F. CULTURAL IMPACT ASSESSMENT

Cultural Impact Assessment

Native Hawaiian Traditions, Customary Practices and Perspectives of
Kamalomalo`o and Anahola Ahupua`a
Moku o Kawaihau, Kaua`i Island

Anahola Solar Project

Prepared for
Kaua`i Island Utility Cooperation
and
Homestead Community Development Cooperation

TMK (4) 4-7-04: 2

prepared and presented by
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I ka wā mamua, ka wā mahope

The future is in the past

Hawaiian ancestral knowledge and culture is the umbilicus that connects Hawaiian people to the `āina upon which they are born or where they will choose to live and raise their `ohana. Acquiring a deeper understanding of the past is an essential component to arriving at the right decisions for the purpose of creating a culturally prosperous future that is vital in the evolution of a prideful, flourishing society.

Image KHS-1 View of Kalalea Mountain Range. Kaua`i Historical Society Collection.

It is interesting to note that in Hawaiian, the past is referred to as ka wa mamua, or "the time in front or before." Whereas the future, when thought of at all, is Ka wa mahope, or "the time which comes after or behind." It is as if the Hawaiian stands firmly in the present, with his back to the future, and his eyes fixed upon the past, seeking historical answers for present-day dilemmas. Such an orientation is to the Hawaiian an eminently practical one, for the future is always unknown, whereas the past is rich in glory and knowledge.

Lilikala Kame'eleihiwa, Native Land, Foreign Desires

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Index of Acronyms & Abbreviations

APE(s)	Area(s) of Potential Effect
BC	Boundary Commission
BMA	Bishop Museum Archives
KIUC	Kaua`i Island Utilities Cooperation
DHHL	Department of Hawaiian Home Lands
AHHA	Anahola Hawaiian Homes Association
HHCA	Hawaiian Homes Commission Act
CIA	Cultural Impact Assessment
DEA	Draft Environmental Assessment
EIS	Environmental Impact Study
LC	Land Commission
LCA	Land Commission Awards
RP	Royal Patent
NK	Native Kaua`i LLC
HCDC	Hawaiian Community Development Corporation
USGS	United States Geological Survey
TMK	Tax Map Key
HRS	Hawai`i Revised Statutes

Introduction

At the request of Kaua`i Island Utility Cooperation (KIUC), Native Kaua`i LLC (NK) conducted a Cultural Impact Assessment (CIA) of a 60 acre parcel (TMK (4) 4-7--04: 2 which is located in the Kamalomalo`o Ahupua`a, Kawaihau District on Kaua`i Island (Figures 1 - 2). The project area is situated on Department of Hawaiian Home Lands (DHHL) bounded by Kūhiō Highway to the east; and is surrounded by undeveloped lands on the project area's boundaries facing toward the south, west and north. The Anahola Hawaiian Homestead residential community lies a short distance north of the project area in the neighboring ahupua`a of Anahola.

As the primary developer, KIUC will construct a 12-megawatt AC (14.5 MW DC) solar project on 55 acres , with an estimated 5,000 panels. It will also include a utility service center on 2-acres within the project area. The service center will consist of an administrative office building and a staging site for utility services for East Kaua`i. KIUC has collaborated with the Homestead Community Development Corporation (HCDC) - the non-profit development arm of the Anahola Hawaiian Homes Association.

The project requires compliance with the State of Hawai`i environmental review process [Hawai`i Revised Statutes (HRS) Chapter 13-343, which mandates consideration of a proposed project's effect on traditional Hawaiian practices and beliefs. This cultural impact assessment provides information pertinent to the evaluation of the proposed project's cultural impacts. Additionally, this CIA report provides documentation of the project's consultation efforts under applicable state historic preservation legislation.

Methodology

Methodologies guided by indigenous Hawaiian cultural perspectives and intellect were used to conduct this study. It is always imperative that traditional values of *aloha* and *hō`ihi* (sincerity, love and respect) are ever present in the actions of the research and investigative team that engages with the natural environments, resources, people and communities from which/whom information will be gathered for this work. Special focus and attention is given to the examination of the land, water and atmospheric features that are applicable to the study project area and all lands and environments associated with it.

At the center of our collective focus is the topic of the sun and a project that has been designed to employ its *mana* or energy for the greater benefit of the Kaua`i Island community. It is a viable and necessary priority to curb our dependency on fossil fuels by creating sustainable solutions and opportunities that are "green" and good for the `āina.

At the onset of this project, we entered into this work with much enthusiasm and confidence of already "knowing" this place. Even with a limited window of time to conform to, we knew that very little had been documented to bring forth the values and depth of traditional Hawaiian knowledge and customary practices of Anahola's ancient past. Information and personal experiences that we possessed provided an advantage to accomplish the task of completing this cultural impact assessment study.

Much of the effort in conducting studies such as this is to review and evaluate the land allocated for the project area and any possible adverse influences and consequences relating to indigenous Hawaiian beliefs and practices. However, it would be negligent to limit, reduce or exclude a discussion on two of the most prominent components that are necessary and vital to this development project.

The first is the sun itself, and its foremost status in Hawaiian religious practices and beliefs. The second is the land. Not just the 60-acre parcel dedicated to the development project, but all land and natural resources of the surrounding areas related to the project/project site. This includes the Kamalomalo`o ahupua`a and the neighboring ahupua`a of Anahola that serves as the host community to the project.

In the process of gathering, assembling and documenting information from our research and interviews, we realized there was a need to address and include a chronicle of events and cultural impacts associated with native Hawaiian land, resources and its people that dates back more than192 years of history. Despite the fact that this development project did not contribute to any of this history, we strongly feel that ramifications and impacts that native Hawaiians face today because of it, are still attached to the land. For these reasons, we were pressed by our own conscience and ethics as native Hawaiians and cultural practitioners to present this history as part of the study.

Over the years, much has changed as the population has grown and the number of homes developed in Anahola has quadrupled. While it is no longer

the small native Hawaiian community that I was born and raised in almost 50 years ago, in essence, it is still the same place surrounded and protected by the greatness of Mount Kalalea and the nurturing ocean waters of the Anahola coastline. The winds with their particular characteristics that were known to our ancestors by specific names, still bring us comfort, rain and even challenges during stormy conditions. What is most important, is that Anahola is still a native Hawaiian community descended from a rich and vibrant culture and ancestors who knew this land these islands so intimately. The relationships they held with the natural world as divine and godly, influenced levels of consciousness that dictated every aspect of native Hawaiian life ways and cultural practices.

The Anahola Solar Project offers great potential for the host community of the Anahola Homestead. It also has the possible makings of a cutting edge approach to progressive technology that may provide excellent example to other native Hawaiian communities and landscapes throughout the Hawaiian archipelago. The partnerships that have forged between the member-owned cooperative of KIUC, Department of Hawaiian Home Lands, Hawai`i Community Development Corporation and the Anahola Hawaiian Homestead Association sets a positive precedence for the greater community of Kaua`i Island.

It is the intent of Native Kaua`i, to not only complete this CIA Study as part of the process of the greater environmental impact study requirement, but to produce an inclusive document and source of cultural knowledge and information for the benefit of the native Hawaiian community of Anahola and its residents. For the latter purpose mentioned here, there is much more to expand upon. Native Kaua`i is dedicated to continuing this effort beyond the finalization of this CIA Study.

It is with heartfelt aloha and respect that we extend our gratitude to Mr. Brad Rockwell of KIUC whose leadership and commitment to this project has remained unwavered and sincere to our shared objectives. We express our mahalo to the greater team made up of KIUC staff, consultants and community members who have continued to work diligently in the spirit of laulima or cooperation and partnership to navigate through the multiple processes required of this project. As native Hawaiian consultants and cultural practitioners with inherent ties to the Hawaiian Homestead community of Anahola, we are humbly reminded of the kuleana - both as privilege and responsibility that comes with the duty to perform this work.

Nui ka mahalo iā `oukou me ka ha`aha`a.

Scope of Work

1. Conduct in-depth research and examinations of historical documents, maps, archaic and historic period Hawaiian chants, mo`o `ōlelo or oral traditions, and any references related to or associated with the immediate and surrounding areas

2. Conduct field studies of the project area, as well as adjacent and surrounding areas *ma uka* and *ma kai* (upland and seaward) of DHHL's Anahola regional lands. This will include, but not be limited to the ahupua`a or traditional land divisions of Anahola and Kamalomalo`o.

3. Review existing and new archaeological information pertaining to the project site and all related areas will be perused in our quest to identify and describe cultural resources, traditional land use activities, spiritual and religious beliefs and customary practices.

4 Arrange for, and conduct oral interviews with Native Hawaiian cultural practitioners, elders and families knowledgeable about the historic and traditional practices in the project area and region. Such information may be obtained through individual, group and community meetings, as well as huaka`i or cultural site excursions with selected native Hawaiian kūpuna or elder informants, kumu hula or other experienced and seasoned practitioners and experts who have firsthand knowledge of religious, spiritual, cultural, healing, gathering or subsistence practices.

5. Upon conclusion of tasks 1 - 4, a draft cultural impact assessment will be prepared to report findings of the collective studies, including narrative summaries relating to Native Hawaiian customary practices, resources and land use. Compose a summary of findings and determination of the extent to which applicable resources, including traditional and customary Native Hawaiian rights and practices that will be affected or impaired by the project.

Environmental Setting

Anahola Solar Development Project Area

The Anahola Solar Project is slated to be developed on 60 acres of land that will be leased from the Department of Hawaiian Home Lands in the Kamalomalo`o ahupua`a (Figures 1 - 2) on the island of Kaua`i. It is located on the eastside of the island in the *moku* or district of Kawaihau.

Located between the ahupua`a of Anahola and Keālia, Kamalomalo`o is also a traditional land division that has remained undeveloped and mostly agricultural use. Prior to the overthrow of the Hawaiian Kingdom in 1893, a good portion of these lands were planted in sugar.

Majority of the Kamalomalo`o ahupua`a are designated as Department of Hawaiian Homes Lands property. For this study, an inquiry was made to the DHHL Kaua`i district office to verify the total number of acres that make up the land inventory belonging to the DHHL Trust. We were then referred to contact DHHL Land Agent, Mr. Kaipo Jenkins on O`ahu. In turn, Mr. Jenkins referred us to the web-site (www.hawaii.gov/dhhl/publications/regional-plans) for DHHL's June 2010 Anahola Regional Plan.

At the time of this writing, we were still unable to verify with DHHL, exactly how many acres in the Kamalomalo`o ahupua`a belonged to the Department of Hawaiian Home Lands Trust. Part of this comes from the way in which DHHL has designated and organized their inventory of lands.

However, we did learn from DHHL's statewide Regional Plan is that it identifies 20 designated regions on 6 islands across of the Chain of Hawaiian Islands.

On Kaua`i Island, three regions have been designated to organize DHHL's inventory of lands:
1) West Kaua`i
2) Wailua
3) Anahola

The Anahola Region consists of all DHHL property in Moloa`a, Anahola and Kamalomalo`o.

Technically, the project area is NOT located in the Anahola ahupua`a. However, it is considered and recognized to be part of the DHHL's "Anahola

Region" of lands. The generalization and clustering of traditional places to common districts (i.e. Anahola, Kapa`a, Līhu`e, etc.) has become acceptable, widespread practice in the western framework of identifying and relating to places on Kaua`i. Therein lays an example of how easily a particular traditional Hawaiian land area or division can be incorrectly identified, misunderstood and misinterpreted as a significant place of its own. Both the name and place of Kamalomalo`o has long become unfamiliar to many Kaua`i and Anahola residents. Most people assume and refer to it as "Anahola".

It is important to stress at the onset of this report, that we all have a shared responsibility - for this and any future projects to advocate for the proper use and application of traditional Hawaiian place names and Hawaiian words. Especially so, for this project involves native Hawaiian trust lands and a valuable partnership with the host native Hawaiian homestead community.

