekahi	Yes	Apana 1: 3 Ruda, 6.7 Roda Apana 2: 1 Ruda, 21 Roda
6058	5468	Peekauai, J.	Olowalu	Ohia Kamani Kaunukukahi	**NT**: Aina kalo, 10 loi in Ohia, 9 loi in Kanukukahi, 1 in Kamani, 2 kou trees **FT**: #1 is kalo land, #2 is kalo land, #3 is 1 loi, #4 is section of loi, received land from his parents without dispute	Yes	Apana 1: 1 Ruda, 10 Roda (aina kalo in Ohia) Apana 2: 1 Eka, 3 Ruda, 10 Roda (aina kula ma Kamani) Apana 3: 1 Eka, 3 Ruda, 10 Roda (aina kalo ma Kaunukukahi) Apana 4: 36 Roda (Pahale)
6075		Haole	Olowalu	Kamani 1/ Kumukukahi	**NR**: hale	No	
6186		Pipipi	Olowalu	Kamani 1&2 Honokowaikukui	**NR**: kula uala **FT**: 4 plots, #1 is 8 loi in Kamani 2, #2 is potato field partly fenced in by stone wall in Kamani 1, #3 is house lot in Kamani 1, #4 is is 3 loi in Honokowaikukui, received plots 1 by Maui in 1840, lot 2 and 3 by Makaeli, lot 4 by Hale in 1829	No	
6187		Opunui	Olowalu/ Ukumehame	Kamani 3/ Makenewa	**NR**: #1 is pahale, #2 is aina kalo, #3 is kula land with uala **FT**: #1 is a house lot, #2 is kalo land, #3 is kula land. Lands are disputed except for 3 loi which are claimed by Kaluuna ? (claimant 4462)	No	
6188		Kamakahiki, Z.	Ukumehame	Makenewa	**FT**: 2 pieces, #1 is 4 loi of kalo and kula land, #2 is section of kalo land received from Pikomele (?) in 1837	No	
6189		Puniia	Olowalu		**NT/FT**: claim heard under his son (6187 - Opunui)	No	
6190		Kahauli/ Kahaule	Olowalu	Kaluaaha	**NT**: #1 is kula land, #2 is paukukalo **FT**: 2 sections, #1 is kula land and #2 is kalo land	No	

Helu	RP	Claimant	Ahupuaa	Ili	Land Claim	Awarded	Acreage
6457		Kauaua (w.)	Olowalu	Kamani 3	**NR**: 1 hale, 2 wahi loi kalo **FT**: 2 pieces, the claimant is deceased and Kauahuliwa is her heir, her husband is Kanakuhaole	No	
6544		Huihui	Olowalu	Pua	**NR**: 18 loi, 1 kulanakauhale, 1 puhala **FT**: #1 is a section of loi, #2 is kula land	No	
6547		Hale	Olowalu	Kamani 1	**NR**: 21 loi, 1 kula land, 1 hale in Kamani 1 **FT**: one piece of both kula and kalo land in Kamani, received from Maui in 1840	Yes	Apana 1: 2 Ruda, 14 Roda
6728	4952	Mahulu	Olowalu	Haauwai	**NR**: 20 loi, house lot **FT**: #1 section of kalo in Kamani 3, Olowalu, #2 is a house lot and kula in Kaunakukahi	Yes	Apana 1: 3 ruda, 5 roda Apana 2: 3 Ruda, 26 Roda
6852		Punahele	Olowalu	Pua	**NR**: pahale, loi, **FT**: 2 sectons, #1 is kula land, #2 is kalo land (70 loi?)	No	
7719	7209	Haia	Olowalu	Maomao	**NT**: 3 Apana: #1 is a house lot, #2 is kula land, #3 is kalo land **NR**: 15 loi **FT**: #1 is a house lot, #2 is kula land, #3 is kalo land	Yes	Apana 1: 1 Ruda, 20 Roda
8062		N. Hue	Olowalu	Paumaumau	**NR**: loko wauke o Mimilapalapa **NT**: received from Pikao in 1833	No	
8238		Ihu	Olowalu		**NR**: 21 loi **FT**: This claim is included in 3811 (Lupe) as the claimant is deceased and Lupe is the heir	No	
8545		Kaiehu/ Kaihu	Olowalu	Puukoleohilo	**NR**: 1 pahale, 9 loi, 3 puhala in Puukoleohilo **FT**: #1 is a house lot, #2 is a section of kalo land received by Pikao in 1834	No	
8546	3353	Kaawili	Olowalu	Paumaumau	**NT**: 16 loi kalo, pahale, mala wauke in Pualaia (?), mala maia in Pahoa, 11 loi in Puukoleaohilo **FT**: kalo land,	Yes	Apana 1: 2 Ruda, 33 Roda
8573	3810	Kailiula	Olowalu	Kuekue (?)	**NR**: 6 loi in Kuekue, 1 loi in Paumaumau, 1 hale mauka ma Kamani, **FT**: #1 is a house lot, #2 is kula land, #3 is kalo loi	Yes	Apana 1: 30.8 Roda Apana 2: 2 Ruda, 4 Roda (kalo/kula land)
8585		Kealoha	Olowalu	Puukoleohilo/ Honokowaikukui	**NT**: #1 is kula land, #2 is kalo land **NR**: 1 pahale, 4 puhala, 1 hau, #1 kula land, #2 kalo land	No	

Helu	RP	Claimant	Ahupuaa	Ili	Land Claim	Awarded	Acreage
8651		Kealoaihue	Olowalu	Ohia/Kamani 3	**NR**: 2 wauke in Pualaia Lalaiole o Wahaikamoku **FT**: 4 pieces, #1 is kalo land in Ohia, #2 is kula land in Pulaia (?), #3 is kula land in Kamani 3, #4 is kalo land in Kamani 3 received land from Pupuka in 1839 but now wants it back	No	
8656		Kamakaokalani	Olowalu	Puukoleohilo	**NR**: 12 loi **FT**: #1 is one section of kalo land, #2 is 2 loi of kalo, received from Pikao in 1835	No	
8657	6881	Kikau/ Kekau	Olowalu	Kamani 2	**NT**: Apana 1: loi in Kamani 1, Apana 2: kalo land **NR**: 15 loi **FT**: piece in Kamani 1 and another in Hinaa (?) #1 is house lot and kula land, #2 is section of kalo land, received from Paawaa in1838	Yes	Apana 1: 3 Eka, 1 Ruda, 33 Roda
8668	3344/ 3811	Kaiwi	Olowalu	Kawahaohi Olelohoaka	**NT**: 26 loi, 3 wauke patches, 1 kauhale (Apana 1: loi, Apana 2: kula land up mauka, Apana 3: Kauhale mauka **FT**: #1 section of kalo land in Kamani 2, #2 is kula land in Kamani 2, #3 is a house lot in Kamani 3	Yes	Apana 1: 2 Eka, 10 Ruda Apana 2: 10 Ruda
8817	7572	Kanakaole	Olowalu	Kaunukukahi/ Kamani 1	**NT**: #1 is pahale, #2 is kula land, #3 is kalo land, #4 is 1 loi **NR**: 1 pahale, 10 loi **FT**: two pieces in Kaunukukahi and two pieces in Kamani 1. #1 is a house lot, #2 is kula land, #3 is kalo land #4 is 1 loi received from Kamakahiki in 1826	Yes	Apana 1: 1 Ruda, 24 Roda Apana 2: 7.5 Roda Apana 3: 27 Roda
8828		Kauhiokalani	Olowalu	Honokowaikukui/Puukoleohilo	**NT**: #1 is 1 pahale, #2 is 3 moo kula, #3 is a pauku kalo **NR**: 28 loi, 1 moo uala, 7 puhala, **FT**: 3 sections: #1 is a house lot, #2 is 3 moors of kula land, #3 is a section of kalo land	No	
8829		Mohaa	Olowalu	Honokowaikukui	**NT/FT**: joint owner of 8828 with Kauhiokalani **NR**: 10 loi and 3 puhala	No	
8886		H. Kuewa	Olowalu	Upai (?)/ Kuekue	**NR**: 18 loi in Kaumukahi, 18 loi in Kuekue, 2 loi in Naupaipai, 3 loi and 1 kulahale **FT**: #1 is kalo land, #2 is a kalo land, #3 is kula land and house lot and kalo land, #4 is 2 lois of kalo land	No	
8887		Kaikuaana	Olowalu	Kaulukukahi	**NR**: 21 loi on kula land, 2 poho wauke ma Kamani, 1 mahina uala, 1 kulanakauhale **FT**: #1 is kalo land in Kaulukukahi, #2 is kula land, #3 is kula land in Kamani, #4 is kula land in Kamani 3. land received by Kekaha	No	

Helu	RP	Claimant	Ahupuaa	Ili	Land Claim	Awarded	Acreage
9004		Kahalelaau	Olowalu	Puukoleohilo	**NT**: 2 Apana, #1 is kalo land, #2 is a pahale and Kula land **NR**: 24 loi, 3 puhala **FT**: #1 is kalo land in Puukoleohilo, #2 is a house lot and kula land in Paapaa received from his father, Moku	No	
9006		Kahananui	Olowalu	Kakio (?)	**NT**: 22 loi, 2 puhala, 1 kauhale **FT**: a house lot with lois received from Pikao in 1834	No	
9821		Kaleiopu	Makila		**FT**: 1 kalo land and 1 kula land	Yes	Apana 2: 1.5 Eka, 19 Roda
9906	6946	Pikao	Olowalu	Paumaumau	**NT**: Apana 1: pahale and kalo, Apana 2: kula land **FT**: #1 is a house lot and numerous loi in Paumaumau #2 is two moo of kula land in Paapa, received land from his namesake in 1837	Yes	Apana 1: 2 Eka, 2 Ruda, 32.7 Roda
9907		Kailimoku	Olowalu	Polaia, Kamani, Honokawai kukui	**NT**: #1: pauku kalo, uala in kula land #2: 2 loi mauka, #3: 1 loi mauka **NR**: 15 loi, 1 uala **FT**: #1 is a section of kalo and kula land, #2 is 1 loi in Honokawaikukui, #3 is 2 loi in Kamani received from Pikao in 1837	No	
10127		Makanialoha (w)	Olowalu	Ohia	**NT**: 1 hale and 1 apana kalo land in Ohia **NR**:14 loi, 1 Kumu Ulu, 1 niu, 2 puhala **FT**: 1 section of kalo land she received from Naea in 1834	No	
10128	4041	Maui E.	Olowalu	Wailoa Puolaia Kamani 3 Kaluaaha	**NT**: Apana 1: Kula land in Wailoa, Apana 2: Aina kalo ma Kamani, Apana 3: Kula me Kalo ma Wailoa, Apana 4: Kula ma Wailoa, Apana 5: Pahale me Kula ma Kamani **FT**: #1 is 2 loi in Puolaia, #2 is 1 loi in Puolaia, #3 is 3 loi in Kamani 1, #4 is a house lot in Kamani 3, #5 is a small piece of salt land in Kamani 3	Yes	Apana 1: 1 Eka, 1 Ruda Apana 2: 2 Ruda, 20 Roda Apana 3: 7 Eka Apana 4: 1 Eka, 30 Roda Apana 5: 8 Eka, 2 Ruda, 22 Roda
10427		Naea	Olowalu	Kamani	**FT**: has a house lot in Wailuku, has one lot in Kamani Olowalu, one lot in Makila Lahaina, one house lot in Kahana Kaanapali and one house lot in Kahua Lahaina. Olowalu lot received by Kaeo from his mother Kaaimalalo NR: Claim at Kamani, Olowalu	Yes	Unknown

Helu	RP	Claimant	Ahupuaa	Ili	Land Claim	Awarded	Acreage
10592	5187	Paia	Olowalu	Kamani 3	**NT**: 19 loi kalo, 1 uala patch in kula land, 1 pahale **FT**: #1 is a house lot and kula land in Kamani 1, received land from Kamalolo (his wife) before 1826,	Yes	Apana 1: 1 Eka, 2 Ruda, 39 Roda (relinquished ownership) Apana 2: 1 Ruda, 33 Roda (Pauku aina kalo - kamani 3)
10673		Puhilaolao	Olowalu		**FT/NT**: "no such person can be found in Olowalu or Ukumehame"	No	
10714	6611	Pohakunui	Olowalu	Kamani 2	**NR**: 24 loi in kahi kula, 1 kauhale in Kamani 2 received by E. Maui **FT**: kula and kalo land in one piece, received from Maui in 1848	Yes	Apana 1: 3 Ruda, 18 Roda
10806		Kamehameha III	Olowalu	Uwai/ Ohia	Helu 72 (Apana 18) : 2 loi in Ohia, Helu 73 (Apana 19): 2 loi in Uwai, Helu 74 (Apana 20): 1 loi in Uwai	Yes	Unknown
10807		Napuone	Olowalu	Ohia, Kamani 1	**FT**: 2 sections of land, one in Ohia and the other in Kamani 1 received from Naea in or around 1834	No	
10827		Puuone	Olowalu	Kaluanui	**NT**: 2 apana, one in Ohia and one in Kamani 3 **NR**: 27 loi **FT**: contains kalo and kula land, received from parents	No	
10932		Ulili	Olowalu	Niupaipai	**NR**: 15 loi in Niupaipai, 1 loi in Waiakamalii, 2 hoi moo **NT**: 1 apana from Pikao in 1834	No	
3934B		Niau	Olowalu	Paumaumau	**FT**: section of kalo land in Paumaomao	No	
4376/ 4454	6267	Keahi	Olowalu	Puukoleohilo	**NT**: 10 apana in Puukoleohilo, #1: 28 mea kula, #2: 17 ? + 5 loi mauka kula, #3: mauka #4: 1 loi, #5: 3 loi mauka kula, #6, 7 loi, #7: 1 loi, #8: 2 loi, #9: pauka kalo? #10: pauku kula **NR**: 38 loi, 5 puhala lei, 1 lauhala moena, kauhale, 3 kihapai wauke, 1 kihapai wauke in Pualaia, 2 kihapai kalo, RPG: Apana 1: kula land in Puukoliohilo, Apana 2: kalo patch mauka in Puukeleohilo, Apana 3: kalo ma Kaunakakahi **FT**: 10 sections of land: #1 is kula land, #2 is kula land with 5 loi, #3 is kalo land, #4 is 1 loi, #5 is 5 loi, #6 is 7 loi, #7 is 1 loi, #8 is 2 loi, #9 is pauku of kalo land, #10 is kula and mountain land given to him by his ancestors	Yes	Apana 1: (near pali and loko iʻa) 7 Eka, 2 Ruda Apana 2: 6 Eka, 2 Ruda Apana 3: 2 Ruda, 1 Roda
486B		Lani Lata	Olowalu		**NT**: 2 pahale mauka of the alanui aupuni, 2 kula land mauka, **FT**: house lot in Lahaina, claimants listed as Maikai and Kaluapakohana	No	

Helu	RP	Claimant	Ahupuaa	Ili	Land Claim	Awarded	Acreage
4878KK		Kelea	Olowalu	Puehuehuiki	**FT**: house lot, kula land and kalo land in Makila, Lahaina.	Yes	Apana 1: 12 rods
4878 MM		Makanui/ A. Moku	Olowalu	Puehuehunui	**FT**: house lot, kula land, kalo land and another small parcel of kula land	Yes	Apana 3: 8.69 Eka
4878NN		Kapuhi	Olowalu	Makila	**FT**: house lot and kula land in one piece, located in Makila	Yes	Apana 1: .17 Eka
5207B	5660	Kalaipaihala	Olowalu	Maomao Kaluaokahui	**NT**: Apana 1: aina kalo, above a kahawai **FT**: House lot and 6 loi kalo	Yes	Apana 1: 3 Ruda, 30 Roda
5829C		Kamaua/Kanana/Kauaua (diff spelling)	Olowalu	Wailoa/Kamani 3	**NT**: #1 is kula land in Wailoa, #2 is Kalo land in Kamani 3, #3 is pahale in Kamani 3 **FT**: #1 is kula land in Wailoa 1, #2 is kula land in Kamani 3, #3 is a house lot in Kamani 2, received land from parents	No	
5829D	7102	Kaaoaohema	Olowalu	Hawaiikeokeo	**NT**: #1: 1 pahale, #2: 3 loi #3: 1 loi, #4: 1 loi **FT**: #1 is a house lot in the ili of Hawaiikekeo, #2 is a section of loi in Hawaiikekeo, #3 is one loi in same ili, #4 is one loi in Hawaiikekeo	Yes	Apana 1, 2, 3: 3 Eka, 10 Roda
5829E	7989	Kawehena Malaloiho	Olowalu	Hawaiikekeo Kamani	**NT**: 17 loi, 1 kula lot, 1 house near ka pa o Peekuuai **FT**: #1: kula and kalo land as well as house land, #2 is kalo kand in hawaiikekeo, #3 is a kula lot in Kamani 2	Yes	Apana 1&2: 1 Eka, 3 Ruda, 7 Roda Apana 3: 1 Eka, 2 Ruda, 24.8 Roda
5829F	5183	Haole	Olowalu	Kaunakukahi	**NT/NR**: 1 loi in Kamani 3, 4 loi in Kumukukahi, 1 loi in Wailoa **FT**: #1 2 loi in Kaunakukahi, #2 is 2 additional loi, #3 is 1 loi in the ili of Kamani 3, #4 has 11 loi and kula land in Wailoaiki	Yes	Apana 3: 2 Ruda, 13 Roda Apana 4: 4.5Eka
5829G		Pipipi	Olowalu	Kaunakukahi	**NT**: 1 loi in Kaunukukahi, #2 is 3 loi in Honokowaikukui, #3 is 1 loi in Kamani 1, #4 is kula land in Kamani 3 **FT**: #1 is 1 loi in Kaunukukahi, #2 is 3 loi in Honokowaikukui, #3 is 8 loi in Kamani 1, #4 is kula land in Kamani 3	No	
5829H	4840	Nahue	Olowalu	Kaluaaha	**NT**: #1 is loi kalo, #2 is kalo, #3 is pahale **FT**: #1 is a section of kalo land in Kaluaaha, #2 is kalo land, #3 is House lot in Kaluaaha	Yes	Apana 1: 3 Ruda, 12 Roda

Helu	RP	Claimant	Ahupuaa	Ili	Land Claim	Awarded	Acreage
5829I		Tabita W.	Olowalu	Kaunakukahi/ Puaolaia	**NT**: #1 is pahale and kula land in Puaolaia, #2 is loi in Kaunakukahi received land from Kanikoa in 1832 **FT**: piece of kalo land and house in Puaolaia, and 1 loi in Kaunakukahi	No	
5829K		Kaanui Naheana	Olowalu	Paapaa/ Honokowaikukui	**NT**: #1 is kalo patch in Honokowaikukui, #2 is kula land in Papaa **FT**: N#1 is a kalo land in Honokowaikukui, #2 is a house lot and kula in Paapaa	No	
5829L		Amama	Olowalu	Kahanauwahea	**FT**: sent in a claim but is a great wanderer living without fixed residence	No	
5829 M		Kaleleiki	Olowalu		**NT**: 3 lots, #1: kalo in Kamani 3 (?), #2 is kula land, #3 is 2 loi in Honokowaikukui (?), #4 is a pahale	No	
6727B	2440	Pahaula/Pahula	Ukumehame	Puaaloa, Makenewaehiku, Kahananui Kaninanai (?)	**NR**: Pahaula ?Claimant: 3 Apana Puaaloa: 29 loi(?) and 2 hoi kula (dryland bitter yam [Dioscorea sativa] areas) Makenewa ehiku: 9 loi (near kulanakauhale kekahi) Kahananui: 5 loi, 2 papohaku wauke Kaninanai (?): 2 loi ma O'hia, 2 loi ma hau **FT**: 3 pieces in "Pualoa", Ukumehame. #1 is a section of kalo land, #2 is a section of kalo and kula land, #3 is a house lot. The claimant received them from his father in the days of Kamehameha 1 and his title has never had dispute to this day. MA: Apana 1, 2 & 3	Yes	Apana 1: 1 Ruda, 10 Roda Apana 2: 3 Ruda, 29 Roda Apana 3: 1 Eka, 1 Rude, 38 Roda
8656B		A. Kekona	Olowalu	Puukoleohilo	**NR**: 19 loi and 1 pahale **FT**: #1 is house lot/kalo land and #2 is kula land	No	
8656C		Kahooikaika	Olowalu	Kamani 2/ Kaunukukahi	**NR**: 19 loi in Kamani 2	No	
8657/ 8657B		Amama	Olowalu	Kamani	**NT**: 1 pahale, 11 loi, 3 puhala included in part of Maui‘s land.	No	

Table 3-3. Māhele ʻĀina Claims for Ukumehame

Helu	RP	Claimant	Ahupuaa	Ili	Land Claim	Awarded	Acreage
309M		D. Malo	Ukumehame		**NT**: pahale o David Malo in Ukumehame **NR**: references one of many pa belonging in Ukumehame	Yes	
328		Kamakini	Ukumehame		**NR**: 1 pahale	No	
473		Pikanele	Ukumehame		**NT**: 16 loi, 7 loi ma, 1 pahale	No	
522		Ladana	Ukumehame		**NR**: 9 loi hoolenialima (hooilina?) for ka Moʻi	No	
720		Kamakine/ Kamakini	Ukumehame		**FT**: references 3 pieces but only one in Ukumehame (a house lot) which was received by Kapena (the luna) in 1842, His heir is Hiamoe (his son by his first wife through which he got all his property)	No	
2959		Hika	Ukumehame		**FT**: 1 piece of kula land in Ukumehame received from Wiwi in 1833 (the rest is not in that ili: 1 piece kalo land in Nohoana, a house lot in Maalaea, a house lot in Olohe, Waikapu)	No	
5380	2506	Hulu	Ukumehame	Ohianui/ Uwai/ Kaulu	**NR**: 12 loi and 1 pa kulanakauhale **NT/FT**: #1 is kalo land in Kaulu 1, #2 is kalo land in Uwai, #3 is a house lot in Uwai, #4 is a house lot in Ohianui received from Wiwi (?) in 1835	Yes	Apana 1: 1 Ruda, 35 Roda Apana 2: 2 Ruda, 1 Roda Apana 3: 20 Roda Apana 4: 1 Ruda (1/4 acre) Apana 5: 2 Ruda, 3 Roda
5387	3356	Hinau	Ukumehame	Ohiaiki	**FT**: large loi in Ukumehame received from Moo (a teacher) via his widow Kahaiaohe, David Malo may not claim this loi in his capacity as Kahukula	Yes	Apana 1: 1 Ruda, 6 Roda
5829		Kamaua (w.)	Ukumehame		**NT**: 1 apana kalo in Ohiaiki from David Malo in 1837 **FT/NR**: are for a different claimant (Kanehokipuu in Kaneohe)	No	
6187		Opunui	Ukumehame	Makenewa 3	**NR**: moo aina iloko o Makenewa	No	
6188		Kamakahiki	Ukumehame	Makenewa	**FT**: 2 pieces in Makenewa, #1 is 4 loi kalo and kula land, #2 is kalo iuka land received from Pikanele in 1837	No	

Helu	RP	Claimant	Ahupuaa	Ili	Land Claim	Awarded	Acreage
6423		Konanui	Ukumehame	Kaulu/Kahananui/ Aweoweo-luna	**NT**: 3 pieces received from Pikaonele in 1829, #1 is kalo land in Kaulu, #2 is kalo land in Kahananui, #3 is kula in Aweoweoluna **NR**: 15 loi in Kaulu, 10 loi in Palihau, kula land in Kahananui with 5 loi, poho wauke, 4 waiolona, 1 loi in Puaaloa **FT**: 3 pieces, #1 is kalo and kula land in Kaulu, #2 is kalo in Kahananui, #3 is ? (cut off record)	No	
6480	2442	Keawe	Ukumehame	Uwai/ Pualoa	**NT**: #1 is a pauku of kalo land, #2 is 1 loi **NR**: 7 loi in Auwai, 3 loi in Puaaloa **FT**: 1 piece of kalo land in Uwai and one loi in Pualoa received from J. Kapuna (konohiki) in 1843	Yes	1/4 Acre
6483		Kamakaeha/ Kamaka	Ukumehame	Pinanai/ Piinanai	**NR**: kula and kalo land in Piinanai, Ukumehame **NT/FT**: 4 pieces in ukumehame, #1 is kula land, #2 is kula land, #3 is kalo land with 5 loi, #4 is kalo land with 3 loi received from Hoapilikane in 1837	No	
6591		Pumaiwaa	Ukumehame	Puaaloa/ Makenewa/ Kahananui	**NT**: #1 is kalo land in Puaaloa, #2 is a pahale and kula land in Punahua (?), #3 is kula land in Kahananui, #4 is a pahale in Makenewa 3 **NR**: 28 loi, 1 kula land, 1 kulanakauhale, 2 loi in Ohia, 2 poho wauke in Kahananui **FT**: 4 pieces: #1 is section of kalo land, #2 is a house lot and kula land, #3 is a kula in Kahananui, #4 is house lot in Makenewa 3	No	
6751	2441	Aloi	Ukumehame	Puaaloa	**NT**: #1 is kalo land mauka, #2 is kalo land mauka Uwai, #3 is kula land **NR**: 38 loi, 1 piece kula land **FT**: #1 is a section of kalo land, #2 is a section of kalo land, #3 is a section of kula land received land from Kamakakekau who received it from Kalako in 1836	Yes	Apana 1: 1 Ruda, 28 Roda Apana 2: 1 Ruda, 12 Roda Apana 3: 4 Eka, 1 Ruda, 26 Roda
6758	4989	Golia, S.	Ukumehame	Makenewa	**NR**: 20 loi, 2 moo uala, 2 Opu Lauhala **FT**: #1 a section of kalo land, #2 a section of kalo and kula land received from his wife in 1843 who received it from Pikanele in 1835	Yes	Apana 1: 2 Ruda, 27 Roda Apana 2: 1 Eka, 3 Ruda, 5 Roda

Helu	RP	Claimant	Ahupuaa	Ili	Land Claim	Awarded	Acreage
7779	7017	Kaleleiki	Ukumehame	Makenewa/ Kaweoweo-luna	**NR**: 15 loi, 3 kula **FT**: #1 is a section of kalo land in Makenewa 3, #2 is a section of kula land in Makenewa 3, #3 is 2 loi in Makenewa 4, #4 is a house lot and kula land in Kaweoweoluna received from Jonah Kapena in 1843	Yes	Apana 1/2/3: 5 Eka, 3 Ruda, 39 Roda Apana 4: 7 Eka, 30 Roda
8191	7907	Hilo	Ukumehame	Kekenui	**NT**: #1 is 1 loi in Ohia, #2 is 1 loi in Uwai, #3 is kula land in Ohianui **NR**: 5 loi in Ohia, 1 mauwai, kula land in Punanai **FT**: 3 loi on one piece kalo land in Paiki, one piece kalo land in Uwai received lands as "waste kula lands" before he worked on them	Yes	Apana 1: 25 Roda
8559	4497	Kanaina, C.	Ukumehame	Puaaloa	**RPG/NR**: No sketch or description **FT**: 4 lots but only apana 4 is located in Ukumehame and was received by Kamehameha III	Yes	
8623	2443	Kamakakeha u	Ukumehame	Kaulunui/Pua aloa	**NR**: 38 loi in Kaulunui, 1 uala patch on kula land, 22 loi and 1 house in Puaaloa **LCA**: Apana 2 is aina kalo in Puaaloa **NT/FT**: 4 pieces of land, #1 is kalo land in Kaulunui, #2 is kula land in Puaaloa, #3 is a house lot in Aweoweoluna, #4 is kula land in Aweoweoluna received from Pikanele in 1839	Yes	Apana 2: 1 Eka, 2 Ruda, 22 Roda
8625		Kalama	Ukumehame	Kaulu	**NR**: 3 loi in Kauluiki, 3 loi in Uai, 30 loi in Puaaloa, kula land in Punahoa with a mahi uala **NT**: 3 loi in Uwai, 1 kula land in Punaloa, 1 kula and kalo land in Kiloia, 1 section of kalo land in Pinawai, one section of kalo land in Kahananui (all in Ukumehame) received lands from his father **FT**: one piece of kalo land with 9 loi received in 1837	No	Apana 1: 3 Ruda, 35 Roda

Helu	RP	Claimant	Ahupuaa	Ili	Land Claim	Awarded	Acreage
8625		Kalama	Ukumehame	Kaulu/ Puaaloa/ Uwai	**NT**: 5 apana in Uwai with 3 loi, 1 moo kula in Puaaloa, pauku kalo ma kula in Pinawai (?), pauku kalo in Kahananui, #2 is 3 loi in Uwai, #3 is kula land in Puaaloa, #4 is kalo and kula land, #5 is kalo in Pinawai and #6 is kalo land in Kahananui **NR**: Kauluiki has 3 loi, Uwai has 3 loi, Puaaloa has 30 loi, 1 mahi uala on kula land in Punahoa **FT**: kalo land in Kaulu with 9 loi received from Wiwi in 1837 **FT2**: 3 loi in Uwai, 1 kula land in Puaaloa, 1 kalo and kula land in Keloia, and one section of kalo land in Pinawai, one section of kalo land in Kahananui, received all lands from his father	No	
8795	2439	Kulou	Ukumehame	Puaaloa	**NR**: 6 loi in Mauai, 15 loi in Puaaloa, 2 loi in Makenewa, 1 kauhale **NT/FT**: one piece of kula and kalo land received land from Halakea the luna of Puaaloa in 1844	Yes	Apana 1: 3 Ruda, 38 Roda
8867		Kapaakea	Ukumehame	Kaulu/Makenewa	**FT**: 2 ili of land in Kaulu (2 poalima loi) and Makenewa (2 poalima loi) , received from Nahienaena and held til his death in 1848, then his mother Kaunahi inherited it	No	
9035		Kalua	Ukumehame	Pualoa	**NT**: 24 apana in Puaaloa **FT**: 24 distinct pieces, #1 is 3 loi, #2 is 4 loi, #3 is 1 loi, #4 is 1 loi, #5 is 4 loi, #6 is 3 loi, #7 is 1 loi, #8 is 1 loi, #9 is 1 loi, #10 is 1 loi, #11 is 3 loi, #12 is 1 loi, #13 is 1 loi, #14 is 2 loi, #15 is 1 loi, #16 is 3 loi, #17 is 1 loi, #18 is 1 loi, #19 is 1 loi, #20 is 2 loi, #21 is 1 loi, #22 is 1 loi, #23 is 1 loi, #24 is 1 loi (total: 40 loi)	No	
10206	4917	Mauikuaole	Ukumehame	Kahananui/ Uwai	**NT**: #1 has 11 loi, kula land and pahale, #2 is aina kalo, #3 is 2 moo kula **NR**: 31 loi, kula land, 1 wauke patch, 1 kauhale **FT**: #1 : 1 house lot with kula land and 11 loi, #2: 10 loi in Kahananui #3: 2 kihapai of kula	Yes	Apana 1: 4 Eka, 1 Ruda, 5 Roda Apana 2: 35 Roda
10225		D. Malo	Ukumehame		**NR**: referencing Apana 1 in Molokai **NT/FT**: included in claim 3702	No	
10806		Kamehameha III/Piikoi	Ukumehame	Makenewa/ Puaaloa	**NT**: Helu 71 (Apana 17) 4 loi ona, Helu 78 (Apana 22) Pahale ma Makenewa **NR**: Helu 71: Na Mahina i Ukumehame a me Halaula (mau kahuahale ma Maui), 75: (Makenewa)	Yes	