The continual use and application of traditional names of places are one of the fundamental ways in which to preserve knowledge and insight of important locations. Within Hawaiian names are contained history, stories, special phenomenon and characteristics about places. They preserve occurrences and observable facts and experiences associated with traditional places known to our kūpuna in times past. Today they are equally, if not more important to the present and future generations of Kaua`i and Hawai`i.

A considerable amount of focus is put toward the research of traditional places, their names and stories when preparing studies such as this. It is *minamina,* a sad and unfortunate loss when valuable information is lost or forgotten. There is an urgent need to preserve and pass on ancestral knowledge that was widely known just a few generations ago. Kaua`i's unique culture and heritage associated with traditional places are key to nurturing a sense of place and connectivity. It is a vital component to the health and wellbeing of native Hawaiians, as well as the perpetuation of native Hawaiian life ways and culture.

The Hawaiian tradition of name giving is a centuries-old custom that involves process and purpose. In ancient times, personal possessions were few, but highly valued. A name however, was considered amongst *the most prized* possessions of all. As with any precious newborn child, names were given only after much careful thought, and observation.

The same is applicable for traditional places as well. Early Hawaiians gave names to mountains, mountain peaks, streams and valleys. They also gave names to forests, plains, taro patches and salt pans, as well as the various winds

and rains that were particular to different locations and regions. Every promontory, reef, fish house and storied place had a name as well. Again, the land and ocean were considered the extended nature family that the Hawaiian people interacted and developed strong bonds with. It is the basis of the expressions - *mālama `āina* and *aloha `āina*, meaning to *"care for and have love for the land"*.

It was not uncommon for names to be inspired or received through supernatural advice of departed ancestors, spirit guardians or gods. Prayer, meditation and ceremony were important to the process of name seeking and name giving. For names received in this manner did not only provide a unique individuality and identity for the receiver. It became a mainstay for the health, well-being and prosperity for the individual, home or place. There is a great sense of responsibility attached with a name once it is bestowed upon a person, place, object or project. Names are not simply "labels". Whether it is name for a person or a name for a place, they are honored and treated with aloha and pride.

What may appear as trifling and unimportant on the surface, are oftentimes filled with profound wonder. Kamalomalo`o and Anahola are such places that continue to hold an abundance of history and inspiration.

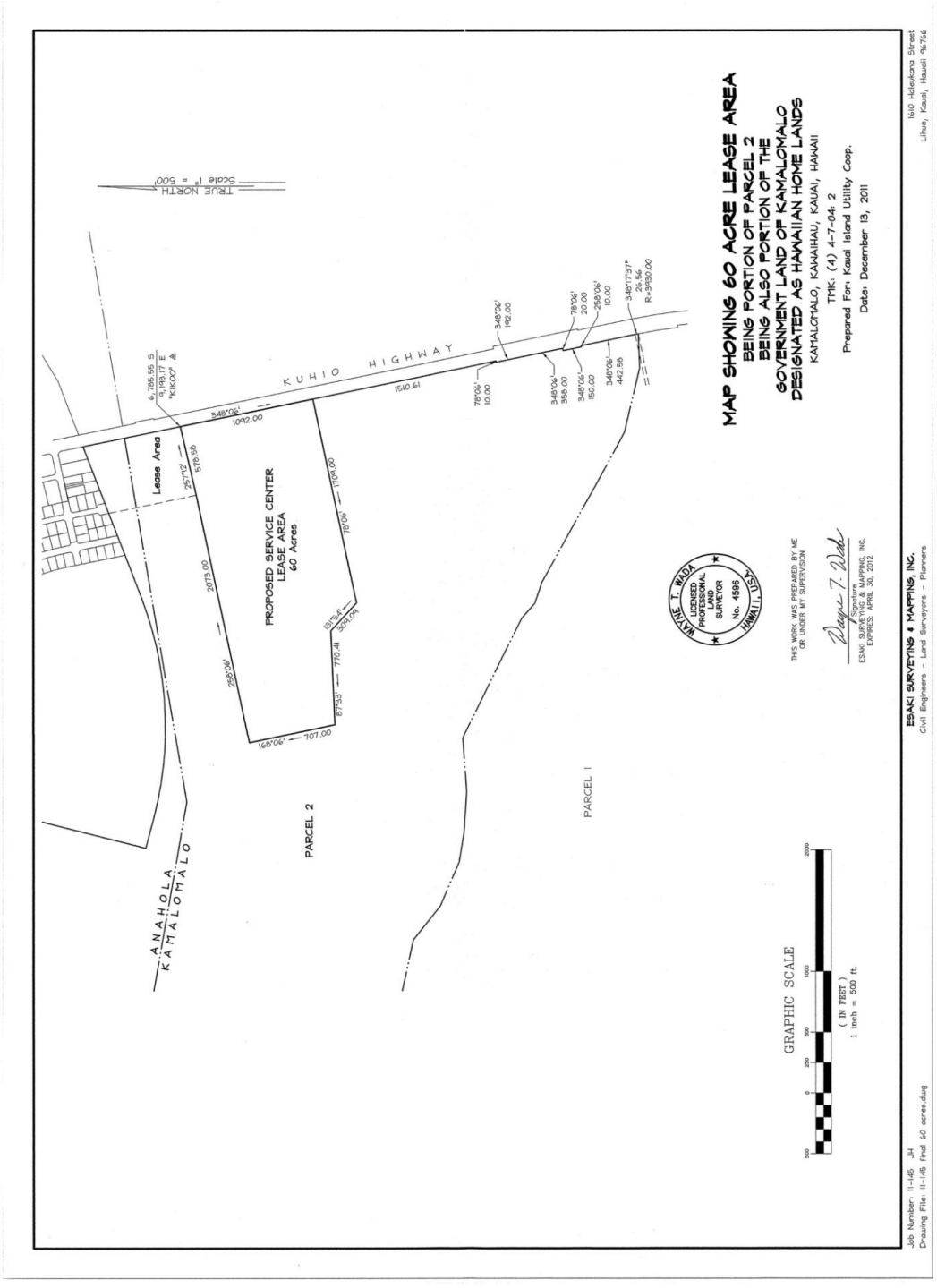


Figure 1. Map showing 60 acre lease area and project location on Department of Hawaiian Home Lands Kamalomalo`o Ahupua`a, Kawaihau District, Kaua`i Island.

Figure 2. Aerial image of DHHL Anahola Region Lands indicating location of project area. Google Maps

Figure 3. 1845 Map of Kaua`i by Charles Wilkes for U.S. Mapping Expedition. Note that it shows 6 moku or districts including Ko`olau, Halele`a, Nā Pali, Kona and Mānā. Typically, Kaua`i is dividied into 5 moku. Mānā is usually considered as part of the Kona moku.

Geologically, Kaua`i is the oldest of the main inhabited islands in the chain. It is also the northwestern-most island, with O`ahu as its closest volcanic sibling separated by the tempestuous Ka`ie`ie Channel which is more than 72 miles long. In centuries past, Kaua`i's isolation from the other islands kept it safe from outside invasion and unwarranted conflict.

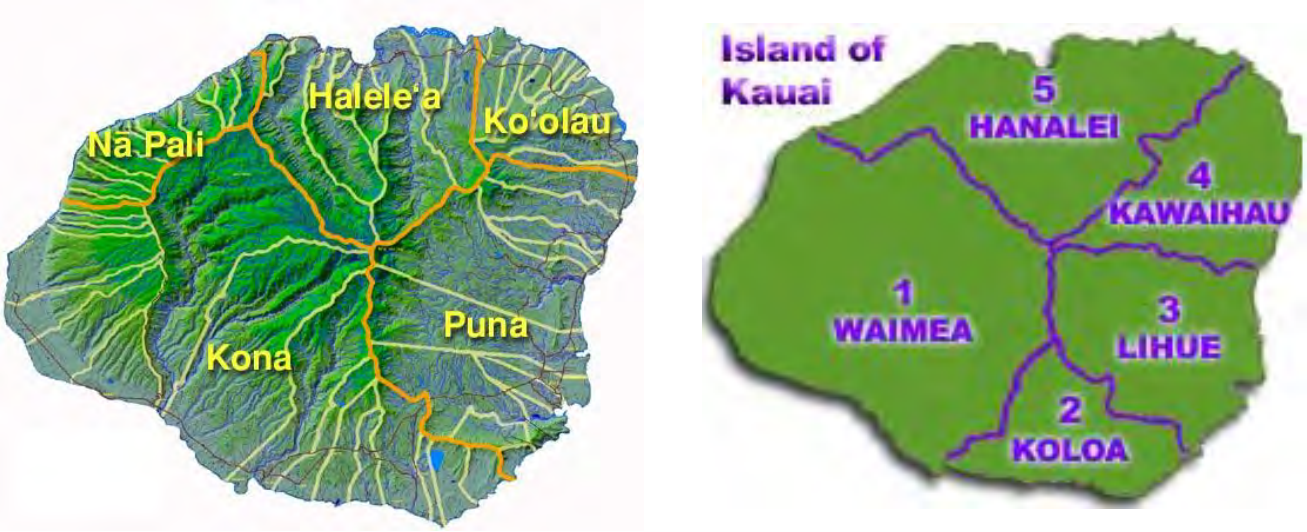
Poetically the island is called, *"Manōkalanipō", or "Kaua`i a Manō"* after the ancient chief who was largely responsible for elevating Kaua`i's ancient society to sophisticated heights of advancement and productivity. For centuries, from the time of Manōkalanipō's reign, through Kamehameha's unsuccessful attempts to invade Kaua`i in 1796 and 1804, Kaua`i remained free from warfare.

In 1810, Kaumuali`i accepted Kamehameha as the supreme ali`i by peacefully ceding Kaua`i to the newly united kingdom of Hawai`i. With honor, Kaumuali`i was encouraged to return to rule on Kaua`i as its tributary chief under Kamehameha I.

In accordance with the ancient land division system, an entire island is referred to as a *mokupuni*. While the word, moku by itself can also mean island, it is a term that is more specifically used to identify a district. Puni means, *controlled, surrounded, to gain control of*. It comes from the word, *aupuni* which is used to describe a government, kingdom, dominion, nation, or population that is governed or under the leadership of a ruler. In ancient times, a mokupuni could include an entire island as well as multiple islands that was ruled by an Ali`i Nui or paramount chief. Historically, the mokupuni of Kaua`i has included the islands of Ni`ihau as well as Lehua.

Kaua`i Island has traditionally been divided into 5 moku including: Ko`olau, Halele`a, Nā Pali, Kona and Puna. The ali`i nui appointed *ali`i `ai moku* or district chiefs to manage the various moku.

Common district names that are universally used across of the Hawaiian archipelago include "Ko`olau" marking the windward sides of the islands; "Kona" - the leeward sides of the islands; and "Puna" - indicating regions where springs and fresh water abound.



Figures 4 & 5 show Kaua`i Island Districts and Boundaries. Fig 4 on the left show the original moku of Ko`olau, Halele`a, Nā Pali, Kona and Puna. Fig 5 on the right show the revised boundaries and judicial land districts of Kawaihau, Hanalei, Waimea, Kōloa and Līhu`e.

The boundaries of the five moku on Kaua`i were changed in the late 1800s to reflect the present day judicial land districts. The Anahola Solar Project Area is located in the Kawaihau district upon land within the Kamalomalo`o ahupua`a.

The host community of the project is located north of Kamalomalo`o in the neighboring ahupua`a of Anahola. Prior to the redesignation of district boundaries, the ahupua`a of Kamalomalo`o belonged to the Puna District. The ahupua`a of Anahola belonged to the moku of Ko`olau.