Helu	RP	Claimant	Ahupuaa	Ili	Land Claim	Awarded	Acreage
310/10667	6862/1729	Pikanele	Ukumehame	Kaulu/ Uwai	**LCA**: #1 is kalo land in Kaulu, #2 is kalo land in Uwai **FT**: counter claim to Makakehau	Yes	Apana 1: 2 Eka, 2 Ruda, 13 Roda Apana 2: 1 Eka, 1 Ruda, 33 Roda
3702/5410	6338	Davida Malo	Ukumehame	Ohiaiki/ Keekeenui	**LCA**: #2 is aina kalo in Ohiaiki, #3 is 2 loi in Ohiaiki, #4 is aina kalo and kula land in Keekeenui and Ohiaiki **NR**: 2 loi **FT**: Malo received these lands from his wife, and his wife from the wife of Pikanele in 1832	Yes	Apana 2: 2 Ruda, 20 Roda (kalo land in Ohiaiki) Apana 3: 7 Roda (2 loi) Apana 4: 31 Eka, 2 Ruda, 20 Roda
5462/5462B		Kamanuwai	Ukumehame	Aweoweo-luna	**NT**: 1 apana in Aweoweoluna received in 1835 **NR**: 6 loi	No	
5829B		Kamaua (w.)	Ukumehame	Makenewa/Punalua/Ohianui/Aweoweo-lalo	**NT**: #1 is kalo land in Makenewa 3 , #2 is kalo land in Makenewa 3, #3 is kula land in Punalua, #4 is kula land in Makenewa 4, #5 is kalo land in Makenewa, #6 is kalo land in Ohianui, #7 is kula land in Aweoweolalo **FT**: one parcel in Ohiaiki received from David Malo in 1837	No	
5829BB		Keauwai	Ukumehame		**FT**: same 7 parcels as listed in 5829B but says was received from Pikaonele in 1829	No	
5829M		Keleliki	Ukumehame	Makenewa	**NT**: #1 is kalo in Makenewa 3 , #2 is kula land in Makenewa 3, #3 is 2 loi in Makenewa 4, #4 is a pahale	No	
6408/5124	1723	J. Kalaikini	Ukumehame	Kumuniu	**NR**: 4 loi and 4 moo kanu uala in Puaaloa, 2 hoi moo, (house located in Kailua, not in Ukumehame) **LCA**: Apana 1 is 4 moo kula in Makenewa, Apana 2 is 4 loi kalo **FT**: received land from 4 ridges of dry land together (Ahupuaa Moos) and 4 kalo patches received by keeping cattle for Lot Kamehameha in 1825	Yes	Apana 1: 9 Eka, 17 Roda Apana 2: 32 Roda
6709/6609	7775	Popolo	Ukumehame	Haai	**NR/LCA**: pauku of kalo, kula land with uala and pahale **FT**: land received by Makaiki before 1839	Yes	Apana 1: 2.25 Acres

Helu	RP	Claimant	Ahupuaa	Ili	Land Claim	Awarded	Acreage
6727/ 6727 B	2440	Pahula	Ukumehame	Puaaloa	**NR**: 9 loi in Makenewa ehiku, 1 kulanakauhale, 5 loi in Kahananui, 2 papohaku wauke, 2 loi in Paninanai, 2 loi in Ohia, **NT**: #1 is kalo land, #2 is kalo and kula land, #3 is kula land **FT**: 3 pieces in Pualoa, #1 is section of kalo land, #2 is section of kalo and kula land, #3 is house lot received lot in 1844 from Konohiki - Kalepa(?)	Yes	Apana 1: 1 Ruda, 10 Roda Apana 2: 3 Ruda, 29 Roda Apana 3: 1 Eka, 1 Ruda, 38 Roda
8807/ 8867		Kapaakea	Ukumehame	Makenewa/ Kaulu	**NT**: 2 pieces, received from Nahienaena in 1848, one was kula land	No	
9035 B		Kalaipaka	Ukumehame	Kuekue	**NT/FT**: #1 is kula and kalo land, #2 is kula land, he held these lands til 1848 when he passed and then his widow, Olea, received them	No	

3.2.4 Beginnings of the Sugar Industry in Lāhainā Moku

Kō, or sugar cane (*Saccharum officinarum*), made its first appearance in Hawai'i during the initial settlement by Polynesians. The highly adaptable cane evolved multiple variations as it traveled and thrived throughout the Pacific Islands for generations (E. S. C. Handy et al. 1991:183). In Hawaiian wet-taro farming, kō was found along embankments separating flooded terraces, while in dry-taro and sweet-potato farming the kō was planted as hedges or a windbreak (E. S. C. Handy et al. 1991:186). Sugar cane was a "lifesaver" at times of famine, a treat in times of abundance, an easement for unpalatable medicine, and possibly a hygienic tool to clean teeth (Isabella Aiona Abbott 1992:41; E. S. C. Handy et al. 1991:186). Kō was also planted for its colorful aesthetic (Isabella Aiona Abbott 1992:40). Leaves of the plant were sometimes used as wall coverings, the stalk as a dart in games, and the skin for plaiting braids (E. S. C. Handy et al. 1991:187).

Lāhainā moku holds historical significance as one of the earliest locations for commercial sugarcane ventures in Hawai'i. The earliest mention of sugar cultivation in the Lāhainā area is attributed to G. W. Wilfong, the manager of the Hāna Plantation in 1851. In his 1882 writings, Wilfong documented the establishment of various sugar enterprises on Maui during his initial exploration of the island in 1849, providing insights into the early sugar operations in Lāhainā. He observed that cane trash proved inefficient as fuel for the boiling down of juice extract into syrup, necessitating the cutting down of a substantial supply of indigo (*Indigofera suffruticosa*) for firewood in Lāhainā. "The area cleared by this means was subsequently used for the first planting of a supply of seed brought by Captain Edwards, of the whale ship George Washington. This cane was called Lāhainā" (Wilfong 1882).

The beginning of the industrial sugar boom in the Islands occurred when Captain Pardon Edwards brought a "bundle of choice" sugarcane from the Marquesas Islands to Kaua'i in 1854, making a pit stop in Lāhainā and dropping some off with Consul Chase and F.A. Oudinot. This new "Tahitian" cane outperformed the previous "Cuban" variety in growth rate, healthier rooting, sweetness, and hardiness against pests (Dorrance and Morgan 2000:177). It quickly became known as "Lāhainā Cane," the preferred variety that catalyzed the sugar mill industry (Davies 1884; Royal Gardens Kew 1894:418-419). The first Lāhainā mill was operated by Judge A.W. Parsons in 1849. This mill, along with 1000 acres of land, was later auctioned to O.H. Gulick. The Lāhainā Sugar Company was established in 1859 "on the principle of buying the cane from small cultivators among the natives, and taking pay for grinding in sugar" (Auchincloss 1864:350), under the leadership of Henry Dickenson. Three primary sugarcane enterprises emerged between the lands of Lāhainā and Mā'alaea during the mid to late 1800s: Pioneer Mill Company (PMCo), Olowalu Sugar Company, and Hawaiian Commercial and Sugar Company (HC&S).

> The sugar industry came early to Olowalu. In 1864 King Kamehameha V, then ruler of the Hawaiian Kingdom, invested in the newly-formed West Maui Sugar Company. He was only one of many subsequent owners of the plantation, later called the Olowalu Sugar Company. The company boomed, requiring the hiring of Chinese workers, followed by Portuguese, South Sea Islanders, Germans and Japanese. (Ainsworth 2005)

3.2.4.1 Olowalu Sugar Company

As a result of the increased interest and lucrativeness of sugar due to the reciprocity treaty with the United State of America in 1876, Milton Philip, a Lāhainā businessman, began to purchase leases in Olowalu and Ukumeheme. With another resident, Goodale Armstrong, who acquired other Olowalu properties, Philip formed the Olowalu Plantation (Ainsworth 2011). They began to grow sugar in 1876 and formally established the Olowalu Sugar Company in 1881, formed on lands relinquished by the West Maui Plantation (Dorrance and Morgan 2000:64). Approximately 6,025 acres of Crown Lands was leased to the Olowalu Sugar Company at $800 per year with a lease contract dated October 5, 1875 that was set to expire on July 1, 1908 (Governor of the Territory of Hawaii 1904:52). The Ukumehame section consisted of approximately 11,000 acres of land originally leased to C. Brewer & Co. in a contract dated March 1, 1892 that was set to expire on November 1, 1906 for $250 per year (Governor of the Territory of Hawaii 1904:53). Initially, the sugar enterprise was managed by McFarlane & Co., but later on, shares in the plantation were acquired by Theophilus Harris Davies (founder of Theo H. Davies & Company which became one of the "Big Five" mercantile houses of Hawaiʻi alongside the likes of Alexander & Baldwin, American Factors, and others), who assumed the role of agent for the operation in the late 1880s.

History of the company includes construction of a mill and railroad at Olowalu which assisted in processing and transport of the sugarcane harvests. The earliest mention of a railroad at Olowalu Plantation for transporting cane to the mill dates back to the *Planter's Monthly* issue of April 1882. Historian Jesse "Jay" Conde interpreted the presence of a "Fowler Railroad Plant" at the Olowalu plantation to signify that the track had been laid, and the cane cars were operational using "mule power" until the plantation could afford to acquire a locomotive (Condé and Best 1973:263). By November 1882, as reported in the *Hawaiian Gazette*, the Olowalu railroad had completed a two-mile section of track to Ukumehame, extending the total length of fixed track to three miles (ibid). A Baldwin locomotive was ordered in 1889 and arrived in Olowalu around the turn of the century. in 1905, a second engine was ordered and by 1918 new steel rails with a 2-foot gauge track was laid along the same specifications as the HC&S railroad tracks in Kahului.

Other integral parts of the company's infrastrucutre were the wharf, which was vital to servicing the contract to process cane harvested on the island of Lānaʻi at Maunalei Sugar Company from 1899 to 1901 (Condé and Best 1973:206), and the water wells and ditches that irrigated the fields. The Olowalu Sugar Company's lands, being situated on the leeward side of Mauna Kahalawai, where rainfall is sparse, depended on the streams running through the plantation which extended back to the mountain crests which were primarily fed by trade-wind rainfall. During years of low rainfall, heavy kona rains help to bolster the water supply. The first well drilled at Olowalu for irrigation purposes was completed in 1905. This well featured a single shaft with 670 feet of lateral tunnels, designed to extract 3 million gallons of fresh irrigation water daily from sources beneath the Olowalu plains. It was drilled vertically to a depth of approximately 20 feet through the Wailuku basalts, situated at an elevation of 20 feet (Stearns and MacDonald

1942:216). Around 1908, a second well was drilled in Ukumehame, comprising a pit five feet deep with a 6-inch drilled well at a depth of 12 feet. This setup was capable of pumping 1.25 million gallons per day (Stearns and MacDonald 1942:217).

3.2.4.2 Pioneer Mill Company

James Campbell, a Lāhāina carpenter, began a small sugar mill in 1860 and was soon joined by Henry Turton and James Dunbar (Wilcox 1996:19, 126) under the company name Campbell & Turton (HSPA Plantation Archives 2004). In 1862, the plantation became known as the Pioneer Mill Company (PMCo), (The Pacific Commercial Advertiser 1864) and ten years later acquired the West Maui Sugar Company (The Pacific Commercial Advertiser 1874). For years Campbell was known locally as "Ona Milliona," the millionaire of West Maui (The Hawaiian Gazette 1900). In 1877, Campbell turned over his company share to Turton (McCandless 1936:65; The Honolulu Advertiser 1935). By 1882, PMCo had obtained permission to build a railroad across plantation property, the haul harvested cane between Kāʻanapali and Lāhainā (Orr 2005:54). This rail line expanded under Alexander Isenberg in 1901 and would be in use until the end of World War II with the introduction of hauler trucks. In the 60 years of operation, the train hauled tons of raw sugar from Kāʻanapali to the mill at Lāhainā for processing (Orr 2005:55, 57). In 1885, Hackfeld & Co. (later known as American Factors and modern-day Amfac/JMB) purchased controlling shares of the Mill (Jones and Osgood 2015:160; Wilcox 1996:126) and acquired additional land tracts controlled by Bernice Pauahi Bishop Estate that included important water sources vital to plantation expansion (Lee-Greig et al. 2008:31).

Another narrative places Benjamin Pittman as the founder of the Pioneer Mill in 1862 (Jones and Osgood 2015:160). Pittman then entered into a mortgage deed with Campbell and Turton in 1867 (Maly and Maly 2007:984). A separate account places this same sale in 1876 (The Honolulu Advertiser 1935), but this is likely a transposition of the year, since a court case between Campbell and Turton and a neighboring cane field places the plantation ownership pre-1871 (The Hawaiian Gazette 1871). It is possible that Campbell and Turton began the Mill in the early 1860s on land belonging to Pittman, but based on numerous sources it seems that Campbell and Turton were likely the founders of the Pioneer Mill Company.

Utilizing gravity-fed water from mountain streams, PMCo manufactured 500 tons of sugar in 1866. By 1872, production had doubled to 1,000 tons annually, and the enterprise's sustainability was cemented with the appointment of H. Hackfeld & Co. (which would later become American Factors or AmFac) in 1877. As of the turn of the century, the Pioneer Mill Company's sugar output had surged to over 10,000 tons per year (Thomas G. Thrum 1902). By 1885 H. Hackfeld & Co. bought Pioneer Mill and began further developing water resources and infrastructure that would divert water from natural waterways to their reservoirs and fields in order to increase production of their commercial crops.

As Pioneer Mill expanded into the 20th century, major change was also occurring across the Hawaiian Islands. Queen Liliʻuokalani had worked determinedly to restore power to the

monarchy after the death of King Kalākaua in 1891, but was illegally overthrown and imprisoned in her own home two years later. At the same time, the U.S. had entered war with Spain. With the threat of losing both a strategic military position and economic hub in the Pacific, U.S. President William McKinley signed an annexation resolution in July 1898, at the protest of native Hawaiians and the Queen herself, making the Hawaiian Islands a Territory of the United States (Daws 1968:284-290). This act largely benefited industrious foreign businessmen on the Islands, and was directly in opposition to the desires of over half the population of native Hawaiians (Schamel and Schamel 1999).

3.3 OLOWALU AND UKUMEHAME AHUPUAʻA IN THE 20TH CENTURY

3.3.1 1900-1950 – Early 20th Century and World War II

The Pioneer Mill Company underwent substantial reorganization around the turn of the 20th century. One immediate outcome of this restructuring was the construction of approximately "twenty miles" of new railroad tracks. These replaced old lines and spanned the entire length of the plantation, with additional branches extending mauka into the higher elevations of the cane fields (Condé and Best 1973:253). Commencing with the construction of the Honokohau Ditch in 1904, PMCo progressively developed a network of irrigation systems. By the late 1920s, this complex included flumes designed to transport water to the fields and cane to railroad "car loading stations" (Condé and Best 1973:254).

Pioneer Mill Company Ranch and Dairy was started in 1912 by then manager, Mr. Louis Weinzheimer, using lands deemed unsuitable for cane cultivation between Honokowai Gulch to Olowalu and stretching to the end of Lāhainā moku (Henke 1929:59). Spanning over 9,000 acres at elevations between sea level and 2,000 feet, the ranch had a total of 700 beef cattle reported in 1929 (Henke:59). The dairy was started to supply mill employees with milk soon after the cattle ranch began operating. By 1925 a modern dairy was built to house the dairy herd of 90 cows (Henke 1929:60). According to Herbert Kinores, ranch foreman for Pioneer Mill Company, ranching infrastructure such as walls, fences, and wooden and stone-walled corrals were erected in the Launiupoko region above the cultivated cane fields (Graves and Goodfellow 1991:7).

To further support the growing sugarcane industry and supply the needed workforce the new groups of immigrant residents needed more plantation infrastructure and many new buildings were erected in Olowalu:

> The multi-cultural residents of Olowalu shopped at the Olowalu Nihonjin Shokai (Olowalu Japanese Store) and C. Sam Lung & Company, a general store and coffee saloon. Students attended the one-room Olowalu School, and the Olowalu Japanese Language School taught Japanese children the culture of their homeland. The sea provided the primary contact with the outside world. For decades, the Inter-Island Steamship Company picked up and delivered mail, freight and passengers at Olowalu Landing. The world also entered the Olowalu community through regular showings at the Olowalu Theater. The 1930s brought more change to Olowalu. In 1931 Pioneer Mill Company purchased Olowalu Sugar Company; Olowalu School closed, requiring

> children to travel to Kamehameha III School in Lahaina; and M. Ichiki Store replaced the C. Sam Lung Store. (Ainsworth 2005)

As noted above by Ainsworth, in May of 1931, Pioneer Mill Company expanded its cane operations to Ukumehame to the east by acquiring Olowalu Sugar Company. This expansion was anticipated to yield an additional 3,000 tons of sugar annually (Pioneer Mill Company 1932:15). Subsequent to the acquisition, Pioneer Mill Company made investments in enhancing the two small and relatively primitive water systems. Concurrently, during this period, less profitable cane fields, particularly those in upper Launiupoko, were largely abandoned due to labor shortages resulting from World War II (Graves and Goodfellow 1991:5).

This change in educational locale along with the acquisition of Olowalu Sugar Company by Pioneer Mill, changed the Olowalu community lifestyle. The school-aged residents had to travel miles to Lāhainā to attend school, and although the sugar production quantities remained relatively unchanged, the method for transportation of the crops evolved.

In 1946, Pioneer Mill underwent a significant technological transformation in cane production, transitioning from the use of railroad carts to trucks for transporting harvested cane, a change driven by cost efficiency. According to a Pioneer Mill Co. annual report, by 1953, the railroad system at Pioneer Mill Company had been completely phased out (Condé and Best 1973:255). Following an exhaustive study conducted by the combined staffs of Pioneer Mill Company and AmFac's Plantation Division, operational changes were implemented, leading to the abandonment of the railroad system altogether. Henceforth, all sugarcane would be transported by trucks, capable of hauling 45-65 tons per load on a shift basis.

According to Ainsworth, however, the community of Olowalu continued much as it had before the changes took place:

> Despite many changes over the years, the community remained close. Workers lived in small camps with names such as Filipino Camp, Beach Camp, and Makimoto Camp. Much of the community was sports-crazy, children and adults alike. Plantation families worked hard and lived a frugal life, many of them growing vegetables and fruit trees, raising chickens and fishing. Everyone knew each other; neighbors shared and took care of those in need. (Ainsworth 2005)

3.3.2 Mid-20th Century to the Modern Era

In the 1970s, Maui Electric installed a power line stretching from Māʻalaea to the town of Lāhainā. This existing power line traverses elevations ranging roughly from 600 to 2600 feet above mean sea level. Towards the conclusion of the Sugar Era in Lāhainā, during the late 1900s, there were still scattered residential lots present within the Ukumehame and Olowalu stream areas, and along the shoreline at Olowalu. These isolated house lots, known as kuleana (Robins et al. 1994), likely delineated original land claims established during the Māhele period.

The extensive sugarcane cultivation overseen by Pioneer Mill persisted from Ukumehame to Launiupoko until 1998. Following the final harvest and closure of Pioneer Mill in 1999 (Kubota

1999), lands previously dedicated to sugarcane cultivation either lay fallow, were converted into pastureland, or were subdivided from larger landholdings for the development of agricultural estates. The water systems that existed to irrigate the vast cane fields were purchased by West Maui Land Company, Inc in 2002 and now supply water to the housing estates that have been built between Launiupoko to Olowalu.

Also lying between Olowalu and Launiupoko is a puʻu, commonly known as "Cut Mountain," which was formerly utilized as a quarry or "borrow pit." Immediately west of the puʻu lies an old landfill site. The Olowalu transfer station currently collects household and green waste from West Maui residents for storage until it can be trucked to the main waste center in Central Maui.

Olowalu Village transformed, once again, and is now a roadside hub for farmer's markets, the renovated General Store, Leoda's Bakery (which replaced an older establishment called Chez Paul), and still acts as the gateway to the cultural and agricultural endeavors in the valley. Camp PECUSA, established in 1955, located at the shoreline of Olowalu, changed ownership from the Protestant Episcopal Church to Olowalu Elua Associates in 1998, also changing its name to Camp Olowalu in 2006 (Bluegraphics 2023). Ukumehame remains virtually untouched by any development or changes other than the building of the firing range in 1990, shoreline hardening along the coast, and the prospect of entitled housing developments in the area. However, the changes further along Lāhainā and Kāʻanapali moku have drastically impacted the road use of Honoapiʻilani Highway that passes through these areas as noted in the update to the West Maui Community Plan:

> The population of West Maui increased from just over 22,000 in 2010 to nearly 25,000 in 2017 (ESRI, 2017). The estimated 2020 population is 24,302, a slight decrease from 2017 (ESRI, 2021). Population growth during the 2010 to 2017 period occurred at a faster rate in West Maui than the rest of Maui County and the State (ESRI, 2017). From 2004 to 2016, 59 percent of Maui County's population growth came from natural increase (local births minus deaths), 35 percent from international migration, and 6 percent from domestic migration (DBEDT, 2017). West Maui is also a popular visitor destination and one of the largest employment centers on Maui, drawing an estimated average daytime population of 63,706 persons. This includes about 10,287 residents who remain in West Maui during the day, 19,868 workers from West Maui and elsewhere who commute to West Maui, and 33,551 visitors (ESRI, 2017; DBEDT, 2017). (County of Maui Planning Department 2022:23)

4.0 CONSULTATION METHODS AND RESULTS

4.1 SCOPING AND COMMUNITY OUTREACH

In order to identify individuals with knowledge of the traditional cultural practices within and adjacent to the proposed project as it relates to this study, contact was initiated with government agencies, advisory councils, local community organizations, and traditional cultural practitioners, along kamaʻāina and kūpuna with generational ties to the proposed project area. Follow up attempts were then made to all contacts on the initial mailing list in a good-faith effort to make contact. Letters and project area maps showing the location of the proposed Olowalu/Ukumehame project area were mailed out with one of the two following accompanying texts:

> Aloha e ____,
>
> I am reaching out to see if you have any mana'o you would like to share regarding the Olowalu/Ukumehame area of the proposed Honoapi'ilani Highway realignment project. More specifically regarding the subject of cultural resources or navigational-related elements and importance in this specified area. (Any mana'o I can add into the report (with your permission) will allow me to conduct further research based on your feedback.
>
> Mahalo nui, Leah

> Subject: Ethnographic Survey for Olowalu/Ukumehame regarding the Honoapi'ilani Highway Re-alignment Project, Olowalu and Ukumehame Ahupua'a, Lahaina District, Island of Maui
>
> Aloha e _____,
>
> ʻĀina Archaeology is conducting an ethnographic survey for the proposed Honoapi'ilani Highway Realignment project. Together with this roadway, the area of potential effect (APE), hereafter referred to as the "project area", includes several acres from MM 12.5 to MM17 in the ahupua'a of Olowalu and Ukumehame. The *ahupuaʻa* from Olowalu to Ukumehame will be considered the "study area" for this CIA. The Honoapi'ilani Highway Realignment area will replace the existing Honoapi'ilani Highway located makai.
>
> The Guidelines for Assessing Cultural Impacts adopted on November 19, 1997 by the Environmental Council, State of Hawaiʻi states:
>
> *(For) the cultural portion of an environmental assessment, the geographical extent of the inquiry should, in most instances, be greater than the area over which the proposed action will take place (proposed project area). This is to ensure that cultural practices which may not occur within the boundaries of the project area, but which may nonetheless be affected, are included in the assessment…. An ahupuaʻa is usually the appropriate geographical unit to begin an assessment of cultural impacts of a proposed*

action, particularly if it includes all of the types of cultural practices associated with the project area. (State of Hawaii Office of Environmental Quality Control 2012:11)

Statement of study purpose:

For this cultural impact assessment and ethnographic survey, the *ahupuaʻa* of Olowalu and Ukumehame are considered the overall "study area" while the footprint of the proposed project is identified as the "project area." The purpose of the cultural impact assessment is to evaluate potential impacts to traditional cultural practices as a result of the proposed project.

I am seeking your *kōkua* or help and guidance regarding the following aspects of our study:

- **General history and present and past land use of the project area.**
- **Knowledge of cultural resources which may be impacted by Honoapi'ilani Highway Realignment - for example, traditional plant gathering sites, historic sites, archaeological sites, and burials.**
- **Knowledge of traditional gathering practices in Olowalu/Ukumehame– both past and ongoing.**
- **Cultural associations of the Olowalu/Ukumehame project area, such as legends and traditional uses.**
- **Referrals of *kūpuna* or elders who might be willing to share their cultural knowledge of the project area and the surrounding *ahupuaʻa* lands.**
- **Any other cultural concerns the community might have related to Hawaiian or cultural practices within or in the vicinity of the proposed Olowalu/Ukumehame area.**

I have provided a map of the area to show the proposed conceptual plan for the project, showing the location of the proposed project in relation to the landscape for your information. I invite you to contact me, Leah Santos, at 1-808-214-4261. You may also contact me by e-mail at leah@ainaarch.com, if you have any questions about the project or *manaʻo* or concerns that you would like to share.

Me ka haʻahaʻa,
Leah Santos
ʻĀina Archaeology

Table 4-1, below, presents the community consultation effort conducted with *kamaʻāina*, Hawaiian cultural advisors and Hawaiian organizations. Individuals who expressed personal knowledge of the study area and gave their consent to share their *manaʻo* for this study, are presented in subsequent sections.

Table 4-1: Outreach Summary

Name	Affiliation	Contacted	Personal Knowledge (Y/N)	Comments
Rose Marie Duey	Family from Area	Y	Y	No Response
Wallace Fujii	Previous Store Owner	Y	Y	No Response
Tosh Fujita	Ukumehame Resident	Y	Y	Group Consultation, see Section 4.3
Malihini Keahi Heath	Family from Area (ʻOhana Nahooikaika), Cultural Advisor	Y	Y	Call
Jackie Kaahui	Olowalu Resident	Y	Y	No Response
Edward Kaahui	Olowalu Resident	Y	Y	No Response
Elmer Kaai	Family from Area	Y	Y	Interviewed, see Section 4.2
Janelle Kanekoa	Family from Area	Y	Y	No Response
Keeaumoku Kapu	Heiau Steward	Y	Y	No Response
Manny Kululoio	Cultural Fishing Practitioner	Y	Y	Left Message/ No Response
Tiare Lawrence	Family in Area-Nahooikaika	Y	Y	Informally Interviewed, see Section 4.3
Ashley Awakea Lindsey	Family from Area	Y	Y	Interview Rescheduled
Ekolu Lindsey	Cultural Reserve	Y	Y	Call, see Section 4.3
Kapono‘ai Molitau	Family from Area, Cultural Advisor	Y	Y	Email Response, see Section 4.3
Vicki Palafox	Ukumehame Resident	Y	Y	Group Consultation, see Section 4.3
Bernadette Rodrigues	Family from Area	Y	Y	No Response
Hinano Rodrigues	Past Olowalu Resident	Y	Y	Left Message/ No Response
Eugene Saffrey	Resident	Y	Y	No Response
Nalei Sampson	Maui Marine Project Coordinator	Y	N	Informal Discussion, see Section 4.4
Margaret Santos	Past Resident	Y	Y	Interviewed, see Section 4.2
Nani Santos	Past Resident	Y	Y	No Response
Robert Santos	Olowalu Resident	Y	Y	Interviewed, see Section 4.2
Kala Baybayan Tanaka	Navigator	Y	N	Informally Interviewed, see Section 4.3

4.2 FORMAL INTERVIEWS

4.2.1 Formal Interview with Robert Richard Santos

Early Life in Olowalu

Robert "Bobby" Santos provides insights into his early life in Olowalu, Maui. Born at Pioneer Mill Hospital, he lived in Kāʻanapali at Puʻu Kekaʻa until the age of four where his father was a supervisor at the Pioneer Mill Cattle Ranch. When the hotels began construction, the plantation relocated the cattle ranch to Olowalu. Mr. Santosʻ father moved the family to Olowalu to be close to the new operation and to set up a pig and cattle farm. The initial tranquility of the family farm was disrupted as it expanded with more pigs, a milking cow, and chickens, leading to complaints from nearby residents. Faced with this challenge, Mr. Santos recalls his father's decision to relocate the family pig and cattle operations to land at the back of Pioneer Mill Cattle Ranch.

Sugar Plantations and Childhood Memories

Mr. Santos remembers the dynamic era of the sugar plantation, where sugarcane fields surrounded his family property, and confirmed that cane fields were located both mauka and makai of the road. The interview delves into his father's role as a ranch supervisor, touching on practices like using pineapple waste for cattle feed and the labor and water-intensive nature of growing sugarcane and tending to the cattle across the extensive ranch lands that stretched through the mountain areas from Ukumehame to Nāpili. Mr. Santos reminisced about childhood memories, from school bus routes through Olowalu to recreational activities like fishing and diving at the beach. Other childhood memories include the 24-hour transportation of cane along the cane haul road to the mill in Lāhainā, the minimal traffic to Lāhainā and Wailuku/Kahului (only seeing 20 – 30 cars a day on the road), and the feeling of isolation living in Olowalu.

Impact of Flooding and Environmental Changes

A notable theme throughout the interview is the continuous presence of water in the area, influencing the location of cattle pens, the draining of wetlands, and the creation of ditches, furrows, and pumps for cane field operations. The interview also underscores the impact of flooding. Mr. Santos emphasized a significant change from his childhood in Olowalu: the proximity of the water to the road. He notes that it used to be 150 feet away. Mr. Santos attributes this shift in the shoreline to the construction of a large culvert in the early 1960s, a response to flooding in the Olowalu area. This alteration transformed the coastline from a pleasant sandy beach to one dominated by rock and concrete, impacting the waves as well. Notably, the concrete and boulder fishing pier in the vicinity serves as the point where the water from the culvert enters the ocean. Mr. Santos also highlighted that flooding occurred due to the road being higher than the land and the inadequacy of the old culvert, which had been too small to effectively manage the water flow.

He notes the impact of development on the environment, expressing sadness over negative consequences. The interview also touches on the presence of introduced species like deer, birds,

tropical fire ants, and changes in vegetation with encroaching weeds and elephant grass. He does note the return of nēnē now as opposed to their absence during his youth but also notes that the red-headed mud hens he saw in the wetlands are gone now. He has been told that his house lot was the site of a lower aliʻi's palace and that it was used to grow pumpkins and other food for the area. He stated that the large rock and earth push piles were already present when his family moved into the area but new rocks were unearthed and placed on the piles when fields were plowed after harvests. In regards to the climate, Mr. Santos advised that temperature, wind, and rain have stayed constant. Santos emphasizes the need for awareness regarding environmental impacts during development.

Cultural Insights

Mr. Santos mentioned his father finding poi pounders and Hawaiian rolling stones (ulumaika) in the area and his own finds of Asian ceramics along with sea shells, sea urchin spines, and yellow sandy soil when digging near his house lot. He also relayed stories that have been told about the presence of night marchers and unexplainable Hawaiian music in the area but has not experienced any of these phenomena himself.