Traditionally, the districts were further divided into smaller land divisions known as, *ahupua`a* which included the abundance of land and resources from the mountain to the sea. Under the direction of the ali`i `ai moku, the *ali`i `ai ahupua`a* or land division chief was put in charge of governing the ahupua`a. The ali`i `ai ahupua`a appointed *konohiki* who served as the headman of the ahupua`a land division, and was solely responsible for the management of land, water and fishing rights. An ingenious concept, the ancient design of the ahupua`a system continues to be an excellent model for sustainability and land and natural resource management today.

A major element of focus for this CIA is based on the `āina or land that has been allocated for the Anahola Solar Project, as well as surrounding lands and natural resources that are linked to the project area. It is important to readers of this CIA to have a basic understanding of the ancient land division system and the various words, terms and idioms associated with Hawaiian land designation and Hawaiian land use. This is especially helpful in identifying and relating to specific locations and place names that are pertinent to this study.

Kaua`i or Kau`ai?
Proper Pronunciation of Island

There has been on-going discussions and statements by many historians and long-time kama`āina families about the proper pronunciation of the name of this island. *"Kama`āina families"* is a term that are generally used for families descended from the post-contact missionary ancestors who settled in the Hawaiian Islands in the 1800s.

One of the tasks accomplished by the first company of missionaries that arrived in 1820 was to develop an alphabet and written form of the Hawaiian language using vowels and consonants. Out of necessity, many of them learned the language well enough to understand, speak and communicate with native Hawaiians.

This was a major milestone that quickly won the interest and favor of Kamehameha II and Ka`ahumanu who were the ruling chiefs of the time. They saw great value in education and the opportunity to transition from a centuries-old oral culture to a society with acquired skills in reading and writing. Not only in *`ōlelo haole* or English, but in *`ōlelo Hawai`i* or the Hawaiian language as well.

Elder non-Hawaiian kama`āina claim that the correct pronunciation for the island name is Kauai (with no diacritical markings). Phonetically, they pronounce the name as, *"Cow-why"*. Some pronounced the island as*, Kau`ai (Cow-eye)* with the `okina or glottal stop on the second syllable of the word; reasoning that it means, *"season of food and of plenty"* because people never experienced famine due to the bountiful water resources. Contrary to this claim and the fact that Kaua`i is abundant with annual measures of rainfall and fresh water, there are many accounts of sustainability hardships endured in times past.

Native Hawaiian kūpuna that we interviewed for this study were careful to remind that the correct pronunciation is Kaua`i, with the glottal stop between the last two vowels of the island name.

NK researchers also listened to many oral history recordings preserved in the Bishop Museum Archives in Honolulu, O`ahu of interviews with native Hawaiian elders on Kaua`i between 1959 - 1968. Led by Bishop Musem's primary interviewer and Hawaiian expert and scholar, Mary Kawena Pukui, majority of the recorded discussions were conducted in Hawaiian. Native Hawaiian

interviewees from Anahola, Kaua`i included Mrs. Evelyn Ewaliko, Mrs. Daisy Lovell, Elizabeth Ewaliko, David Pālama, Helen Wahinealiʻi Kapule Kapaka, and Mr. David Kahanu. They all pronounce the island name as Kaua`i.

In another recording of a Bishop Museum Interview, Mary Kawena Pukui poses the same question separately to two different kūpuna if Kaua`i is the correct pronunciation. Mrs. Rena Peters confirms that it is.

Mr. David Kahanu of Anahola specifically talks about the correct pronunciation of the island and confirms that he has always and only heard it pronounced as Kaua`i.

In an interview with Kahanu's descendant, Kainani Kahaunaele who too, was born and raised on Anahola homestead lands shared of her gratitude for her kūpuna's recorded testimony as substantial evidence on the proper and correct pronunciation of the island name as Kaua`i. Kahaunaele is a fluent speaker of `ōlelo Hawai`i, is a noted and award-winning *haku mele* - a Hawaiian music composer, as well as a renown recording artist. She holds a BA in Hawaiian Studies from the University of Hawai`i at Hilo, where she is a Hawaiian language lecturer. Her mother, grandfather and `ohana continue to reside as homesteaders in Anahola today.

Confirmation from native Hawaiian kūpuna who are *mana leo* such as Mr. Kahanu is significant and very important. They were raised in fluent speaking households and communities where `ōlelo Hawai`i was their first, and sometimes, only language that was spoken throughout their lifetime. Their recorded testimonies preserving their acquired knowledge and experiences are invaluable resources for present and future generations of Hawai`i Nei.

NK principal, Kēhaulani Kekua shares the following account of her own upbringing by her kumu hula and maternal grandmother, Helen Kaipuwai Kekua Waiau:

> *I was already a young adult when I recall asking my grandmother what the correct pronunciation of our island was. She turned to me with a frown and asked me what my reason was behind my question. We had always pronounced the name as Kaua`i, with the `okina between the a and the i, and so it was a strange inquiry that perturbed her a little. In our household, in hālau and throughout the Anahola community, we had always pronounced it the same way. Kaua`i. I told her that I had attended a lecture that was sponsored by the Kaua`i Historical Society and that the speaker as well as other haole kama`āina in attendance were very adamant about pronouncing it as "cow-why". She told me to chant the opening lines of the first pauku or verse to the ancient chant known as the Hula Kaua`i No Kaumuali`i.*
>
> *"It goes [chanting her example] Maika`i Kaua`i, hemolele i ka mālie..." Then she asked me to chant it using the other purported pronunciations of the island name - both Kauai and Kau`ai. It sounded and felt awkward. It felt wrong and affected the rhythm and flow of the hula itself.*
>
> *The haku mele or composer of the ancient chant had carefully selected specific words and their placements to preserve the traditional understanding and application of the place name. Maika`i meaning excellent, and Kaua`i the name of the island is supposed to rhyme and reflect one upon the other. It was a way in which to elevate the mana and exceptional qualities of this very place. Grandma used the application of chant as an example of one of the primary purposes of hula as a practice and responsibility of maintaining this knowledge. There was no room for doubt or question. This is the way that generations of our `ohana and the native Hawaiian community had always pronounced it.*

Translation of traditional Hawaiian place names

For this study, Native Kaua`i has made special effort to expand upon the various place names associated with the immediate project area as well as the extended land areas that include the ahupua`a of Kamalomalo`o and Anahola. It was important that we not only limit ourselves to the written literature and documents available.

NK investigators made several field visits to various sites to look at land, ocean and atmospheric traits, and spoke with native Hawaiian kūpuna and informant kama`āina who are intimately familiar with the study locations.

Loosely translating Hawaiian place names from the pages of a dictionary is not good enough. One must go and see the lay of the land, see, touch and feel the textures of the native limu or plants that grow at the different places, study and understand the directions and *`ano* or nature or manner of the wind and rain that are *pili* or connected to certain places, etc. All possible meanings are taken into consideration. In many cases, place names are connected not to just or there other, but to multiple meanings.

Dr. Pualani Kanaka`ole Kanahele - eminent Hawaiian scholar and respected master kumu hula, elaborated on her view of the word, *makawalu* and the imperative practice of taking different perspectives and views into account when processing an understanding of Hawaiian words, names and places. Literally, makawalu means, many, much, in great quantities. Sometimes used with implication of chiefly mana or energy. Literally translated it means "*eight eyes*". Makawalu is to take initiative of different perspectives and approaches. It is to see and observe from different angles. It is also to foster the ability to perceive and articulate on the interrelationships and connectedness of mankind and the natural world.

Ancient Ahupua`a System:
Reciprocal Relationships of Land, Environment and Man

Figure 6. Lithograph, William Ellis C., View of Hawaiian Ahupua`a System. Big Island, Waipio Valley

One of the most remarkable concepts of ancient Hawaiian culture is the basic self-sustaining structure of the ancient Ahupua`a System. Shaped by the island's geography from the mountain to the sea, each ahupua`a was divided following the natural boundaries of the watershed. Abundant rainfall along with mountain aquifers provided fresh, clean water which flowed naturally and freely through realms designated for gods and man respectively. Nourishing and supporting all life forms, water was a sacred resource and manifestation of the god, Kāne to whom life and health was sanctified. The entire community took part in its proper care and conservation of it. The ahupua`a contained all of the resources that was needed to sustain the human community. There was the abundance of fish and seafood from the ocean, fertile lands for planting and farming upon the plains of kula lands, and timber and other resources from the upland forests for the building of structures and canoes.

The success of the ahupua`a was based on a belief system that emphasized Hawaiian spirituality that was extended to the entirety of the natural world which

included the landscapes of land and ocean as well as the atmosphere. Nature forms that supplied nourishment and supplies for survival and existence were viewed as *kinolau* or manifestations of their deities themselves. i.e., specific plants used for healing and subsistence were body forms of certain major and minor gods because of its distinctive quality to cure or sustain.

> **"*Ahupua'a* is holistic…**In Hawaiian culture, you had *kahuna* who knew the forests, knew the trees, knew the geology. The chiefs could draw upon the collective wisdom of the *kahuna* to help determine what was an appropriate construction project. Today, I see a modern *ahupua'a*. It means using the knowledge and tools we have today. "
>
> "Some argue that using an *ahupua'a* system today poses challenges simply because our society is not organized around subsistence, which was the whole premise of the *ahupua'a* system. Others have said, how can you use an *ahupua'a* system in modern Hawai'i when we import 70% of our food? Moreover, the people within the *ahupua'a* shared common resources, but today so many of these are now either degraded or sequestered in private lands."
>
> "But if we look at the underlying values, principles, and practices, those have not changed. Certain accepted features are retained, even in Western law: water as a public trust resource, public access rights to forest, to hiking, to gathering. Those are acknowledged even in modern Western laws, especially in the State of Hawai'i."
>
> Stephen Kubota
> Ahupua`a Action Alliance

Stewardship Versus Ownership

The concept of private land ownership was non-existent in pre-contact Hawai`i. Guided by a holistic worldview, ancient Hawaiian society was based on a subsistence economy that depended on proper stewardship of the land and resources. Tenure upon parcels of land called *kuleana* were extended to the *maka`āināna* or common people to live and raise their families. Everyone shared in the stewardship of the greater ahupua`a which provided for sustainable gathering, fishing and hunting purposes. There was often trading and sharing of resources between families and villages located along the coastal areas and those within the upper regions and valleys. Trading also occurred among various ahupua`a as well.

Stewardship practices were formalized through the kapu system which consisted of protocols and laws pertaining to the religious, political and cultural affairs of the chiefs and people. Overseen by konohiki chiefs and kāhuna (priests), regulations held in accordance with seasons and cycles. Spiritual-based kapu and rules not only governed the use of resources, but also for their conservation and restoration as well. Kānāwai (laws of the land) ensured that resources were shielded from squander and exploitation. Although viewed by foreigners and the outside world as excessively complex and restrictive, it is one of the earliest examples of environmental protectionism.

Paramount chiefs and the hierarchy of kāhuna or priests, were the spiritual conduits to the gods and petitioned for their success and wellbeing. Ali`i assigned konohiki to manage the ahupua`a on their behalf. The relationships were reciprocal and based on loyalty to care for, and increase the productivity of the land. Maka`āināna were not indentured to serve under any particular ali`i. If commoners were mistreated unfairly, or if the ali`i was greedy, they were free to move to another ahupua`a and take up residence under another chief.

I ali`i no ke ali`i i ke kānaka
A chief is a chief because of the people who serve him
This was often used as a reminder to a chief to consider his people
#531 `Ōlelo No`eau

An ali`i's success as a leader was dependent on the maka`āināna. Hence, it was important that the ali`i assured their happiness in order to maintain their loyalty. Ultimately, both commoner and chief held the `āina in deep regard.

He ali`i ka `āina, he kauwā ke kānaka
The land is a chief, man is its servant
Land has no need for man, but man needs the land and works it for a livelihood
#531 `Ōlelo No`eau

Ancient Hawaiians held familial connection with nature and the environment and understood that their relationships were reciprocal. As presented in `ōlelo no`eau #531 above, the land was viewed as chiefly.