Olowalu's Evolution and Conclusions

The interview concludes with Santos reflecting on Olowalu's evolution, including the closure of the plantation ranch in the 1970s, his family's relocation to Hawaiʻi Island, and his eventual return to Olowalu in 1978. Changes in ownership, the disappearance of the plantation village and Camp Pecusa (run by the Episcopal Church), and questions surrounding the graveyard and dump area are highlighted. Santos acknowledges both positive and negative aspects of development, expressing concern about the road realignment and potential impacts on the community, particularly regarding homeless encampments and the road being too close to the homes. He emphasized the economics of the road realignment and needing to use the shortest route while also recognizing and respecting the topography and the challenges that will it present. The interview closes with Santos sharing how his feelings about Olowalu have changed from his childhood sense of isolation to the current sense of connection fostered by increased communication and technology.

4.2.2 Formal Interview with Elmer Kailikole Kaai, Jr.

Elmer Kailikole Kaai, Jr. was born on the island of Oʻahu and resides in Nuʻuanu Valley. His interview about the Olowalu area provides a narrative of the profound connection his family holds with this land, tracing back to his genealogy and rediscovery of the family home in 1980. Mr. Kaai passionately expressed his kuleana, a sense of responsibility, to protect the Olowalu area—particularly the lands once stewarded by his ʻohana. He describes the geographical layout of his family's land, recounting the loss of a loʻi (taro patch) to the construction of the road and the frustration of encountering private property signs that deny access to these ancestral lands.

The interview delves into the transformation of the Olowalu area, highlighting the impact of tourism and the devastation, caused by Pioneer Mill, to a sustainable, agricultural life where the families raised pigs, chickens, and fished. Mr. Kaai shared that his Uncle John and Auntie Elena would tell him stories about the agricultural responsibilities of living in the river, taking care of the loʻi, iʻa (fish), and lāʻi (ti leaf) to ensure everyone could share their resources throughout the ahupuaʻa. Mr. Kaai's reflections on the changes in traffic and the emergence of Olowalu as a tourist destination underscore the broader challenges faced by traditional communities in the face of evolving landscapes. Additionally, the imminent construction of a bypass and the Honoapiilani Highway realignment raises concerns for Mr. Kaai, who fears its potential to disrupt the valley and the mauka to makai connectivity of it as a functioning ahupuaʻa, overshadowing cultural and natural values. He feels the traffic has already greatly impacted the area and the difference in use of the highway has changed significantly since the 1980s.

A central theme in the interview is the importance of preserving the cultural and environmental integrity of Olowalu. He advocates for a “true survey” of the area, expressing the necessity to understand the land's history to safeguard it from exploitative exploration. Mr. Kaai emphasizes the significance of water as a treasure and a strength in Olowalu, calling for a thorough environmental survey of the cultural landscape and ahupuaʻa to better inform the people who remain in the area and those who wish to reconnect to the land. He relayed how his aunties would tell him stories about how fertile Olowalu was and not how dry and barren people perceive it to be now. Throughout his interview, Mr. Kaai advocates for community engagement, education, and the reconnection of families with Olowalu, emphasizing the need to protect spiritual elements and cultural sites from exploitation and overuse.

In conclusion, Elmer Kaai's interview offers a vivid picture of Olowalu's past, present, and potential future challenges. His impassioned plea for responsible development, cultural preservation, and community engagement serves as a reminder of the delicate balance needed to protect ancestral lands while navigating the evolving dynamics of infrastructure improvements, modernization, and commercialization.

4.2.3 Formal Interview with Margaret Santos

Margaret Santos, originally from Boston, Massachusetts, moved to Olowalu in November 1978 with her then-husband, Robert “Bobby” Santos. They had been living on Oʻahu before making the move. In the 1970s and 1980s, Mrs. Santos described Olowalu as idyllic with much less traffic and less busy roads compared to today. The shoreline was covered in dense kiawe and other vegetation making it difficult to traverse from the road to the ocean. Over the years, there has been noticeable erosion of coastal vegetation, and water inundation at the shoreline has increased in the last 5 to 10 years. Mrs. Santos recollected that when she and her husband visited Olowalu before moving, she was enthralled by the whale song she could hear in the water. The environment has changed, with windier conditions that easily damage plant life. She stated that the area is consistently windy and when the plantation used to burn and harvest cane close to their home, they were impacted by the ash and dust.

In the past, about 10 families lived in Olowalu. The Santos ʻohana raised goats among the kiawe and haole koa. However, much of the vegetation has disappeared, except for areas up mauka. The coastline transformation has been significant, with the disappearance of the majority of trees, and push piles becoming more visible due to the decline of cane. Mrs. Santos recollected a place at the shore they called Jump Off Beach where they would jump from a kiawe tree straight into deep water, near where the culvert is. She reminisces about a vibrant marine life close to shore, with abundant fish and a coral reef much closer to the shore than it is today. However, she notes a rapid diminishing of the sea and significant changes in the beach landscape.

The biggest changes cited by Mrs. Santos are ocean inundation, land development, and a hotter climate, possibly due to the decrease in trees. She advocates for relocating the highway due to ocean inundation and stresses the importance of sustaining the road for long-term community access. She emphasizes the need to consider cultural sites, like the Olowalu petroglyphs, when planning development.

Mrs. Santos proposes protecting Olowalu as an untouched historic landmark, maintaining its history and cultural significance. She calls for better maintenance of specific sites, such as the petroglyphs, and advocates for protecting the coral reef by monitoring runoff to prevent silt and dirt.

She describes a spiritual connection to Olowalu, citing an incident during the sugar cane times where she felt a warning during a big fire in the middle of the night. She spoke about Olowalu's unique wind sound having a spiritual and powerful nature.

In conclusion, Mrs. Santos fondly remembers the happiest times when her children were little, playing on the beach with no one else around. However, she expresses concern for the current state of Olowalu, with increased exposure of family homes, ongoing development, roadways, ocean changes, and coral reef destruction. Her plea is to protect the reef, mountainside, and culturally significant areas for future generations.

4.3 COMMUNITY OUTREACH RESULTS AND INFORMAL INTERVIEWS

4.3.1 Ekolu Lindsey via Phone on March 14

Edwin "Ekolu" Lindsey III was born and raised in Lāhainā and is on the board of Kipuka Olowalu, a cultural reserve located in Olowalu Valley. During an informal phone discussion, Ekolu stated that the focus should be on the importance of Olowalu Community input, emphasizing the impact on petroglyphs and access to the valley. He stressed the need to address the influx of homelessness, considering historical areas affected by camping. He remembers an old wall where the homeless are camping near the Olowalu area now. He would like to address the construction impact and stream runoff affecting the ocean and reef as well as continued local access to the ocean and fishing resources. He highlighted key concerns such as the need to preserve the view plane for navigation, respect traditional land markers, and minimize light and noise pollution for wildlife safety, including sea birds and nēnē up mauka.

4.3.2 Tiare Lawrence

Tiare Lawrence states that her family ties are to the Nahooikaika ʻohana and the kuleana land that is located behind the store. Discussion revolved around thoughts on the project; it was stated that the road realignment should not be close to Puʻu Kilea and heiau because there were such well-known villages in that mauka stream area, as well as in Kapaiki. Going through any of those mahele parcels should be off-limits. Ms. Lawrence suggests utilizing old cane haul road areas and Pioneer Mill parcels that are now owned by Peter Martin as primary roadway access points since the statistics of finding iwi and artifacts is lower in those already disturbed land areas.

She is worried about construction runoff from the building of a highway in the mauka areas of Olowalu and Ukumehame, because of the previous sediment runoff from the makai construction of the large homes onto the reefs which caused destruction to the fragile ecosystem. She wants to mitigate that type of potential damage.

She also expressed concern over the overarching plan and how the highway realignment will connect to the Pali and the Lahaina bypass in the long term. She prefers that the alignment not interfere with any kuleana land parcels (especially those that are currently in litigation or will be litigated in the future). She suggests having the highway go above Kapaiki Village (due to sea level rise and to provide reprieve for the roadway and ocean in that area).

She mentioned the degradation of the reef system in Olowalu; how vibrant and colorful the reef system used to be and the changes that have occurred that have negatively impacted it. She stated that her ʻohana were fishermen and shoreline gatherers and they continue to fish there, however, she could not recollect gathering mauka resources, as those areas were inundated with sugarcane. Further impacts from Pioneer Mill, during the sugarcane industry, was the disappearance of functioning loʻi and kalo production. Ms. Lawrence professed that people are utilizing the valley for food production in both Olowalu and Ukumehame now and she would like those areas to be preserved so those agricultural practices can continue.

She described going up to the heiau areas recently and how they are adjacent to large estates which impairs the visual and cultural experience for Hawaiians. She expressed how sad it is to see the shift in usage at that once-storied and special place.

Lastly, she strongly suggests including the land title disputes for the LCAs in the project area.

4.3.3 Group Outreach with Tosh Fujita, Vicki Palafox, and Ulu Nahooikaika

In a group consultation held in November of 2022, residents of Olowalu and Ukumehame, Tosh Fujita, Vicky Palafox, and Ulu Nahooikaika presented insight into the project and the implications of the realignment on the area they stated was the once-green Olowalu heiau and agricultural complex.

Ms. Palafox offered information regarding the pillars and cornerstones of the heiau being places of human sacrifice. She also advised that the hale (building) on top of the heiau's four corners were also the location of sacrifices. She also mentioned that the rivers are connected to the heiau

and that it acted as the division between Olowalu and Ukumehame. There was concern regarding the potential vibrations from pylon driving affecting the project areas.

Mr. Nahooikaika mentioned that the mauka-makai access was only relevant to the people who lived in the Olowalu subdivision while Ms. Palafox's comment regarding access was about maintaining a way through Pohaku Road.

Mr. Fujita advised there was a waterfall and a hot spring at one of the Land Commission Awards that belonged to [David] Malo. He raised concerns about land being taken and did not want anyone to encroach on his māla (garden). It was stated that the group was aware that it does appear that the road alignment would be outside of the main cultural sites as well as the current house sites, however, concerns about the zero buffer was brought up and the recommendation for a sound barrier to be made of displaced and recovered pōhaku from sites within the area was presented.

4.3.4 Kapono'ai Molitau – Email In Entirety from 3/15

Mahalo nui for your email. I have been thinking about how I might be able to offer my thoughts about this significant area of 'Ukumehame and Olowalu. My thoughts are from items shared and taught by my Kumu Hula and Makua Hānai, John Keola Lake. His 'ohana comes from both 'Ukumehame and Olowalu. 'Ukumehame has many significant meanings to Kumu Lake and his 'ohana as there are many significant sites and chants that are associated with places that their 'ohana have acknowledged.

Oli Wahi Pana: Kū Kahi Kanānā 'Ukumehame. This chant speaks of their 'ohana that resided in the valley of 'Ukumehame. His name was Papa John Kini that was kanaka mahi'ai kalo that tended over 35 taro patches and over saw 3.5 acres in the valley. His 'āina was located just below the naturally carved out manu that is on the Lahaina side of the valley cliff face. The manu would come alive every morning as the sun would come over Hana'ula and cast its rays over 'Ukumehame waking this manu daily. Kumu John Keola Lake wrote this mele Kū Kahi Kanānā 'Ukumehame and speaks of the amazing wind known to the kupa'āina as Makani Kū'ehulepo that would make the telephone lines move like "jump rope" as it winds blew from mauka to makai and would carry its lepo (dust, dirt) out toward Lele. This mele also speaks about looking from their 'āna [sic] and observing the 'ilikai from Lāna'i to Ke'ānapa'akai. This observation allowed for the kupa'āina to witness proper harvesting of limu, certain i'a, he'e, and other delicacies from their vantage point in 'Ukumehame. This vantage point still exist today but will surely be impacted with the build of this bypass.

Currently there is the valley walls of Manawainui and the valley of 'Ukumehame that have many accounts of night marchers that pass through from mauka of Olowalu as well as mauka of 'Ukumehame. The area today is the old Camp Pecusa area with the Lakes original family home on the shoreline area nearest the camp. Kumu Lake's [sic] has shared many experiences of night marchers and his own first account experience of when he was a young child playing hide and seek in the fields. Once [sic] particular evening he was playing with his cousins and he went hiding,

he was then tossed from behind across the field and landed face down. He was unable to get up but he shared that he observed footsteps and observed light made of torches passing above him with chanters in the background. He called out to his ʻohana names and was released shortly after and he ran back to his family home. He told his experiences with his tūtū and he was told that his ʻohana was the one that held him down to make sure that he was spared. This house on the shorline of of [sic] Olowalu continues to be there but has been sold many time over because of where the current home is built upon, upon family burial sites.

Currently these are some of the stories and experiences that I am comfortable in sharing. There are more and many have been impacted with current development of these areas. Looking at where the proposed build of the bypass, Iʻm sure there will be other sites and storied moʻolelo that may be impacted in the future.

Mahalo nui-
Kaponoʻai

4.4 HAWAIIAN AND LOCAL COMMUNITY ORGANIZATIONS

4.4.1 The Nature Conservancy

Nalei Sampson, Maui Marine Project Coordinator with The Nature Conservancy, advised on a year-long snapshot project that she is coordinating in the area (running from September 2022 to September 2023). Her infographic will include data on wildfire and sediment runoff, water stations and well locations, the 939 acres of mother reef, and cesspool locations, as well as watershed information and rainfall metrics, all of which will inform mitigation and protection. She stated that an ecological study on groundwater and rainwater will be included on a map to visually explain the data; the map will be a stand-alone document. One of the most impactful issues she identified was the sediment runoff in the wetland areas and surrounding shorelines, more specifically at Manawaipueo Gulch, which is the reason why The Nature Conservancy expanded their research area to include Papalaua and Ukumehame.

During discussions with the community, Ms. Sampson advised individuals expressed they recognized many changes in the land due to fire, land use, and homeless encampments. She advised that members of the community are becoming more engaged with the management of the area as the resources are valuable and under threat. Although she is aware that the state Department of Transportation will be conducting an Environmental Impact Study (EIS), The Nature Conservancy is unsure of the scope of that EIS and will therefore be conducting their own wetland study for Maui, including the potentially impacted areas of the realignment.

5.0 TRADITIONAL CULTURAL PRACTICES

The typical arrangement of a Hawaiian ahupuaʻa extended from the upland forested areas to several fathoms out in the ocean, encompassing cultural and agricultural resources to be cultivated, stewarded, and shared by those within the district. In *Lāʻau Hawaiʻi*, Abbott explains further that: "A Hawaiian family belonged not to a village but rather to an ahupuaʻa, a land division usually extending from the mountain heights to the sea... [which] consisted of at least one valley and included the ridges on both sides of the valley as well as the offshore area to the depth of a man's chest or to the reef crest" (1992:11). Within this mauka to makai context, a wide variety of cultural practices and rights along with their associated resources could be found. Examples of those practices, rights, and resources have been gathered during the background research, as well as through the moʻolelo and information documented through consulation, as presented above. Although heavily impacted by historical events, development, and the commodification of the biocultural landscape, these traditional customary practices continue today. Further discussion regarding specific aspects and resources identified through the consultation process is presented below focusing on the traditional and customary practices that may potentially be affected by the proposed project.

5.1 MAUKA RESOURCES

In the interviews above, Olowalu was perceived as a fertile, agricultural area and traditional flora mauka resources that were mentioned were kalo (*Colocasia esculenta*) and lāʻī (*Cordyline fruticosa*). As in most of the Hawaiian Islands, kalo is extremely prevalent and important to the people and biocultural landscape of Olowalu and Ukumehame. Kalo is a marsh plant and a canoe plant, a staple food crop brought with the original people who migrated across the Pacific to settle in Hawaiʻi. Meant to be grown in wet areas, kalo initially prescribed the locations where those early Polynesians established their villages and also lent to the architectural and technological advances that came along with growing human populations (Krauss 1993:6). Beyond being a food crop, however, kalo is also considered an ancestor to the Hawaiian people. In one moʻolelo regarding the connection between kalo and humankind, Wākea and his daughter by Papa, Hoʻohōkūkalani, have a stillborn child they name Hāloanakalaukapalili, who they bury near their home and from where the first kalo plant grew. Another child was born to the couple and this boy, named Hāloa, became the ancestor to all humans, connecting the kalo, his older brother, to the Hawaiian people, his descendants (Beckwith 1970:297-298; Krauss 1993:5).

Lāʻī, mentioned by Mr. Kaʻai as a resource his family grew in Olowalu stream, also called tī or kī, is an sparingly branched shrub that can reach three to ten feet in height with glossy, oblong leaf clusters that spiral from the slender branched stems which are marked with leaf scars (Krauss 1993:186). Lāʻī is one of the most utlized plants in Hawaiian culture as illustrated through its many uses including clothing, dishes, fishing, house thatching, in healing practices and religious

ceremonies, and perhaps more well known in cooking and lei making (Isabella Aiona Abbott 1992). Although more frequently recognized in cooking as a way to wrap food parcels using the leaf of the lāʻī, the stems of the plant were also baked in large imu (underground ovens), while purported to be a fallback food during times of famine by Handy and Handy (1972:224), Abbott proposes its use more regularly, remembering the molasses sugar taste of it from childhood (1992:42).

Mr. Lindsey mentioned protecting seabirds and nēnē known to frequent the area. Historical research documented above (see Sections 3.1.3.2 and 3.1.4.1) also found the project areas were inhabited by various bird species including the koaʻe (Tropicbird, *Phaethon lepturus*), ʻuaʻa (Hawaiian Petrel, *Pterodroma sandwichensis*), and the ʻiwa (Great Frigatebird, *Fregata minor*) that Kaʻiwaloa Heiau is named for.

5.2 MAKAI RESOURCES

Use of shoreline resources and preference for residency along the coastline from before Western contact to the present is evident in moʻolelo, archaeological findings (Barrera 1989; Griffin et al. 1976), and the continuous use of fishing traditions practiced by the contemporary community as advised by Ms. Lawrence (see Section 4.3). Traditionally, nearly all members of the Hawaiian population regularly participated in some form of fishing (Kahāʻulelio 2006:2). Marine fishing practices like diving, pole fishing, spear fishing, basket trapping, laying net, hukilau, limu gathering, ʻopihi picking, crab hunting, and more have been occurring for generations in the coastal regions of the project areas (Kahāʻulelio 2006). Freshwater fishing along streams and in mountain pools was mainly the task of women using their hands, sticks, and small nets (Titcomb 1972:4). Various aquatic resources are identified as being present, harvested, and valued in shoreline, intertidal, and the nearshore environments of the Olowalu and Ukumehame. These ocean resources, paired with agriculture cultivation made up the primary food source for native Hawaiians who lived in and frequented the area.

Mr. Kaʻai, in his reflection on the ʻohana taking care of the stream, mentioned the iʻa in the stream, the importance of mauka to makai connectivity, and water as a treasure. It is necessary, therefore, to highlight the ways in which freshwater technologies were traditionally utilized by Hawaiians to ensure mauka to makai (upland to seaward) connectivity that allowed resources, like iʻa, both in the streams and in the ocean, to thrive. In Hawaiian culture, water was more than just a resource, it was the very essence of life. Its flow from its source in the mountains, down to the kula (plains) which were watered through intricate ʻauwai (irrigation systems) that diverted and then returned the water to continue its flow down to estruaries or fishponds, defined not only agriculture, but even society itself. Words like *waiwai* for wealth and *kānāwai* for law echoed the undeniable truth: water was, and continues to be, the lifeblood of the Hawaiian world (C. E. S. Handy and Handy 1972:57).

In the mountain streams as previously noted (see Section 2.1), freshwater fish and shrimp species are known to inhabit both Olowalu and Ukumehame Streams. Kamakau explains that ʻōpae (shrimp) and ʻoʻopu (freshwater gobies) were sometimes found in loʻi kalo, which would function as fishponds not unlike the loko kuapā (shoreline ponds) and loko puʻuone (sand dune pond) that were stocked with fish from the ocean to ensure a constant supply of food (Kamakau 1976:49-50). Further, Ms. Kanoelani Steward of the Nature Conservancy, during public testimony stated:

> In Olowalu, in the middle region of Olowalu, we saw a lot of nākea and nōpili. And in the upper Olowalu, we saw the same species, nōpili and nākea, as well... And then Ukumehame was exciting because there was a lot of old hīhīwai eggs in the middle region, as well as nōpili and nākea. And then we got to the top, more towards the top of the valley, we actually saw hīhīwai and ʻōpae kuahiwi, and nōpili, nākea, and ʻoʻopu ʻalamoʻo. (Commission on Water Resource Management 2018:7)

An additional marine resource noted by Mr. Molitau through the chant given to him by his Kumu, John Lake, is limu (seaweed, algae), which can be a food source for fish and a garnish to eat with prepared fish. The Hawaiians categorized the fresh and salt water forms of limu as fish which is illustrated in the two ʻōlelo noʻeau below (Pukui 1983):

> Ka iʻa lauoho loloa o ke kai.
> The long-haired fish of the sea.
> Limu, or seaweed.
> (ʻŌlelo Noʻeau 1362:148)

> Ka iʻa māewa i ke kai.
> The fish that sways in the sea.
> The *limu* (seaweed), which sways with the movement of the sea.
> (ʻŌlelo Noʻeau 1368:149)

As presented by Abbott (1974), limu was important to a nutritionally balanced diet for Hawaiians along with iʻa (fish or meat) and poi (cooked and pounded kalo which is thinned with water), supplying not only relish and variety, but necessary vitamins and minerals. Although many of the names of the various limu have been lost to time, the limu that have been categorized have descriptive names based on their characteristics like color, what fish eat them, and their habitat. One of the most prolific types of seaweed is limu kala (*Sargassum echinocarpum*). Although normally utilized by consumption, this type of limu was also used medicinally as a poultice for open coral cuts. During times of family strife, the leaves were given to each member of a family during hoʻoponopono (putting right) and eaten after everything had been forgiven which gave the seaweed its name of kala or to forgive (Isabella Aiona Abbott and Williamson 1974). Malo also reported that kahuna used the limu kala in two rituals, one for cleansing that included sea water and turmeric (1898:132-133), and the other as another medicinal treatment paired with akua worship (1898:145).

Mr. Santos did mention that whilst traversing the land he found sea shells and urchin spines. Focusing on the spined sea urchins, collectively known as wana, there are actually three different long-spined sea urchins in Hawaiian waters. The longest spined is *Diadema paucispinum* and is found in more protected and deeper areas of the reef while the other two *Echinothrix diadema* and *Echinothrix calamaris* are found on reef flats and tidepools. Collection of these sea urchins usually involved using a stick to knock their long spines off and to turn them over to expose the shorter spines that do not cause deep puncture wounds when gathering them by hand (Titcomb et al. 1978:370-371). Wana are a seasonal delicacy because they are not edible without gonads. The timing of wana harvesting was indicated by its land based plant counterpart, the hala (pandanus) (ibid). Many Hawaiian resources were linked to each other through observed and correlated activities that gave indications between connected species, for example, the following Hawaiian proverb indicates the relationship between sea urchins and hala:

> Pala ka hala. Momona ka hāʻukeʻuke.
> When the hala flowers are ripe, the sea-eggs are fat.
> (Judd 1930:9, Proverb #24)

Another such correlative proverb linking marine and land resources is:

> Pua ke kō, ku mai ka heʻe.
> When the sugar cane is in bloom, the squids are plentiful.
> Sugarcane bloom is the sign of the time to go squidding.
> (Judd 1930:8, Proverb #15)

According to Titcomb et al (1978:371-372) there are various ways to prepare and eat wana as detailed in the following:

> To prepare wana for eating, the spines are removed, usually by knocking them off or rubbing them against stones. They are opened by crushing part of the test, or by putting salt on the mouth of the urchin and leaving it thus overnight, then making a little crack all around the mouth area and lifting it off. The five orange-colored tongues of gonads (elelo) clinging to the test may then be scooped out. This is the choice "meat" sought for, but the fluid, kai, is well liked too. It is always drained from the body cavity and the mouth parts. The kai and elelo combined make a relish that is well liked with poi or sweet potatoes. A little salt is added to the relish and it is ready to eat when the salt is dissolved. In large wana, the elelo are about 2 inches across and as thick as a child's tongue. The combination of crayfish and wana was a favorite; wana was also combined with raw fish or ʻopihi, and, in modern times, with salt salmon.

The importance of the extensive, mother coral reef of Olowalu is conveyed above through habitat, shelter, and as a food source for marine fish, invertebrates, and limu. Further to that, coral reefs have been proven to protect the shoreline from wave energy and erosion (Pacific Coastal and Marine Science Center 2022). Coral reefs have also been an embattled field regarding

whether they are a source or sink for CO_2 (Fagan and Mackenzie 2007) and how their current bleaching due to climate change may impact the ecosystems they are a part of (Bahr et al. 2017).

5.3 TRADITIONAL ACCESS AND TRAILS

Traditional access and trails through the valley are historically significant and definitely need to be maintained and preserved in perpetuity. Up mauka, the traditional access to the Olowalu area was through the ʻĪao Valley bypass starting near Manienie and ending in the Olowalu Valley where Kipuka Olowalu exists today, and the presence of large and eclectic petroglyphs near Puʻu Kilea mark those interactions over time. Another access route was along the ocean, named Ke Alaloa O Maui (Piilani trail) was the only ancient pathway to encircle any Hawaiian island and existed along the makai coast, where the current Honoapiilani Highway sits currently. During the proposed highway realignment more mauka, recognition of the Alaloa path should be seen along the makai route with proper signage and preservation plans in place.

Trails and ceremonial access to the heiau // Elmerʻs concerns about tourists and exploitation. are also important elements to notate to avoid desecration of these spiritually significant connections from heiau to heiau as well as heiau to major water sources like the ocean and the rivers, as both fresh and salt water were necessary for the ceremonial activities done in these significant structures. Kahu and aliʻi traversed on foot from the heiau areas to the ocean for hiʻuwai (A ceremony of ablution or religious purification directed by a high priest. One part of the ceremonial consisted in bathing in streams to which virtue had been previously imparted by the priest on the evening of Hoaka which was one of the ancient tabu days.- wehewehe.org) or cleansing rituals both before and after major ceremonies and fresh water was necessary for Hale O Papa and other traditional and spiritual practices.

Proposed plans should also take into account trails and traditional pathways for night marchers and other spiritual entities familiar with the area. These trails have been said to connect from heiau to heiau in a direct line parallel to the coastline and from heiau to the major water sources in the area both ocean, stream and to underground freshwater springs.

5.4 TRADITIONAL HAWAIIAN SITES

Heiau and spiritual connection is also a very large and integral part of the Olowalu and Ukumehame areas. Olowalu has Kaiwaloa Heiau, a large platform heiau used for human sacrifice along with a smaller agricultural heiau dedicated to Lono and Ukumehame has the Hikii heiau which has disputed usage but is known to have many burials on site. Each was used generationally to honor ancestors and akua and should be left alone and preserved with a pretty wide berth for the area to be possibly reconstructed and utilized into the future.

> “In addition to many marked Hawaiian burial sites, Olowalu Cultural Reserve has several heiau. Ka’iwaloa (Kawaialoa) measures 51 by 32 meters and is interpreted as a site for major religious ceremonies involving high priests and ruling chiefs from the

> entire Lāhainā moku, from Ukumehame to Kekaʻa. **The ʻiwa bird frequented Olowalu, and Kaʻiwaloa heiau is translated "the great ʻiwa." The ʻiwa is an aid to Polynesian navigators and is often pictured at the center of the navigators' sky compass. Kaʻiwaloa heiau faces south-southwest toward Kahoʻolawe and Ke Ala i Kahiki navigation lane to Tahiti.** Another large heiau in Ukumehame is interpreted as an astronomy school for navigators. Ali'i Nui Hoapili was the last to be trained there. A smaller, unnamed heiau has been encroached by a modern rock berm lower down on the kula, southwest of Puʻu Kilea. In the upper valley, a third system of terraces and loʻi close to Olowalu Stream has been interpreted as a rare hale o papa women's heiau. In addition to these features, a koʻa (fishing heiau,) a hillside lookout, and several personal shrines associated with ancient habitation sites are also preserved." Puuhonua: The Legacy of Olowalu, pg 10

We also want to notate a special designation for the luakini heiau which would have been used for human sacrifice to honor the god Kū during times of war. This designation of a heiau is very specialized in nature as it is said to include a Hale o Papa, women's meeting house (which is a rare occurrence) as well as stories of visuals of fireballs rising up from the heiau itself when it was used for war exchange, is powerful and very unique in nature. Not many Maui or Hawaii heiau have reference to a Hale o Papa and most notably, these Hale o Papa needed access to freshwater in order to perform certain ceremonial rituals. Women were utilized to open and close the ceremony since they are the human embodiment of having a connection to both birth and death, ao and po. This designation makes them powerful beings who were often kept in their own hale on the ceremonial grounds.

There are also moʻolelo about underwater heiau, directly makai from the Kaiwaloa heiau for reverence of mano (sharks). These ocean heiau were constructed to pay homage to Kanaloa and shark gods that existed in that area. Its other primary purpose was to be a physical indicator of this known shark breeding ground for black tipped reef sharks.

5.5 TRADITIONAL HAWAIIAN BURIALS AND HISTORIC CEMETERIES

Because this was a very populated place for generations, there have been a number of burials in the area from a multitude of time periods and ethnicities who have resided within this stretch of land. We also see more traditional burial areas or cemeteries listed on the archaeological sites map up near Puʻu Kilea, near the church grounds on Olowalu Village Road and behind the church boundaries into the sugar cane cultivation area.

We also have records of Japanese cemeteries that exist closer to the old Ishiki store which are still there (although some remains have been interred and moved to other cemetery locations around Maui in more recent history).

In Ukumehame, there are burials on familial kuleana land, as well as in heiau type structures.

We also know that there were large scale burials in the Olowalu makai area, that were a direct result of the Olowalu Massacre and the death of over 100 Olowalu inhabitants who chose to

trade with the Eleanora when Simon Metcalfe decided to get revenge for his slain deckhand and lost skiff.

As the highway approaches the area around the current Camp Olowalu parcel, proposed plans should be very mindful of iwi that could be in the ground near any archaeological site or condensed living areas, as well as near the ocean in the sandy shoreline where bones were traditionally placed. Caution should be taken when deciding to disrupt any areas that were part of kuleana parcels that were awarded in the Mahele records, as those would have shown inhabitants boundaries and house sites and may be a good indicator of artifact placements.

5.6 TRADITIONAL HAWAIIAN SPIRITUALITY AND CEREMONY

Navigation and wayfinding is also a traditional practice that harkens back to the time of native Hawaiian rule when they traveled from other islands to Maui frequently. It is said that the valley topography which can be seen out at sea, allowed for a pathway and navigational view plane which could be followed. We know that navigational practitioners reference Hokuʻula as an important navigational star used to align with Ukumehame, and similarly they expect Olowalu to have a navigational marker that also helps to align with their shoreline, heiau, underwater heiau, etc.

We also see tales of iwa birds frequenting the area, which were beacons for canoe vessels and due to the welcoming coastline in these areas, canoe could come ashore and launch quite easily from these sandy coastal areas.