Wahi Pana

The research and study of wahi pana was an essential process to this study. Wahi pana are celebrated and storied places that illuminate generations of reciprocal connection and relationships between indigenous Hawaiians and the

land and seascapes and natural resources that supported their existence. For well over two thousand years, native Hawaiians have held intimate bonds with their islands and special places upon them. Wahi pana continue to be integral, living components of a Hawaiian world view today.

Literally, the word "*wahi*" simple means, "*place or location*". *Pana* is defined as "*celebrated and storied*". Another definition of the word, pana is, "*heartbeat or pulse*".

The latter, elevates and distinguishes a place as a wahi pana from any other ordinary location. Nature's forces, combined with the intangible spiritual energy source known to indigenous Hawaiians as mana are prevalent at many wahi pana throughout Hawai`i. Additionally, these wahi have specific stories, purpose and function that have influenced the lives of `ōiwi kānaka or Hawai`i's native people for myriad generations. Transmitted orally from generation to generation, their experiences have been preserved through mo`olelo (legends and stories), mele oli (chants), mele hula (dances) and `oihana Hawai`i (practices), maintaining memory and knowledge of places that should be honored and respected. Wahi pana are excellent teaching tools that continue to be extremely valuable today in its capacity to inform and demonstrate the cultural traditions, practices, values and beliefs of Hawai`i's ancestors and people.

In an essay written by the late Hawaiian scholar Edward Kanahele entitled, "The Significance of Wahi Pana", he shared his view as follows:

> *"For native Hawaiians, a place tells us who we are and who is our extended family. A place gives us our history, the history of our clan, and the history of our ancestors. We are able to look at a place and tie in human events that affect us and our loved ones. A place gives us a feeling of stability and of belonging to our family -those living and those who have passed on. A place gives us a sense of well-being and of acceptance of all who have experienced that place. A wahi pana is, therefore, a place of spiritual power which links Hawaiians to our past and our future."*

Wahi pana vary. They include, but are not limited to sacred sites such as heiau, and ancient burial caves and burial grounds. Alluvial valley floors which were cleared for the construction of elaborate irrigated systems of lo`i terraces, as well as fishing grounds and surf sites in the ocean are wahi pana as well. Mountain peaks, cliffs, valleys, rivers and streams too, have emerged over time as places of cultural importance.

All discernible features in every land division, district and island were given specific names that inspired life and meaning to these places as wahi pana. Every stream, spring, beach, fishing hole, reef, promontory, winds and rains, etc. all have names. These elements of nature provided the foundation for the creative and productive industries of the ancient Hawaiians.

The perpetuation of cultural practices and experiences held in close attachment to wahi pana and the reoccurring elemental phenomena specific to places illustrate the unique relationships of stewardship and kinship by native Hawaiians and the natural environment.

As successive generations of Hawaiians empowered these islands and their sacred and storied places with their prayers, ceremonies and labor, they left their indelible and enduring mark on the landscape; both seen and unseen. Tangible and indefinable sources of mana or spiritual power and energy unique to different places are also a result of generations of relationships that were nurtured between mankind and these special wahi or storied places. These are the multi-faceted qualities that have elevated wahi pana to the realms of Hawaiian consciousness. The land, the sea, the atmosphere and all of the natural resources and phenomena that were held within each of its boundaries were considered as akua, divine and sacred. All of it was godly.

E mālama pono i ka ʻāina; nānā mai ke ola.

Take good care of the land; it grants you life.

Aloha `Āina...Mālama `Āina

At the heart of Hawaiian values is the concept of **Aloha `Āina** and **Mālama 'Aina**, having love for the land and the responsibility to care for the land. Native Hawaiians have had a long-standing relationship to the land.

"Aloha `Āina simply means to love and respect the land, make it yours and claim stewardship for it. Mālama 'aina means to care for and nurture the land so it can give back all we need to sustain life for ourselves and our future generations."

Kūpuna Nani Rogers
Team Leader, Ho`okipa Network

`Ōlelo Hawai`i - The Hawaiian Language

For generations, Hawai`i was immersed as an oral culture with infinite records of historic events, genealogies, ceremonies, traditions and practices that were preserved in chants, prayers, dances, and stories. Everything was committed to memory and passed on orally. Every fraction of life in ancient Hawaiian society was linked to a pantheon of deities which was accessed through a hierarchy that began with personal family gods or `aumākua, as well as gods that were specific to each vocation.

Prior to the arrival of Captain James Cook and the first westerners in 1778, *`ōlelo Hawai`i* or the Hawaiian language was the only language spoken in the Hawaiian islands. In the early 1800s, the language flourished in written form as well, after Calvinist missionaries developed a Hawaiian alphabet using Latin characters. With the enthusiastic support of the chiefs, schools were set up to provide instruction in reading and writing for Hawaiian and missionary children, adults and even business people through the medium of Hawaiian language. In less than two generations from the establishment of a written language, the Hawaiian Nation had the highest literacy rate of any country in the world.

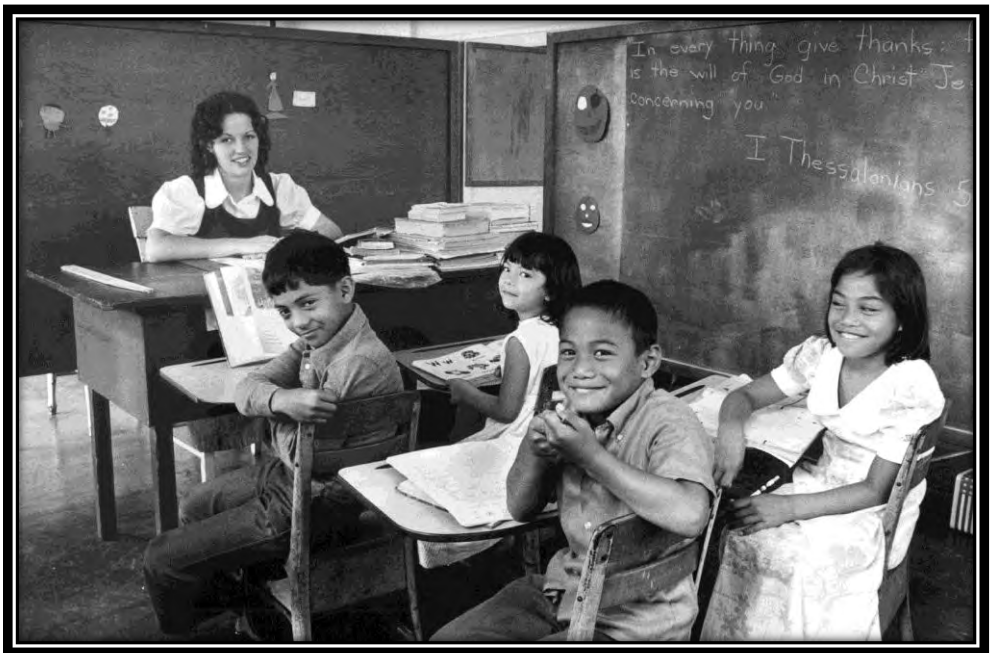


Image KHS-6 Anahola Church School. Kaua`i Historical Society Collection

Hawaiian Language Newspapers

The first newspaper printed in Hawai`i was a student newspaper at Lahainaluna School, called "Ka Lama Hawai`i" (The Hawaiian Luminary) on February 14, 1834. Shortly after, in that same year, the first regularly published newspaper, "Ke Kumu Hawai`i" was established. Missionaries saw these smaller newspapers as an excellent vehicle for teaching and to help with the increase of literacy levels, but it was also a perfect tool for promoting Christian principals. According to Hawaiian Scholar, Esther Mo`okini, *"The paper served a dual purpose of providing reading material for the schools and presenting in an effective manner the views of the missionaries upon religious and moral questions."*

The first regular English language newspaper was founded in 1856, establishing the Pacific Commercial Advertiser as a weekly publication. The Advertiser has published continuously since then, eventually producing a daily edition in 1882. Over the years, the Advertiser has gone through several name changes, including a switch to the Honolulu Advertiser in 1921. Today, the newspaper is known as the Star Advertiser.

In 1861, "Ka Hōkū O Ka Pakipika" (Star of the Pacific) the first Hawaiian language newspaper published by a native Hawaiian by the name of J.K. Kaunamano was established. The press was operated entirely by a staff of native Hawaiian editors and printers who had been educated and trained at Lahainaluna School on Maui, as well as at the Kamehameha Schools for Boys. It was during this period that many articles and mo`olelo in the Hawaiian language flourished. According to University of Hawai`i Professor, Noe Noe Silva, this was an indication that native Hawaiians had spent many years documenting and writing down mo`olelo beforehand, probably for years, while awaiting avenues for their writings to be published.

From 1834 to 1948, more than 100 newspaper publications equaling approximately 125,000 pages of text in the native language were published for Hawai`i's highly literate community. Native Hawaiian authors and historians from throughout the Hawaiian chain contributed multiple genres of mo`olelo, including short stories, genealogies, and lengthy epics such as the mo`olelo of Hi`iakaikapapolopele. The publications served as sources of traditional, cultural, historical and political discussions, including the decline of the native population and the need for Hawaiian sovereignty. Obituaries took the form of extensive kanikau or funerary dirges, which also included tributes of mo`okū`auhau or genealogy chants that honored the deceased. Traditional and introduced

fishing practices, marine ecosystem management and changing legal environments, climatic conditions, storms and so much more found their way into the volumes of Hawaiian language newspapers.

Three years after the overthrow of the Hawaiian Monarchy in 1893, `ōlelo Hawai`i was outlawed as a language of education in Hawai`i. English quickly replaced the use of Hawaiian in schools, as well as in all government and business sectors throughout Hawai`i. Those attempting to use or perpetuate the Hawaiian language at home and in public were punished and chastised. This systematic oppression led to a steep decline in the number of native Hawaiian language speakers. For fear of being reprimanded and even ostracized by society and the authorities, parents and grandparents succumbed to the use of the English language in the raising of their children and families. Many forms of Hawaiian expression, practices and custom were heavily prohibited and punishable by law. Many kumu hula, `olohe, kahuna lā`au lapa`au and other masters of traditional schools of knowledge ceased to teach and practice. Several went underground with their traditions or kept their practices limited to their immediate family members.

By the early 1980s, less than 30 children under the age of 12 could speak Hawaiian. Most were children of parents from Ni`ihau - the only island remaining where Hawaiian language was spoken as the first and preferred language of choice. Parent and grandparent generations elsewhere in Hawai`i had already grown up without knowledge or experience in speaking the Hawaiian language. For majority of the native population in Hawai`i, `ōlelo Hawai`i was as remote and unfamiliar as any other foreign language from another country.

This prompted a group of Hawaiian language educators in 1984 to advocate for the perpetuation of the Hawaiian language. They formed and founded `Aha Pūnana Leo pre-schools with the vision of re-establishing a Hawaiian language speaking population once again.

In 1978, the State of Hawai`i Constitution was amended to recognize Hawaiian as an official language of Hawai`i by law. Today, the language is beginning to flourish once again, with Hawaiian charter schools, pre-schools and public schools providing instruction in `ōlelo Hawai`i.

In Anahola, the Kamehameha Pre-School and the Kanuikapono Charter School, provides instruction and curriculum that strongly emphasizes Hawaiian values, culture and language. Kanuikapono is located on DHHL Residential Homestead Land off of Kukuihale Road.

Mo`olelo: Storied Origins & Traditional Places

Mo`o `Ōlelo is the succession of talk; or the continuation and perpetuation of oral histories and traditions that were passed on in story and chant forms. It is from this that the word mo`olelo is derived - stories, tales, myths, legends and chronicles; records of information that was storied in the memories of Hawai`i's ancient people. Another term that is used is kā`ao - oral traditions and myths that represent the cultural truths, wisdom and experiences of our kūpuna.