> The ʻiwa bird frequented Olowalu, and Kaʻiwaloa heiau is translated “the great ʻiwa.” The ʻiwa is an aid to Polynesian navigators and is often pictured at the center of the navigators' sky compass. Kaʻiwaloa heiau faces south-southwest toward Kaho’olawe and Ke Ala i Kahiki navigation lane to Tahiti. (puuhonua, pg 10)

Speaking with Kala Baybayan Tanaka, a traditional celestial navigator, she speaks of the definite presence and need for navigational markers for steering a canoe to its shoreline destination and how these historically significant places had specific stars and topographic markers to guide by. She referenced Hokuʻula in Ukumehame and said that with a dedicated navigator conducting kilo in those areas, we could define those markers that were traditionally used.

6.0 ANALYSIS AND RECOMMENDATIONS

The State of Hawaiʻi has a constitutional and statutory obligation to protect native Hawaiian customary and traditional gathering rights. We offer this introductory section to explain the basis and substance of the state's obligations, as well as the impact of this protection upon traditional western private property rights and the role of private landowners in the necessary research and analysis of traditional and customary practices. To provide the appropriate historical context for such traditional and customary practices, an authoritative treatise on this subject state:

> *At the time of Western contact in 1778, Native Hawaiians "lived in a highly organized, self-sufficient, subsistent social system based on communal land tenure with a sophisticated language, culture, and religion." Access from one area to another—along the shore, between adjacent ahupuaʻa (land divisions [usually extending from the mountains to the sea along rational lines, such as ridges or other natural characteristics]), to the mountains and the sea, and to small plots of land cultivated or harvested by native tenants—was a necessary part of early Hawaiian life. Gathering activities supplemented everyday food and medicinal supplies, while cultural and religious practices sustained the people in a variety of ways.*
> *Prior to 1839, ancient Hawaiian custom and usage governed the islands. To ensure the political existence of the kingdom in the face of expanding foreign influence, Kamehameha III developed a system of codified laws that incorporated protections for ancient tradition, custom, and usage. In other words, the laws in force at the time of the Māhele in the mid-1800s and for some time thereafter recognized the importance of traditional and customary practices to the native people. Many of these laws survived later political transformations and continue to apply as background principles of private property law in the State of Hawaiʻi. (MacKenzie et al. 2015:1082).*

With respect to "laws [that] survived later political transformations", the present-day obligation of the State to protect native Hawaiian traditional and customary practices is based, first, upon the State Constitution and, in addition, upon the legislature's acts as codified in the Hawaiʻi Revised Statutes and the judiciary's interpretation of the state constitution and state statutes through case law. These authoritative sources of law, in essence, describe how the state seeks to integrate and protect native Hawaiian traditional and customary practices in a western system of private property ownership

Article XII, section 7 of the Hawaiʻi Constitution provides:

> *The State reaffirms and shall protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupuaʻa tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights.*

Delegates to the 1978 Hawaiʻi Constitutional Convention explained:

> *The proposed new section reaffirms all rights customarily and traditionally held by ancient Hawaiians. . . . [B]esides fishing rights, other rights for sustenance, cultural and religious purposes exist. Hunting, gathering, access and water rights, while not provided for in the State Constitution, were nevertheless an integral part of the ancient Hawaiian civilization and are retained by its descendants." Hawaiian Affairs Comm., Standing Comm. Rep. No. 57, reprinted in 1 Proceedings of the Constitutional Convention of Hawaiʻi of 1978, at 637, 640 (1980).*

With respect to legislative acts, Section 7-1 of the HRS specifically protects the right to gather, although that right is limited in scope to the enumerated items that are primarily used for constructing a house or starting a fire. Section 1-1 of the HRS offers broader protection for the exercise of traditional and customary rights. By codifying "Hawaiian usage" as an exception to the common law of the state, this statutory provision provides "a vehicle for the continued existence of those customary rights which continued to be practiced" after November 25, 1892. *Kalipi v. Hawaiian Trust Co.,* 66 Haw. 1, 10, 656 P.2d 745, 750–51 (1982).

In a series of landmark cases beginning with *Kalipi*, the Hawaiʻi Supreme Court reaffirmed the customary and traditional gathering rights of *ahupuaʻa* tenants, particularly under article XII, section 7 of the Hawaiʻi Constitution *See Kalipi,* 66 Haw. at 10–12, 656 P.2d at 750–52; *Pele Defense Fund v. Paty*, 73 Haw. 578, 837 P.2d 1247 (1992), *cert. denied*, 507 U.S. 918 (1993); *Public Access Shoreline Haw. v. Haw. Cnty. Planning Comm'n*, 79 Hawaiʻi 425, 903 P.2d 1246 (1995), cert. denied, 517 U.S. 1163 (1996) (commonly known as "*PASH*"); *Ka Paʻakai O Ka ʻĀina v. Land Use Com'n, State of Hawaiʻi*, 94 Hawaiʻi 31, 7P.3d 1068 (2000). Through this line of cases, the Supreme Court established the manner in which state agencies must apply constitutional protections of native Hawaiian gathering rights in the development of private real property.

In *Kalipi*, the Hawaiʻi Supreme Court ruled that "any argument for the extinguishing of traditional rights based simply upon the possible inconsistency of purported native rights with our modern system of land tenure must fail.". *Kalipi,* 66 Haw. at 4, 656 P.2d at 748. *In Pele Defense Fund v. Paty*, the Court held that "native Hawaiian rights protected by article XII, section 7 may extend beyond the *ahupuaʻa* in which a native Hawaiian resides where such rights have been customarily and traditionally exercised in this manner." *Pele Defense Fund v. Paty*, 73 Haw. at 620, 837 P.2d 1272. In the PASH case, the Court stated that "legitimate customary and traditional practices must be protected to the extent feasible in accordance with article XII, section 7." *PASH*, 79 Hawaiʻi at 451, 903 P.2d at 1272

The Court in PASH stated that the "State retains the ability to reconcile competing interests under article XII, section 7". *PASH*, 79 Hawaiʻi at 447, 903 P.2d at 1268. As part of this balance of interests, the Court stated: (a) "[although access is only guaranteed in connection with undeveloped lands, and article XII, section 7 does not require the preservation of such lands, the State does not have the unfettered discretion to regulate the rights of ahupua'a tenants out of existence", *id.* at 451, 903 P.2d at 1272, and (b) "the balance of interests and harms clearly favors a right of exclusion for private property owners as against persons pursuing non-traditional practices or exercising otherwise valid

customary rights in an unreasonable manner", although, "[o]n the other hand, the reasonable exercise of ancient Hawaiian usage is entitled to protection under article XII, section 7", *id.* at 442, 903 P.2d at 1272.

In Ka Paʻakai O Ka ʻĀina, the Supreme Court provided further direction on the constitutional and statutory responsibility of state agencies to preserve and protect the rights of native Hawaiians to carry-out their traditional and customary practices to the extent feasible and, in so doing, "the Court introduced an analytical framework that governmental agencies must specifically consider when balancing their obligations to protect traditional and customary practices against private property (as well as competing public) interests." (MacKenzie et al. 2015:1109).

In *Ka Paʻakai O Ka ʻĀina*, 94 Haw. at 35, 7 P.3d at 1072, the Court held that the State Land Use Commission (LUC) failed to satisfy its constitutional and statutory obligations to preserve and protect customary and traditional rights of native Hawaiians (Belatti 2003). At issue was the LUC's grant of a petition to reclassify over 1,000 acres of land in the *ahupuaʻa* of Kaʻupulehu on Hawaiʻi Island from the State Land Use "Conservation District" to the State Land Use "Urban District" in order to allow the development of a new resort. The Court acknowledged a variety of traditional and customary rights asserted by the petitioners, who were comprised of a coalition of Native Hawaiian community organizations. These rights included "fishing [and] gathering salt, ʻopihi, limu, kūpeʻe (edible marine snails whose shells are used for ornaments; the rare ones by chiefs), Pele's Tears (tear drops made from pahoehoe lava), and hāʻukeʻuke (edible sea urchins)." *Ka Paʻakai O Ka ʻĀina*, 94 Haw. at 43 and nn.19-21, 7 P.3d at 1080 and nn. 19-21. The Court also recognized the "special religious significance" of an 1800-1801 lava flow to gather salt for subsistence and religious purposes. *Id.*

The petitioners further asserted that "the petition area is associated with important personages and events in Hawaiian history, contains well-known physical entities (such as the shoreline, Ka Lae Mano and the 1800-1801 lava flow) and remnants of the native tenants' lateral shoreline and mauka-makai trail system, living areas and burials." *Id*. at 43, 7 P.3d at 1080. Agreeing with the petitioners that their interests as native Hawaiians and as tenants of the *ahupuaʻa* of Kaʻupulehu would be impaired by the proposed development in relation to the use of ancient trails and the shoreline area to practice traditional and customary gathering rights, the Court held the LUC had failed to develop a proper record on such rights and consider and analyze the extent of Native Hawaiian practitioners' exercise of traditional and customary rights in the affected area. The Court stated that the LUC, as the reviewing state agency, must consider and make express findings of fact and conclusions of law regarding the cultural, historical, and natural resources of a subject property as they relate to Native Hawaiian rights when determining what restrictions should be placed on land use. *Ka Paʻakai O Ka ʻĀina* , 94 Haw. at 35, 7 P.3d at 1072.

The Court further held that the LUC, by directing the developer to work independently to protect cultural rights, impermissibly delegated the LUC's constitutional and statutory responsibility, as a State agency, to protect and preserve cultural resources and native Hawaiian rights. The Court vacated the LUC's grant of the developer's application for a land use boundary reclassification and remanded the case to the LUC to make findings of fact and conclusions of law relating to:

> *(1) the identity and scope of "valued cultural, historical, or natural resources" in the petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area;*
> *(2) the extent to which those resources - including traditional and customary native Hawaiian rights - will be affected or impaired by the proposed action; and,*
> *(3) the feasible action, if any, to be taken by the LUC to reasonably protect native Hawaiian rights if they are found to exist. Ka Paʻakai O Ka ʻĀina, 94 Haw. at 35, 7 P.3d at 1072.*

The Court's framework seeks "to effectuate the State's obligation to protect native Hawaiian customary and traditional practices while reasonably accommodating competing private [property] interests". *Id*. at 46-47, 7 P.3d at 1083-84. Beyond the directives to the LUC in this specific case, this three-part framework provides specific direction to state and county agencies when considering land use and development projects on previously undeveloped land and should provide guidance to developers with respect to the record that must be prepared for a discretionary land use authorization or permit.

In attempting to comply with the *PASH* and *Ka Paʻakai O Ka ʻĀina* cases, the LUC had to address the issue of who has the responsibility to identify (and place on the record) any pre-existing native Hawaiian gathering rights. In subsequent boundary amendment proceedings, the LUC directed the petitioner to consult with the Office of Hawaiian Affairs (OHA) and with *kūpuna* in the area regarding past and present practices. The Office of Planning (OP) also consults with OHA. The LUC does not do any independent investigation, rather relies on the record made by the petitioner and OP (and any intervenor) and determines whether that record is sufficient.

Once the rights have been identified and the impacts assessed, the LUC is faced with the difficult problem of reconciling the private property rights, particularly the right of exclusion, with the gathering rights of native Hawaiians, which of themselves can require a certain amount of privacy and seclusion. Following the Supreme Court's remand in *Ka Paʻakai O Ka ʻĀina* and in another case, *In the Matter of the Petition of Destination Villages Kauai*, Docket No. A00731 (2001) in which native Hawaiian gathering rights were shown to exist, the LUC put conditions on its approval of reclassification of property that in each case required the formation of a committee made of up a developer's representative and a representative from the local native Hawaiian community to develop a plan to ensure that the gathering rights are protected. The plans are subject to LUC approval; any controversy arising from the plan is to be resolved by the committee. In the event the committee members cannot agree, they must agree on a third person who then will break the tie.

The LUC chose the committee approach because it did not believe it had sufficient information on resource conservation and management for the area in either of the two cases to make the final decision and, as a practical matter, would not be able to create such a record within the statutorily-mandated (365-day) time frame for making a decision. Because the Supreme Court has forbidden the LUC to delegate its decision-making power over balancing the private property rights and native Hawaiian gathering rights, forming a committee with each party having an equal vote in the outcome and requiring that any plans be approved by the LUC ensured that both sides would have their

interests adequately represented and that the LUC would be the final arbiter that the balance reached meets the requirements of the law.

For purposes of the present project, the following sections provide an analysis of potential effects to currently known traditional and customary practices within and adjacent to the proposed project footprint. Recommendations for managing potential impacts to on-going practices or protecting the integrity of traditional cultural resources that may be present within and adjacent to the project area should traditional cultural practices that were once carried out in the area be re-established.

6.1 ANALYSIS OF EFFECT TO TRADITIONAL AND CUSTOMARY PRACTICES

6.1.1 Traditional Hawaiian Agricultural Practices

The prosperity of each ahupuaʻa (traditional land division) in this region is closely tied to access to freshwater, with participants in this study recounting the historical continuity of water presence in the area. Mr. Elmer Kaai underscored the value of water as both a vital resource and a source of strength in Olowalu, with oral traditions passed down to him describing the area's former fertility—a stark contrast to the dry, barren landscape commonly observed today (see Section 4.2.2). Participants' observations highlighted a marked decline in water availability, attributed to what is believed to be intentional wetland drainage, stream water diversion into ditches and furrows, and reduced water flow due to cane field operations employing water pumps (see Section 4.2.1).

The maintenance and quality of water, spanning from mauka (mountains) to makai (sea), remain vital for sustaining resources, supporting land connectivity and prosperity, and preserving the traditional use of this culturally significant wahi pana (storied place) in line with ancestral values. Participants further noted that disruptions to traditional agricultural systems—specifically the loss of loʻi (taro pond fields) and diminished water supply—were likely due to the impacts of historic sugar cane plantation practices (see Section 4.3.2), historic road construction (see Section 4.2.2), and recent development (see Section 4.2.2).

Regarding the potential for direct adverse effects to traditional agricultural practices within the study area as result of the proposed project, a portion of the land where Mr. Tosh Fujita and his mother, Ms. Vicki Palafox, currently reside—and which includes areas of subsistence farming—would be directly affected by the proposed alternative alignments, as each alternative would cross their parcel. While Mr. Fujita understood the purpose and need of the proposed realignment, he expressed a strong stance against any encroachment on his māla (garden) by the project, as well as opposition to any alternative alignment that would run mauka of his māla and potentially affect the streamflow that is necessary for his māla to thrive.

Like Mr. Fujita, others who were consulted for the study raised concerns about the potential impact of the proposed project on culturally significant freshwater resources and, in turn, on traditional agricultural practices that depend on these resources. Specifically, participants highlighted potential issues related to access, as well as runoff management and its possible

effects on water quality during both the construction phase and the project's operational lifespan (see Sections 4.2.1 and 4.3.2). Potential disruptions to water access for agricultural purposes may also depend on the elevation of the stream crossings. Crossings located further mauka (upland) have a higher likelihood of disrupting downstream agricultural practices that rely on streamflow as opposed to a makai crossing below the primary agricultural areas within the Olowalu Reserve and ohana lands of Ms. Palafox and Mr. Fujita. During construction, such factors include temporary water diversions or reduced in-stream flow to facilitate construction activities. Long-term or recurrent disruptions over time may also depend on the crossing's structural design—such as a culvert or bridge—with culverts being particularly susceptible to constricted blockages during heavy rains and the subsequent risk of flooding depending on size (Rigby et al. 2002) (see Section 4.2.1).