Throughout the CIA, examples of traditional Hawaiian mo`olelo are presented to link the reader with traditional places, beliefs and practices associated with the ancestral worldview of Hawai`i's indigenous Hawaiian people. Mo`olelo and kā`ao are not viewed as fanciful fairy tales or fictional stories woven to entertain. Laden with skillful use of metaphors and poetic expressions, they are invaluable sources of information that have preserved a sense of consciousness and inner connection of the *kānaka `ōiwi* with his multidimensional world.

It is estimated that the Hawaiian island chain was first settled upon more than 2000 years ago by Polynesians who arrived from Nukuhiwa (also pronounced Nu`uhiwa) or the Marquesas Islands. Early migration chants and oral traditions provide insight to the discovery and settling upon these islands. One story tells of a man named Hawai`iloa who is credited with first discovering Hawai`i when he set out from a land called, "Ka `āina kai melemele a Kāne, (*The land of the yellow sea of Kāne)* on a long fishing expedition. He sails back to his homeland and returns with his wife and followers, including eight navigators. Because his wife is the only female on this return journey, it is said that all Hawaiians are descended from him. The largest island in the chain - Hawai`i, is named in his honor, while the additional islands of Kaua`i, Maui and O`ahu are named after his children.

From Hawai`iloa, the heritage of long, distant voyaging, non-instrument navigation and way finding is established using phenomenal skills of keen observation and comprehension of stars and constellations in the heavens. He is the primal ancestor of the Hawaiian people who also introduces the astronomical wisdom of the atmosphere and its phenomena, including the weather and climate. He is also an expert of the ancient sciences associated with the physical, geological and biological features of the oceans.

From the union of Papahānaumoku and Wākea - preeminent mākua or parents of the Hawaiian universe is born Hāloa...our very connection to kalo, the sacred staple that has fed and nourished the Hawaiian people since time immemorial.

The genealogical ko`ihonua of Hawai`i's ancestral Earth Mother and Sky Father bring forth the paradigm that bind generations of Native Hawaiian families to this storied progenitor.

Through the traditions of Papa and Wākea, the energy of the Hawaiian family system that includes both nuclear and extended `ohana is born. From this legacy comes the skills and intelligence of the mahi`ai - the native planter that tends to Hāloa, the taro plant and elder brother that continues to sustain families today. Indigenous agriculture and cultivation practices are dependent on acquiring intimate knowledge of water cycles, moon phases and weather phenomena. There is a constant nurturing of familial relationships to land, environment and elements of the Hawaiian universe.

The epic saga of Pelehonuamea describe in detail, the journey of the fire clan aboard the mythical wa`a (canoe) named Honuaiākea. Their quest is to search for a new fire source and a home from which to generate sources of life. It too, is a story of genealogy and migration, establishing cyclical movements of life upon these lands. The sun is a fundamental and reoccurring theme of substance that is essential to physical, spiritual and intellectual wellbeing.

The chants of the mo`olelo of Pele and Hi`iaka provide detailed accounts that speak to the importance of relationships that the indigenous Hawaiian hold in high esteem with `ohana or familial relationships; not just with mankind, but with their environment as well as with that of the atmosphere and the elements. This is a profound expression of connection that taps into the inner sources of life and healing. Through this ancient oral tradition, we are provided with formulas and procedures of Hawaiian protocols and ceremonies that are still applicable for the native Hawaiian in the 21st century.

These are just a few examples of the incalculable volumes of "unwritten literature" - primal sources of Hawaiian chants and the impressive accounts within them chronicle centuries of Hawai`i's fascinating history and culture. Embedded in the narratives of these ancient traditions are valuable details that provide us with a deeper understanding and a closer look at the worldview, life ways and experiences of Hawai`i's people prior to the turbulent changes that unfolded in post-contact times.

The significance and merit of mo`o `ōlelo - what an ingenious tradition of transmitting wisdom, knowledge, history and more through the succession of the voice conveyed through the telling of stories and the perpetuation of the art form of chants and the oral traditions that inspire the essence of indigenous Hawaiian cultural practices and beliefs.

Ancient Chants that Extol the Land & Environment as Relations

References and examples of chants from Hawai`i's ancient repository of oral and literary traditions have been included in this CIA to elaborate upon the traditional beliefs and cultural practices of native Hawaiians. These practices continue to this day. Mele oli, mele pule, mele hula and mo`olelo provide authentic examples of this continuing practices. They also speak to the relationships held between *nā kānaka* - mankind, their environment and their gods.

The ancients viewed facets of nature such as the heavens and earth as a godly and divine pairing of male and female procreative energies. Wākea - the broad, wide expanse of the atmosphere is male. The moisture that gathers and collects in the clouds and sky produces rain, which is also a male force. The earth is female, and is known to Hawaiians as Papahānaumoku, or literally, *Papa that gives birth to islands.*

Adapted from Hawaiian Antiquities by David Malo (p.243) the mele ko`ihonua or genealogical chant on the following page speaks to the birthing of the Hawaiian Islands. Wākea - the male, is embodied in the expanse of the atmosphere and the heavens. Papahānaumoku - the female is Papa who gives birth (hānau) to islands.

Image NK-1.11 Hāloa is embodied in the kalo or taro plant and is revered as an "older brother" of the native Hawaiian people.

This ancient chant was revived into modern day cultural practice as a means of expressing native Hawaiians' familial relationship with the natural world and the `āina or land. Papa and Wākea - Sky Father and Earth Mother, along with their offspring, Ho`ohōkūlani are the divine characters and procreative forces that are also revered for the gift and traditions of the sacred kalo or taro plant. They are viewed and respected as ancestral progenitors of native Hawaiians.

`O Wākea noho ia Papahānaumoku

Hānau ‘o Hawai’i, he moku
Hānau ‘o Maui, he moku

Ho’i hou ‘o Wākea noho ia Ho’ohōkūkalani

Hānau ‘o Moloka’i, he moku
Hānau ‘o Lāna’i, Ka ’ula, he moku

Līlī `ōpū punalua ‘o Papa iā Ho’ohōkūlani
ho’i hou ‘o Papa noho iā Wākea

Hānau ‘o O’ahu, he moku
Hānau ‘o Kaua’i, he moku
Hānau ‘o Ni’ihau, he moku
He ‘ula a’o Kaho’olawe!

Translation:

Wākea lived with Papa, begetter of islands

Begotten was Hawai’i, an island
Begotten was Maui, an island

Wakea made a new departure
And lived with Ho’ohōkūkalani

Begotten was Moloka’i, an island
Begotten was Lāna’i, an island

The womb of Papa became jealous at its partnership with Ho’ohōkūkalani
Papa returned and lived with Wākea

Begotten was O’ahu, an island
Begotten was Kaua’i, an island
Begotten was Ni’ihau, an island
A red rock was Kaho’olawe!

Hānau Ka Lā:
The Sun is Born

Of all of the elemental forms in nature, the lā or sun is the most prominent source of mana. For thousands of generations, native Hawaiians have worshipped the sun as an essential component of their religious and cultural practices. As a deity, the sun is known by the names of Kānehoalani as well as, Ka`onohiokalā. The first, as the sun in its entirety and the latter as the god that lives in the `ōnohi - the center or in the "*eyeball of the sun*". From within sun, Ka`onohiokalā emits the power and life source of energy or mana.

The significance and understanding of *mana* as physical, mental and spiritual nourishment is preeminent in the customs of old Hawai`i. It is essential to the health and wellbeing of the family system and community.

Every fragment of Hawaiian history and culture was documented to memory and orally transmitted from one generation to the next via chants. The births of gods, mankind, celebrated chiefs and more were often the subjects of lengthy, detailed chants.

Amongst them were *mele mo`okū`auhau* or genealogy chants, which are still considered to be one of the most prized family possessions of the native Hawaiian people. Kūpuna or elders were careful to designate individuals in the following generations of their families to be groomed as stewards of the `ohana's genealogy. All knowledge was committed to memory, which included the names, unions and offspring in the family's ancestors. Mo`okū`auhau hold us accountable to our ancestors. It strengthens our cultural identity and inspires the mana of our being.

However, mo`okū`auhau were not limited to families of humans only. Literary accounts of mo`okū`auhau also included family lines of many other nature forms as well. This included, mountains, sharks, water sources and elements of the natural world.

The following is short segment from a chant that names the Kaikahinali`i - the female and Kānehoalani - the male, as the elemental parents of their nature offspring.

`O Kaikahinali`i, ka makuahine;
`O Kānehoalani, ka makuakāne

Nā keiki a lāua, ke one hānau

`O Kamohoalai`i ke kāne, ua hānau `ia i Hapakuela
`O Kahuilaokalani ke kāne, ua hānau `ia i Hapakuela
`O Pelehonuamea ka wahine, ua hānau `ia i Hapakuela

The mother was Kaikahinali`i
The father was Kānehoalani
Their children born to them and the sands of their birth
First born was Kamohoali`i - a male, he was born at Hapakuela
Kahuilaokalani - a male was born, he was born at Hapakuela
Pelehonuamea - a female was born, she too was born at Hapakuela

The lines above provide a genealogical introduction associated with a migration made to the island of Kanaloa (another name for Kaho`olawe). It speaks of natural phenomena and the interrelationships of male and female procreative forces that produce godly offspring.

The mother is Kaikahinali`i who is the originating volcanic source of seismic movements that produces tsunami activity in the ocean. Kānehoalani is the father whose atmospheric form is the sun. Their combined male and female energies give birth to the first three offspring in this genealogy; namely, Kamohoali`i, Kahuilaokalani and Pelehonuamea.

Kamohoali`i *(the supreme principal chief)* is the hiapo - the eldest and the first born who is the leader and principal that guides the migration of the Pele Clan and is responsible for initiating volcanic eruptions. In one of his primordial ocean forms, he is a great shark god. He is the master navigator aboard the Pele Clan's mythical canoe named Honuaiākea *(the expanse of the earth).*

Kahuilaokalani *(the lightning of the heavens)* is also a male who takes on the form of the electrical currents in the atmosphere. Born from the eyes of Haumea, he is manifested through flashing lightning.

Pelehonuamea *(Red-hot magma from the earth)* is female. She is the substance of molten magma and the flow of lava, responsible for the creation of new land.

As the goddess of fire and volcanoes, Pele influences movement upon the earth as well as in the atmosphere. Her discernible attributes include earthquakes, wind, steam, smoke, and fire.

All five of these characters are imperative to the migration of the Pele clan in their quest to search for a new fire source. They all possess mana - physical and spiritual energy to initiate earthquakes, eruptions, lightning, thunder, tsunamis and the flow of magma and lava that eventually cools and hardens. This is the procreative process of male and female nature gods credited with the birthing of new land.

In subsequent chants that follow, the poetic narrative details their movements of pushing further and further to the east. The fire clan pursues their search for Kānehoalani and a place where Pele can create a volcanic home for herself and her siblings to settle. There is strong desire for Pele to reconnect to the fiery source and power of her father, the sun god. It is essential to her ability to create new land.

The chant, *"Kū Mākou E Hele"* details the migration journey aboard the canoe, Honuaiākea. Entering from the northwest end of the Hawaiian Island chain, the Fire clan stops at each of the islands with hopes that Pele will be able to establish a home for them.

The chant begins with their first landing at the island of Nīhoa, a land rugged and inhospitable for living. They move on to the island of Lehua, where they discover that they unintentionally left their brother Kāneapua behind at Nīhoa. It is here, that the chant describes the masterful skills of Kamohoali`i as a steersman and navigator who is challenged to maneuver their canoe to return to Nīhoa where their brother Kāneapua has been left behind. From there they head to Ni`ihau. Kamohoali`i consults Paoa, the divine staff of Ni`ihau's potential for them to build a home there. However, it proves the terrain unfavorable and the fire clan continues on to Kaua`i.

Their stay on Kaua`i is brief at the northern tip of Kīlauea where eventually, Pele's volcanic fires are put out by the raging ocean of her rival sibling and older sister, Namakaokaha`i. From Kīlauea, they head to the south end of Kaua`i where Pele makes another attempt to create a home in the moku district of Kona (today known as the Kōloa district). Again, her fires are put out by the goddess of the sea. Situated on Makaokaha`i Point, the ocean-filled spatter cone dug by Pele is called, Nomilu, named for the deity and the realm of the underworld. This is part of the Kōloa eruption series, Kaua`i's last volcanic activity.

In the chant below, the goddess, Pelehonuamea offers a greeting of love and aloha to Kānehoalani. He is the purest embodiment of the most ultimate and supreme form of the volcano in the heavenly space of the atmosphere.

E Kānehoalani, e Kānehoalani ē,
Aloha kāua!
Kau ka hōkū ho`okahi hele i ke ala loa
Aloha kama kūkū kapa a ka wahine
He wahine lohiau nānā i ka makani
He makani lohi au hā`upu mai o loko ē!

O Kānehoalani, O Kānehoalani
Greetings to us!
Relying upon the star we traveled the long trail!
Greeting to the child of the kapa beating woman!
An inactive woman, observing the wind,
An inert wind, smoldering within!

Kau ka hōkū ho`okahi hele i ke ala loa

This particular line indicates the role of the sun as a navigational aid for the migrating fire clan. The sun is the one star (hōkū) whose daily sunrise keeps them on course, due east. Pele acknowledges the long journey and pathway that it will take and the transition from solar to lunar cycles with the goddess Hina, the "*kapa beating woman of the moon*".

Eventually, the fire clan reaches their destination on Hawai`i Island at the cape known as, Kumukahi *(First Beginnings)*. It is the eastern-most point of the Hawaiian archipelago where the first rays of sunlight touch upon the land when it rises. Pele is successful in creating a volcanic home for herself and her siblings and settles in at Halema`uma`u - a pit within the larger summit caldera of Kīlauea.

Kumukahi is named after an ancient hero of Kahiki who first landed there. Contrary to the common thought that Kahiki is *Tahiti* in the Hawaiian language, it is described in mo`olelo and chants as a far away, distant land from whence the ancient gods originated from. Kahiki is also an indication of the sun's point of entry which lies in the east. Hiki meaning to get to or to reach a place; arrive, appear and arise, as of the sun.

Kahiki was also the term used to identify the five stratums that divided the sky. The use of these terms is also important in religious ceremonies as a means to establish the perimeters of sacred ceremonial space which extended to, and included the greater atmosphere of the universe. The dome of heaven was seen as a structure in itself, with walls that rested upon the earth. The different kahiki represent the boundaries of this paradigm.

Kahiki-moe - Horizon. Literally, prostrate Kahiki
Kahiki-kū - sky just above the horizon. Literally, upright Kahiki.
Kahiki-ka-papa-nu`u - the next layer. Literally, Kahiki the elevated stratum.
Kahiki-kapu-i-Hōlani-ke-kū`ina - the sky directly overhead.
Literally, sacred Kahiki at Hōlani the meeting place.

Legend tells of Kumukahi and his wives, represented by volcanic pillars along the coast who tossed the sun back and forth. The mo`olelo describes the fundamental nature of the movement of the sun between the solstices as it moves from one extremity to the other from north to south.

Another account by Martha Beckwith describes a red stone at the extreme end of the cape that represents the Kūmukahi, a god with healing powers who can take the form of a kōlea or plover. Two further stones represent his wives, who "manipulate the seasons by pushing the sun back and forth between them at the two solstices" (Beckwith 1970 [1940], p.119).

Image NK-22 Clouds mimick the silhouette of land and rock formations at Cape Kumukahi, Hawai`i at sunrise.

MELE HO`ĀLA are chants that are used for pre-dawn preparations and ceremonies. It provides for proper address of the elements, the cardinal points and boundaries of the greater universe. Most importantly, it is a chant that is offered in greeting and worship of the sun. It is also a chant that was used to gently awaken a chief or chiefess from his or her slumber.

Image NK-12 Pre-dawn, awaiting the sunrise at Keanapalau, Kamalomalo`o Ahupua`a

The rising of the sun symbolizes a new life and rebirthing of consciousness, inspiration and growth. The sun is a fundamental and sacred life source that sits at the center of native Hawaiian beliefs and practices. It was commonplace to initiate the start of the day in prayer, meditation and chant as a means to personally engage and commune with the sun.

Chanting continues to be a primary course of communicating with the natural world and elements such as the sun. The thought and intention embedded in the poetry of the chant/prayer, coupled with the energy and vibration of the chanters voice is at the very basis of the simplest expression of sun worship. initiates and petitions the boundaries of the universe to awaken and rise up as well. `Āpapa is also used to denote rank and status of gods and chiefs; thus exalting the sun and the elements of the heavens as the epitome of divine order.

The opening lines of the mele ho`āla below calls upon the different Kahiki, to set up the foundation for the new day.

Mele Ho`āla

E ala, e Kahiki-kū;	*Arise now, Kahiki-kū;*
E ala, e Kahiki-moe;	*Arise now, Kahiki-moe;*
E ala, e ke `āpapa nu'u:	*Arise now, the stratum of the heights;*
E ala, e ke `āpapa lani.	*Arise now, the stratum of the heavens.*
Eia ka ho`āla nou, e ka lani la, e-e!	*This is to awaken you, O chiefly one of the heavens!*
E ala oe!	*Awaken and arise!*
E ala, ua ao, ua malamalama.	*Awaken, it is day, it is light.*
Aia o ka pe'a ma, la, i luna;	*There is the sacred house of the sun above*
Ua hiki mai ka maka o Unulau	*The eye of the sun has arrived over the sea of Unulau*
Ke hoolale mai la ke kupa holowa'a o Ukumehame,	*The seafarers of Ukumehame are hastened*
Ka lae makani kaohi-wa'a o Papawai,	*By the Papawai wind that detains canoes*
Ka lae makani o Anahenahe la, e-e!	*And the Anahenahe wind that blows at the promontory*
E ala oe!	*Awaken and arise thee!*
E ala, ua no, ua malamalama;	*Awaken, day is come and is brightened by the light*
Ke o a'e la ke kukuna o ka La i ka ili o ke kai;	*The sun rays pierce into the surface of the sea*
Ke hahai a'e la, e like me Kumukahi	*It pursues as did the god Kumukahi*
E hoaikane ana me Makanoni;	*In companionship with Makanoni*
Ka papa o Apua, ua lohi i ka La.	*The surface of Apua is lighted by the sun*
E ala oe!	*Awaken and arise thee!*
E ala, ua ao, ua malamalama;	*Awaken, day is come and brightened by the light*
Ke kau aku la ka La i Kawaihoa	*The sun stands over Kawaihoa*
Ke koli`i aku la ka La i ka ili o ke kai;	*Gradually disappearing over the ocean surface*
Ke ānai maila ka `iwa ānai-maka o Lei-no-ai,	*The iwa fascinates the eyes drawing attention of Leinoai!*
I ka luna o Makaikiolea,	*On the cliff of Makaikiolea*
I ka poli wale o Lehua lā.	*Held in the embrace of Lehua*
E ala oe!	*Awaken and arise thee!*

Image NK-23 Sunrise at Kumukahi. The natural rock formations Makanoni and Ha`eha`e appear at first light in the morning sky.

Kumukahi is the setting in another chant named, "Kolo Māpu Le`a I Ke Ahiahi" which is another mele that was composed in honor of Kamehameha III - Kauikeouli. It cites two large stones in the following lines:

Ka hikina o ka lā i Ha`eha`e
Ho`opuna ho`i i Makanoni
The entrance of the sun at Ha`eha`e
Making its nest, too, at Makanoni

Named Ha`eha`e and Makanoni, these natural stone markers are used to track the movement of the sun and its entry point upon the horizon throughout the year. They are especially significant during the vernal and autumnal equinoxes as well as the summer and winter solstices. With Ha`eha`e to the north and Makanoni to the south marking the extremities of the sun.

On Kaua`i Island, a similar pair of large stones sit upon the ridge of Kuamo`oloaakāne in Wailua at the ancient heiau site named Pōhaku `Ele`ele. They are used in the same capacity of measuring time and sun observations.

The sun is associated with all forms of procreation and birth, and is especially significant in the birthing of Hawai`i's high-ranking ali`i.

"Hānau Ka Lā A Na`u" is a birth chant that was composed in honor of Kauikeaouli (1813 - 1854),a royal son born to Kamehameha I and the high chiefess of Maui, Keōpūolani.

King Kamehameha III - Kauikeouli

The chiefess was challenged with a very difficult labor, with Kauikeaouli stillborn at birth. The Kahuna Nui or High Priest Kamalo`ihi (also known as Kapihe) was born at Keauhou Bay, on Hawai‘i island. He was the second son of King Kamehameha I and his highest ranking wife, Queen Keōpūolani of Maui. The precise date of his birth is not known. Early historians suggested June or July 1814, but the generally accepted date is August 11, 1813. (Cummings, 1973) He was of the highest *kapu* lineage.

Kauikeaouli was about 16 years younger than his brother Liholiho, who ruled as Kamehameha II starting in 1819. He was named *Kauikeaouli Kaleiopapa Kuakamanolani Mahinalani Kalaninuiwaiakua Keaweawe ‘ulaokalani (placed in the dark clouds the red trail by which the god descends from heaven)* after his maternal grandfather Kīwala‘ō. He was promised to Kuakini in *hānai*, but at birth he appeared to be delivered stillborn, so Kuakini did not wish to take him.

However, Chief Kaikio‘ewa summoned his *kaula* (prophet) Kapihe who declared the baby would live. Kauikeaouli was cleansed, laid on a rock, fanned, prayed over and sprinkled with water until he breathed, moved and cried. The prayer of Kapihe was to *Ka‘ōnohiokalā*, the ancient god of the sun. The rock is preserved as a monument at Keauhou Bay.

Mele Hānau No Kauikeaouli

O hānau ka lā a nāʻū,
O nāʻū ka lā o Kupanole.
ʻO Kupanole ka lā kōhia,
Kōhia ka lā iā Hina.
ʻO ke kukuna o ka lā paʻa
ʻO ka peʻa o Hilinamā, o Hilinehu,
ʻO ka lālā o ke kamani,
ʻO ka hui o ke kamani ʻula.
ʻO ka ʻēheu o Halulu, Ke haʻina mai lā, haʻi
Ke hakia mai la e ka lā,
E ke keiki hele lani ā Kea.
ʻO Wākea ka i lalo, o ka lā ka i luna,
ʻO ke keiki ia ā Kea i hoʻokauhua ai.
ʻO ia hoʻi o ka lā, hānau ka lā.

Translation:
The sun was born to be mine,
Mine the sun of Kupanole.
At Kupanole the sun held back,
The sun held back for Hina's sake.
Rays of the sun made secure
the boundaries of Hilinamā, of Hilinehu,
joined the branch of a kamani tree
To the linked branches of the red kamani.
To the linked branches of the red kamani.
The wings of Halulu were broken, broken.
They were severed by the sun,
by the sky-voyaging sun of Kea.
Wākea was below, above was the sun,
The sun child born to Kea.
He it was, the sun child: the sun brought to birth.

Image NK-24. Members of Hālau Palaihiwa O Kaipuwai gather for sunrise ceremonies at Kumukahi, Hawai`i.

E ala ē
Ka lā i ka hikina
I ka moana
Ka moana hohonu,
Pi`i ka lewa
Ka lewa nu`u,
I ka hikina, aia ka lā
E ala ē!