With regard to runoff, the concern for maintaining or ensuring good stream water quality during and following the construction of the proposed project is heightened. Potential adverse effects during construction would revolve around the possibility for increased sediment input into the stream system due to dust (which is airborne) and sediment runoff because of increased areas of unprotected soils during rains. Potential long-term effects as a result both construction and the operational lifespan of the proposed project include the possibility of introducing pollutants such as heavy metals, oils, other substances, debris from construction traffic, regular vehicular traffic, and spillage into the streams and ground water (https://archive.epa.gov/water/archive/web/html/road_runoff.html). Pesticides and fertilizers used along roadway rights-of-way, if utilized for vegetation control during the project lifespan could also introduce pollutants into the stream system or groundwater. In addition to the adverse effects of runoff on traditional agricultural practices, similar concerns extend to the shoreline and marine resources that those consulted have historically relied upon.

Finally, concerns regarding the disruption of physical access to agricultural lands, such as loʻi systems within Olowalu Valley were also raised (see Section 4.3.1).

6.1.2 Traditional Hawaiian Fishing and Marine Resource Gathering

As detailed in Section 5.2, shoreline resource use and coastal residency prior to 1778 and into the present is well-documented in moʻolelo, archaeological studies, and the ongoing fishing traditions practiced by the contemporary community. Marine fishing techniques such as diving, pole fishing, spear fishing, basket trapping, laying nets, hukilau, limu gathering, ʻopihi collecting, crab hunting, and others have been practiced for generations in the coastal regions within the project area (Kahāʻulelio 2006). Mrs. Santos (Section 4.2.3) has observed, however, that in her lifetime, the coastline transformation has been significant, with the disappearance of the majority of trees, and push piles becoming more visible due to the decline of cane. While fishing practices have managed to continue over time, participants in this study have referred to degradation in the fringing reef system at Olowalu and expressed concerns about potential impacts to the coastal waters, reef systems, and marine life. Ms. Tiare Lawrence (Section 4.3.2) and Ms. Margaret Santos (Section 4.2.3) both recalled the vibrancy of life and the colors of the

reefs, noting that the abundance and vibrancy has degraded over time, a factor that Ms. Lawrence attributes to runoff into the ocean from the makai construction of large homes.

With regard to the potential for project related effects to the marine resources, study participants cited concerns about project associated runoff affecting the ocean life and reef (Section 4.3.1, 4.3.2, and 4.2.3). Traditional Hawaiian fishing and marine resource-gathering practices—and, by extension, the well-being of the kupa ʻāina (those with genealogical ties to the land)—rely on the toxin and contaminant free condition of these resources. Concerns about potential sediment input from construction activities, along with the introduction of contaminants through stormwater runoff and groundwater infiltration noted previously in relation to freshwater resources and stream flow, similarly apply to ocean outflow, posing risks to the marine environment and its resources. These factors could negatively impact the marine ecosystem and traditional Hawaiian food systems.

6.1.3 View Planes, Kilo (Observation) Traditions, and Wayfinding

Hawaiians were deeply engaged in observing their environment, documenting in mele (chants) and moʻolelo (stories) the sea's conditions and colors as seen from land, the positions of landmarks from the sea, and the configurations and cycles of stars and planets in the night sky. Relevant to the project area and proposed project, Kumu Kaponoʻai Molitau shared a mele passed down to him by his kumu (teacher) and makua hānai (adoptive parent), Kumu Hula John Keola Lake, describing the view from their ʻāina and observing the ʻilikai (sea surface) from Lānaʻi to Keʻānapaʻakai. This perspective enabled the kupaʻāina (native people with ties to the land) of ʻUkumehame to identify the proper times for harvesting limu (seaweed), certain iʻa (fish), heʻe (squid), and other marine resources, which, as Mr. Molitau noted in his correspondence for this study, are still present today.

Viewsheds from sea to land have traditionally aided wayfinding for both inter-island and inter-Pacific navigation and served as triangulation points for fisheries. Kahāʻulelio recorded specific triangulation points that included landmarks on Lānaʻi, Launiupoko, and Olowalu, along with knowledge of ocean currents to determine the optimal moment to let down the fishing line. At Ukumehame, the pinnacle or puʻu of Hōkūʻūla has been identified as a navigational landmark (Ashdown 1971:10). Ms. Kala Babayan Tanaka, a master navigator, also refers to Hōkūʻūla at Ukumehame as a navigational landmark where a dedicated navigator conducting kilo in those areas could identify those markers, both land and sky, that were traditionally used.

Concerns regarding either the physical removal of the landbound observation areas, where Mr. Molitau notes the possibility of crossing through the areas shared by Kumu Molitau (see Section 4.3.4), or obstruction of the view plane and therefore landmarks from the sea (see Section 4.3.1) as a result of the project have been raised. Light pollution, as an obstruction to star and planet observation, has been noted as an additional concern (see Section 4.3.1).

6.1.4 Traditional Settlement as Reflected in Archaeological Resources and Land Documents of the Mahele ʻĀina

In addition to previously identified archaeological resources related to traditional Hawaiian settlement, land use, and spirituality, land documents of the Mahele ʻĀina have also outlined traditional land use through native testimony and the survey of kuleana lots as a part of a land commission award (see Section 3.2.3). Some note their personal experience with the presence of artifacts below the surface, such as Mr. Santos who shared that he has encountered traditional Hawaiian artifacts (e.g. poi pounders and ulumaika) along with historically introduced objects (e.g. Asian ceramics) and marine shell when working the land around his house lot (Section 4.2.1). Several participants refer to the presence of known heiau at Ukumehame and Olowalu as well as the burial ground at Puʻu Kilea, the petroglyphs below the puʻu, and the archaeological complexes that were identified during the project related archaeological reconnaissance of the proposed alternatives (DEIS Appendix 3.6, see Sections 4.3.2, 4.2.3, and 4.3.3). Ms. Tiare Lawrence referred to her family ties to the Nahoʻoikaika ʻohana who retain and reside on their kuleana lands behind the Olowalu Store, thus illustrating continuous generational ties to a specific area.

Those who participated in this study expressed concerns surrounding maintenance and protection of archaeological sites (Section 4.2.3 and 4.3.3) in relation to impacts from the construction of the proposed project, both physical removal due to construction as well as site degradation as a result of construction related vibration output (e.g. pile driving for structural supports). While there is recognition that construction of the proposed project would seek to avoid wholesale removal of the historically significant sites, concerns regarding proximity of the proposed project, both during construction and the lifespan of the project, and the potential for adverse effects to the soundscape via noise pollution or visual effects of highway to the setting and feel to the archaeological complexes and ceremonial sites were expressed (see Section 4.3.2 and 4.3.3).

Finally, Ms. Tiare Lawrence (Section 4.3.2) expressed specific concerns regarding the proposed alternatives in relation to kuleana parcels, particularly those with a cloud on the title. Her preference was for avoidance of all kuleana parcels and the area of Kapaiki Village.

6.1.5 Aloha ʻĀina, Traditional Knowledge, and Environmental Shifts – Concerns Regarding Indirect Effects of the Proposed Project on the Hawaiian Sense of Place and Wellbeing

The value of Aloha ʻĀina transcends its literal meaning of “love of land,” encompassing the cultural and collective connection of the kupaʻāina to the island ecosystem and the reciprocal relationship between kanaka and land that creates a kuleana to care for the ecosystem so it, in turn, can care for the people. It is also a kuleana to give a voice to the current and past residents and their familial lineages and their reverence for these intact and water rich ahupuaʻa in both Olowalu and Ukumehame. To create a tangible description of the characteristics of this place and to communicate the deep naʻau whispering winds and calming presence that this valley creates for those who live there. Olowalu and Ukumehame are one of the few streams on Maui that still

have continuous mauka to makai streamflow and seeing the resurgence to the reef and the return of native plants and animals during the pandemic, shows us that this functioning connection of resources is resilient and will return in the absence of high traffic and tourism inundation. In this spirit, while the following project-related concerns may not align with tangible traditional practices like agriculture, fishing, or access required to maintain them, they are presented within the Hawaiian worldview of Aloha ʻĀina.

Inherent in the need to realign the current road away from the shoreline is the relocation of the Honoapiʻilani Highway alignment mauka. This realignment further mauka would alter the mauka to makai topography by introducing a road that would cut into the mountainside, thus subdividing the mauna (mountain) in a new way. Rooted in generational knowledge, this change has raised concerns among study participants regarding the impact on natural phenomena and wildlife across the study area.

In observing natural weather patterns and phenomena, some study participants mentioned the strong winds characteristic of Olowalu and Ukumehame. Kumu Kaponoʻai Molitau referenced a mele written by his makua hānai titled Kū Kahi Kanānā ʻUkumehame (Section 4.3.4). This mele speaks of the powerful wind, known to the kupaʻāina as Makani Kūʻehulepo, which would make the telephone lines sway like "jump rope" as it blew from mauka to makai, carrying lepo (dust, dirt) out toward Lele (Lahaina). Mrs. Margaret Santos described how these winds could damage plant life and noted the dust and ash affecting residents during sugar plantation operations and cane burning at Olowalu (Section 4.2.3). She also shared that the sound of these persistent winds conveyed a sense of spirituality and power. The strength of these winds have been recorded in 19th Century newspaper articles and oral traditions that have been handed down for generations (see also Section 3.1.2 ʻŌlelo Noʻeau, Winds, and Rains Associated with Olowalu and Ukumehame.) with one such destructive wind lasting for six days. Depending on the alignment chosen, and based on the concerns shared during consultation for this study, the question of a shift in airflow and effects on air quality arises, particularly at Olowalu where moving the road mauka bisects the residential areas and away from kiawe tree clusters mauka of the road and the large monkeypod trees that line the current alignment at Olowalu. Though unclear whether those monkey pod trees were planted as an intentional mitigation measure, nonetheless, both the kiawe and monkey pod trees may be that these stands may have also played a role in mitigating near road air quality (https://www.epa.gov/air-research/research-near-roadway-and-other-near-source-air-pollution and https://www.epa.gov/sciencematters/living-close-roadways-health-concerns-and-mitigation-strategies.)

With regard to atmospheric impacts, concerns have been expressed about the disappearance of tree cover and the effects that may have resulted in drier conditions in the area (Section 4.2.3) and how road construction may contribute with the removal of tree cover further mauka. Historically, there has been some argument that clearing of the uplands for cattle grazing, agricultural field expansion, and mass harvesting of sandalwood (L. Cheng 2022; Cottrell 2002)

contributed to deforestation which may have cumulatively influenced a decline in rainfall for these areas (Meher-Homji 1991).

Historical research as also found that the overall study area was inhabited by various bird species including the koaʻe (Tropicbird, *Phaethon lepturus*), ʻuaʻu (Hawaiian Petrel, *Pterodroma sandwichensis*), and the ʻiwa (Great Frigatebird, *Fregata minor*) that Kaʻiwaloa Heiau is named, as well as nēnē (*Branta sandvicensis*), the official state bird. Study participants have raised concerns regarding direct effects to nēnē in the mauka regions and the effects that roadside lighting may have on the migratory sea birds, like ʻuaʻu, and potential for bird fallout (see Section 4.3.1.)

Finally, community members are concerned about the new visual access of the valley now that the road will be placed more mauka. This would allow many eyes to view the spaces that were not previously accessed or known by the wider public. Similar to the Lahaina Bypass, travelers will be looking at both mauka and makai which may open up the valley to curious visitors or people seeking to traverse into this difficult terrain and create challenges for land stewards, like Kipuka Olowalu, state agencies with a conservation mandate, or large landowners to have to potentially address issues of trespassing or new calls to open up spaces into fragile areas for public hiking as hiking trails get closed off in other areas (Associated Press 2021; Hawaii News Now 2021; Riker 2022).

6.2 RECOMMENDATIONS FOR THE PROPOSED PROJECT

The above analysis was based on both the academic research into the cultural background of the APE and study area, as well as the results of consultation specific to the proposed project. To clarify, individuals actively engaged in traditional subsistence practices or kilo traditions are often hesitant to disclose exact locations of resources or triangulation markers due to concerns that sharing such specifics could lead to overharvesting and exploitation of these areas. Therefore, those who participated often spoke in generalities regarding the location of a resource or landmark. Ongoing consultation with both kupaʻāina and kamaʻāina of the area, who have access to generational datasets rooted in moʻolelo and oral traditions, is strongly encouraged. These individuals may be more willing to identify specific locations once the alignment is determined. The following recommendations are provided to address these concerns and should be included as part of the continual community consultation process.

To address potential mauka-to-makai access and safety issues, it is recommended to identify suitable locations for connector roads in consultation with study participants and Native Hawaiian Organizations involved in the NHPA Section 106 process. Such access routes should take into consideration hiuwai and night marcher pathways as well. Specific to coastal access, as the current alignment and right-of-way are transferred to the county, partnerships should be considered to monitor unattended coastal areas to improve safety and mitigate environmental concerns. Instances of encroachment, such as junk cars, debris, and increased encampments of the unhoused, have been noted since the opening of the Lahaina Bypass at Launiupoko,

particularly in areas between the current Bypass alignment and the shoreline and under culvert crossings.

Construction activities and project-related requirements, such as staging areas within or adjacent to rivers, should include clearly defined Best Management Practices (BMP) plans. These should include notifications to local communities who depend on stream water and marine resources at the muliwai (stream mouth) regarding the onset and status of construction activities. Furthermore, continuous monitoring of downstream water quality during construction is strongly recommended.

To address noise, air, and runoff in general, implementation of designs and features consistent with Low Impact Development (LID) and green infrastructure systems would leverage natural landscape features and processes to slow, detain, or filter stormwater contaminants. Examples include bioretention facilities, buffer strips, planted areas, grassed waterways, maintained wetlands, and permeable pavements. LID-preserved natural areas also support habitats, flood protection, and access to open spaces (United States Environmental Protection Agency 2013). Use of low-land native vegetation adapted to the coastal and midland zones is further recommended as a vegetation solution in LID planning as such plants, once established may prove to be low maintenance with lower needs for continuous irrigation.

While vegetation barriers have been proven to dampen noise pollution mitigation measures in relation to noise and visual effects of road construction around ceremonial features would require added protective barriers. These could include the construction of noise walls where the realigned right-of-way potential abuts the archaeological complexes and ceremonial features. For Mr. Fujita, such walls could include stones recovered from archaeolgical sites and features that could not be avoided and repurposed to contributed to the protection of archaeological sites and features that could be avoided.

To address concerns about light pollution impacting kilo practices dependent on night sky visibility and shorebird populations, it is recommended to implement lighting systems designed to minimize light pollution. These systems should reduce sea bird fallout caused by disorientation from artificial lighting (as outlined by DLNR's guidance on seabird fallout season: https://dlnr.hawaii.gov/wildlife/seabird-fallout-season/) while also preserving the visibility of the night sky for cultural practices.

To address the traditional Hawaiian archaeology of the current project area, it is recommended that consultation be undertaken with study participants and Native Hawaiian Organizations (NHOs) involved in the Section 106 consultation process. This consultation should aim to explore how the moʻolelo of the land can be preserved and shared, either through the physical preservation of identified historic properties or through interpretation and education to maintain a sense of place.

Educational initiatives that perpetuate a sense of place are critical for fostering the continuous and vibrant presence of Native Hawaiians across the lands of their kūpuna. Equally important is ensuring that individuals involved in project construction receive culturally appropriate training on the history of the lands and the traditional cultural significance of the spaces the project will traverse. To this end, it is recommended that all construction-related staff complete a culturally focused training program prior to fieldwork, in addition to any standard safety or project-related training.

While archaeological monitoring during construction may already be planned, such monitoring typically focuses on a single discipline. As demonstrated in this report, traditional Hawaiian cultural resources extend beyond archaeology to include natural resources and their surrounding environments. Therefore, the implementation of a cultural monitoring program is recommended. This program would involve cultural observers knowledgeable about both resources and traditional Hawaiian protocols, providing guidance in the event of an inadvertent archaeological discovery or other impacts on cultural resources.

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