Awaken, arise
The sun in the east
From the ocean,
The depths of the ocean
Climbing to the heavens
The highest reach of the heavens
In the east, there is the sun
Arise!

Cultural & Religious Practices Associated with the Sun

In pre-contact Hawai`i, the sun played a major role in all aspects of daily Hawaiian life. It was a divine source of energy for growth and inspiration - both physically and spiritually. Even more importantly, the sun provided the life support that was essential for survival. The following are examples of traditional pule or prayer that continue to be used by contemporary practitioners today. the first is a formal address to the sun to petition for life and health of the fisherman's family.

<u>No Ka Lanai's - for the Fisherman</u>

O ko`u lā ho`i ia ko ke kanaka lawai`a
I lākou i ke aho me ka mākau
E ka lā ē! E ola i a`u!
I ka`u wahine, i ku`u keiki, i ko`u mau mākua
`Amama. Ua noa.

My day of course is that of the fisherman
Provided with line and hook
O Sun, give me life!
And to my wife, my children, my parents.
`Amama. It is free of tabu.

No Nā Po`e Hula - for the Hula Practitioner

Ho`opuka i ka lā ma ka hikina,	*The sun enters rising in the east*
me ka huaka`i hele no Kumukahi	*beginning its journey from Kumukahi*
Ha`a mai nā `iwa me Hi`iaka…	*Dancing with Hi`iaka are the `iwa birds…*
Me Kapō, Laka i ka ulu wehiwehi	*Along with Kapō`ulakina`u and Laka in the verdant growth of the forests*
Ne`e mai nā iwa ma ku`u alo	*Moving into my presence are the graceful `iwa*
Me ke alo kapu o ke āiwaiwa	*And to the sacred presence of the most divine*
Ho`i no e ke kapu me nā ali`i	*Let the sacred ways be returned to the chiefs,*
E ola mākou a mau loa lā!	*And that life be bestowed upon us forever more!*

This mele ka`i or entrance chant is widely used by hula schools throughout Hawai`i and elsewhere in the formal presentation of hula performance. It purposely cites the rising of the sun in the east and its mana to inspire growth and wisdom. The `ōlapa emulate the sun's movement, arriving in successive procession in the company of the gods. The point of entry is marked in the east - marking the threshold from where the sun has risen for millennia in ushering in a new day for health and life. Mele ka`i are coupled with mele ho`i or exit chants that are directed to the west where the sun sets and brings closure to the day.

No Nā Po`e A Pau
For everyday use to honor and seek guidance from ancestors

Nā `aumākua mai ka lā hiki ka lā kau	*Ancestors from the rising to the setting sun*
Mai ka ho`oku`i a ka hālāwai	*From the zenith to the horizon*
Nā `aumākua ia ka hina a kua la ka hina alo	*Ancestors who stand at our back and front*
la ka`a akau i ka lani	*You who stand at our right hand*
‘O kiha i ka lani	*A breathing in the heavens*
‘Owē i ka lani	*An utterance in the heavens*
Nūnulu i ka lani	*A clear, ringing voice in the heavens*
Kāholo i ka lani	*A voice reverberating in the heavens*
Eia nā pulapula a ‘oukou ‘o ka po`e o Hawai`i	*Here are your descendants,*
E mālama ‘oukou ia mākou	*Safeguard and protect us*
E ulu i ka lani	*That we may flourish in the heavens*
E ulu i ka honua	*That we may flourish on earth*
E ulu i ka pae ’āina o Hawai’i	*That we may flourish in the Hawaiian islands*
E hō mai i ka ‘ike	*Grant us knowledge*
E hō mai i ka ikaika	*Grant us strength*
E hō mai i ke akamai	*Grant us intelligence*
E hō mai i ka maopopo pono	*Grant us understanding*
E hō mai i ka ‘ike papalua	*Grant us insight*
E hō mai i ka mana.	*Grant us power*
‘Amama ua	*The prayer is lifted, it is free.*

Hānau Ka Lā: The Sun is Born

No Nā Po`e A Pau
For everyday use to greet the new day and chant up the sun

E ala ē
Ka lā i ka hikina
I ka moana
Ka moana hohonu,
Pi`i ka lewa
Ka lewa nu`u,
I ka hikina, aia ka lā
E ala ē!

Awaken, arise
The sun in the east
From the ocean,
The depths of the ocean
Climbing to the heavens
The highest reach of the heavens
In the east, there is the sun
Arise!

Kāhālāwai
Cardinal Points in Association with the Sun
Horizon. Mai ka hoʻokuʻi a ka hālāwai, from zenith to horizon.

To sit in the quiet of darkness in anticipation of the rising sun is to contemplate the value of measuring a lifetime. Kahālāwai encompasses all of the components that make up the Hawaiian universe. It is also the portal through which the sun (the most outstanding element) arrives and departs every day. Observance, knowledge and the science of tracking the sun's pathway was a significant practice of our Hawaiian ancestors. Contemporary Hawaiians today continue to actively participate in these cultural activities and practices that are associated with sun worship.

Long before the sun actually rises from below the horizon, it will light up the morning sky with different hues of pinks, reds and oranges. There is a phenomenon of a green flash that occurs when the sun rises above the horizon. Hawaiians considered this to be the *hā* or breath of the sun. Hā`ena in Puna on Hawai`i Island and Hā`ena on Kaua`i Island are named for the two places in the inhabited islands of the Hawaiian archipelago where the sun awakens with its first breath in the east, and retires with its last breath toward the northwest completing its daily journey across of the sky.

Sun Observations from Project Area

The Anahola Solar Project area is ideally situated in the sun's east - west corridor of the Kamalomalo`o ahupua`a, ma uka of Kūhiō Highway just south of the Anahola ahupua`a, town and community.

Between the period of April 3 to April 20, 2012, a number of cultural field inspections, sun observations and alignment readings were taken from a contiguous area immediately above of the project site that is simply referred to as, "the corral". It is a flat and leveled area formally used as a corral for ranching. The location provided an excellent point of reference for observations and excellent 360 degree view planes.

From the observation area, the head of Anahola's prominent mountain Kalalea is to the north; the coastline, horizon and threshold for the rising of the sun, moon and star constellations lies in the east; Kalanipu`u and the Mount Hā`upu Mountain range is seen in the distance to the south; and Makaleha and Wai`ale`ale mountains are ma uka to the west.

Using the basic compass rose and azimuth plane, NK investigators collected information and data relating to project area and its alignments to the surrounding natural features and landmarks .

Directly above of the project area to the west is the Makaleha mountain range. From the Anahola Solar Project there is a 270 degrees azimuth alignment to a saddle in the Makaleha mountain range. At this time of the year, the sun is setting 270 degrees to the saddle.

To the right of the saddle is Pu`u Eu, the southernmost boundary of the Anahola ahupua`a. On the left side of this saddle is a peak called Makaleha (not to be confused with the generalized reference of the entirety of the mountain range). 270 degrees west is a very important direction in the Hawaiian culture signifying the place where the sun sets, the completion of a day, the passing of a life, and a place that divides a dimension from light into dark.

Mount Hā`upu is 180 degrees azimuth from the project site. Hā`upu means *to recollect, to recall, and to remember.* The 180 degree bearing falls on the promontory named Kalanipu`u - *"The Royal or Heavenly Hill."* Kalanipu`u is the southernmost promontory of Nāwiliwili bay and is part of the Niumalu ahupua`a. Peaks along the ridgeline of Hā`upu's mountain range play a very important role in ancient Hawaiian traditions associated with navigation. Peak names such as Hōkūlei, Hōkū`ula, Makali`i, Hōkūnui.

90 degrees azimuth is a point called Kalaulau located on the Anahola coastline. Kalaulau is a promontory protruding in to the ocean. North, at its opposite side is a point named Lae Lipoa or "*The promontory of the Lipoa seaweed*." Kalaulau in Hawaiian means, "*The wrapping, the bundle, or the package*." Kalaulau also means "*the brim of a hat, to be pregnant, or the blade of a paddle*."

90 degrees in the Hawaiian culture represents the direction of the rising of the celestial bodies, the sun being the carrier of life, the moon being the magnetic growth to the land, ocean and people, and the stars that rise serving as navigational points to frequently travelled ancestral destinations.

0 degrees azimuth from the project site is a promontory that marks the northernmost point of the Anahola Ahupua`a named Lae Kuaehu. Literally translated in Hawaiian, Lae Kuaehu means "*Promontory of the silent, still, and lonely*." Kua also means back, spine, to carry on ones back, and Ehu meaning *to thrive, produce, and abundance*. North beyond Kua`ehu lies the Ahupua`a of Aliomanu.

These compass readings are treated culturally with an effort to reinvigorate the proper alignments of the native Hawaiian person to the greater universe. It is apparent that ancient Hawaiian people had a firm grasp on the many cycles of the land, ocean, people, and atmosphere, without this knowledge how would one be able to distinguish seasons?, Taboos?, Time? It is essential to know that it is not by default that typically Anahola has lots of sun, but due to the alignment of the Anahola ahupua`a on Kaua`i, is the primary purpose there is an abundance of sunlight.

`Ōlelo No`eau Associated with the Sun

Ancient Hawaiian Proverbs & Poetical Sayings

Aia a wela ke po`o o ke keiki i ka lā.
When the head of the child is warmed by the sun.
When he is old enough to toddle or creep by himself into the sunlight
`Ōlelo No`eau #33

Ka lā i ka Mauliola
The sun at the source of life
Mauliola (Breath of Life) is the god of health
`Ōlelo No`eau #1422

Ka lā koi hana o Lahainaluna
The sun of Lahainaluna urges one to work
Daytime at the Lahainaluna School is occupied with studying and working
`Ōlelo No`eau #1428

Kaula`i nā iwi i ka lā
To bleach the bones in the sun
To talk too freely and unkindly of one's family to outsiders
`Ōlelo No`eau #1618

Ka wahine hele lā o Kaiona, alualu wai li`ulā o ke kaha pua `ōhai
The woman, Kaiona, who travels in the sunshine pursuing the mirage of the place where the`ohai blossoms grow.
**Kaiona was a goddess of Ka`ala and the Waianae Mountains. She was a kind person who helped anyone who lost his way in the mountains by sending a bird, an `iwa, to guide the lost one out of the forest. In modern times Princess Bernice Pauahi Bishop was compared to Kaiona in songs.*
`Ōlelo No`eau #1643

Ko`ele nā iwi o Hua i ka lā
The bones of Hua rattled in the sun
A warning not to talk too much of one's kin. Also, a reminder that trouble is sure to befall those who destroy the innocent. Hua was a chief of Maui who heeded the lies of jealous men and ordered the death of his faithful priest, Luaho`omoe. Before he died, he sent his sons to the mountains for safety, because it was foretold by gods what was to come over the land. After his death, drought and famine came. Many died, including the Chief Hua. There was no one to hide his remains, so his bones were left exposed to the sun and wind. Also expressed Nakeke nā iwi.
`Ōlelo No`eau #1811

Kūkulu kala`ihi ka lā i Mānā
The sun sets up mirages at Mānā
Said of a boastful person who exaggerates
`Ōlelo No`eau #1908

`Oi kau ka lā, e hāna i ola honua
While the sun yet shines do all you can
While there is earthly life (ola honua), do all you can.
`Ōlelo No`eau #2388

Ulu o ka lā
Growth of the Sun
Said of the light of sunrise just as the sun's rim touches the horizon
`Ōlelo No`eau #2870

Ha`alele i ka lā ka mea mahana
Has left the warmth of the sun
Has died.
`Ōlelo No`eau #394

Malō ka wai i ka lā
The water dries up in the sun
Joy withers in the presence of wrath
`Ōlelo No`eau #2126

Nau na ku`i o ka niho o ka lā
The teeth of the sun gnash
Said of a very warm day in which the heat is almost unbearable
`Ōlelo No`eau #2298

Kau ka lā i ka lolo, ho`i ke aka i ke kino
The sun stands over the brain, the shadow retreats into the day
Said of high noon, when the sun is directly overhead and no shadows are seen - an important time for some ancient rites and ceremonies
`Ōlelo No`eau #1611

Mai ka lā hiki a ka lā kau
From the sun's arrival to the sun's rest
Said of a day, from sunrise to sunset. This phrase is much used in prayers. Any mention to the setting of the sun was avoided in prayers for the sick; instead one referred to the sun's rest, thus suggesting rest and renewal rather than permanent departure.
`Ōlelo No`eau #2062

Mai ka lā `ō`ili i Ha`eha`e a hāli`i i ka mole o Lehua.
From the appearance of the sun at Ha`eha`e till it spreads its light to the foundation of Lehua.
Ha`eha`e is a place at Kumukahi, Puna, Hawai`i, often referred to in poetry as the gateway of the sun.
`Ōlelo No`eau #2063

Mai ka lā `ō`ili ana a ka lā i Kumukahi a ka lā iho aku i ka mole `olu o Lehua
From the appearance of the sun at Kumukahi till its descent beyod the pleasant base of Lehua
From the sunrise at Kumukahi, in Puna, Hawai`i, to the sunset beyond islet of Lehua.
`Ōlelo No`eau #2064

Ka moku ka`ili la o Manokalanipō
The sun-snatching island of Manokalanipō
Kaua`i, the north westernmost island of the group, beyond which the sun vanishes at dusk. Manokalanipō was an ancient ruler of Kaua`i.
`Ōlelo No`eau #1488

Mai ka hikina a ka lā i Kumukahi a ka welona a ka lā i Lehua
From the sunrise at Kumukahi to the fading sunlight at Lehua
From sunrise to sunset, Kumukahi, in Puna, Hawai`i, was called the land of the sunrise and Lehua, the land of the sunset. This saying also refers to a life span - from birth to death.
`Ōlelo No`eau #2058

Ka moa i hānai `ia i ka lā, ua `oi ia i ka moa i hānai `ia i ka malu.
A cock fed in the sunlight is stronger than one fed in the shade.
If you want a strong son, raise him with plenty of sunlight.
`Ōlelo No`eau #1484

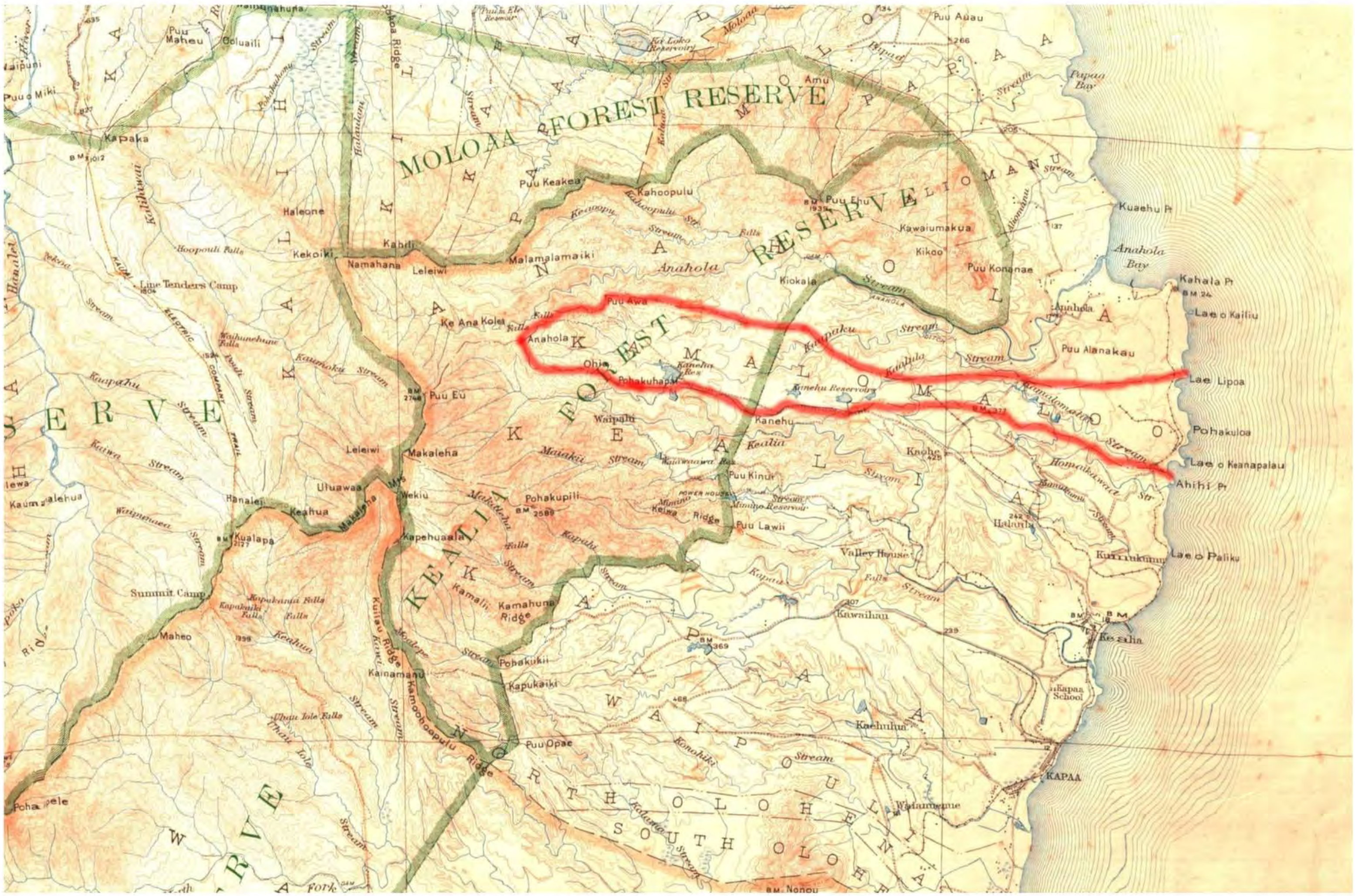


Figure 7. US Department of the Interior Geological Survey Topographic Map. 1912. Kaua`i County, Hawai`i highlighting the ahupua`a of Kamalomalo`o. It's northern seaward boundary is Lae Līpoa, its southern seaward boundary point is where Kamalomalo`o Stream empties into the bay, and the ma uka zenith point is atop of the peak named Anahola.

Cultural Impact Assessment of Anahola Solar Project
Native Kaua`i LLC Indigenous Hawaiian Cultural Consultants

The Project Area
Kamalomalo`o Ahupua`a

The Anahola Solar Project proposed to be developed upon lands situated in the ahupua`a of Kamalomalo`o.

The traditional ahupua`a of Kamalomalo`o is marked by its northern seaward boundary point at Lae Līpoa. The second boundary point *ma uka* toward the uplands is at Pu`u `Awa (Elevation 1160 ft.). The boundary pinnacles at a mountain peak called Anahola. The ahupua`a turns back toward the ocean and follows a southern boundary which is marked by landmarks of `Ōhi`a, Pōhaku Hāpai, and Kānehū; finally reaching its southernmost boundary point which is where the Kamalomalo`o Stream empties into Kamalomalo`o Bay.

Image KM-2. Laborers harvesting cane by hand in cane field. Makaleha and Pu`u Eu is seen in the far left background. 1900 - 1904. Tambling Collection. Henry Funk Photographer. Kaua`i Museum Archives.

Image NK-7 The mountain peaks of Ka`ināmanu, Wēkiu, Makaleha and Pu`u Eu are observed in the distance from just above of the project area - April 2012. This photo, taken more than a century later (from the image on the previous page) presents the same land base at Kamalomalo`o Ahupua`a with the prospect of developing a solar energy facility for Kaua`i Island.

Boundaries of Kamalomalo`o Ahupua`a

Kamalomalo`o

Kamalomalo`o is a relatively smaller ahupua`a in comparison to its adjacent sister land divisions of Keālia and Anahola It is easy to assume that Kamalomalo`o could simply mean, "*dried loincloth*". The malo or loincloth is a traditional garment worn about the loins of male boys and men. Likened to the vegetation and growth upon the land, the malo is used as a metaphor that is likened to the expanse of vegetation and growth that covers the `āina.

Image NK-2 (L) Lae Līpoa northern seaward boundary of Kamalomalo`o Ahupua`a.

Image NK-3 (R) Kamalomalo`o ahupua`a's southern seaward boundary is mid-bay of the small cove that is informally referred to as Kamalomalo`o Cove or Bay. The beach is commonly known as, "Beach House" and the surf break in the bay is known as, "Crack 14".

The word malō is also a variance of malo`o. The reduplication of the word "*Dry/dried*" could allude to a landscape that is infertile and unproductive. While there are existing water sources that meander through this ahupua`a, they are inconsistent in discharging large, volumes of water that would lend to support widespread cultivation. From 1878 - 2000 the Makee and Līhu`e Sugar Plantations utilized the lands at Kamalomalo`o and Anahola for the cultivation of sugar. They developed the Kānehā and Kānehū reservoirs to divert and store water for its cultivation operations. Since the closure of the Līhu`e Plantation in 2000, the reservoirs have fallen into disrepair and neglect. Now completely drained and dried up, some of the reservoirs are situated on DHHL property in Kamalomalo`o.

Another translation of malo`o, is to trace as of a genealogy, lineage. The malo or loincloth is a traditional garment worn by men. Here it represents the ability to propagate, produce and perpetuate.

Lae Līpoa: *Līpoa Point, Promontory of Līpoa Seaweed*

Kamalomalo`o shares this northern seaward boundary with the ahupua`a of Anahola. The līpoa is a bladelike, branched brown limu or seaweed *(Dictyopteris plagiogramma and D. australis)*. It highly prized on all islands.

Image NK-6 Lae Līpoa - Wa`a

Image NK-1.4 Lae Līpoa Reef Shelf

As indicated by its name, this promontory and the surrounding area off of the Kamalomalo`o and Anahola boundary point is provides an ample supply of the favorite edible limu līpoa. Other limu, including limu kohu can be found here, as well as along the coastline of the project area ahupua`a. Lae Līpoa continues to be a resource for Anahola kūpuna and families who gather limu and fish here daily. The "wa`a" pictured here is a landmark and natural outcropping of rocks in the ocean that resembles a canoe.

Image NK-13 Limu Līpoa (Dictyopteris plagiogramma)

Pu`u `Awa:
"*`Awa Hill" Elevation 1160 ft. This is another place name that can simply be translated as it is presented here...named for the `awa (kava - piper methysticum), a Native Hawaiian plant important in Hawaiian culture for the preparation of a ceremonial drink. Called "Kava" in other parts of Polynesia. `Awa is a kinolau or plant manifestation of the gods Kāne and Kanaloa who according to ancient traditions, travel throughout Hawai`i opening fresh water springs and sources in waterless lands. However, `awa is a cold rain, fog or mist, which is confined to the mountains. It is probable to anticipate that this kind of weather is typical for the upland region of the Kamalomalo`o ahupua`a.*

Anahola
Name of a mountain peak that serves as the upland pinnacle boundary point for Kamalomalo`o ahupua`a. Lit. Hola Cave; which describes an ancient fishing method which utilized the `auhuhu plant *(Tephrosia purpurea syn. T. piscatoria)* to poison or stun fish. (See further discussion in separate section on Anahola)

`Ōhi`a
Another pu`u or mountain landmark that designates the southern boundary of the Kamalomalo`o ahupua`a. `Ōhi`a are primarily two different types of native trees: One is the `Ōhi`a `Ai or mountain apple (Eugenia malaccensis), and the other is of the *(Metrosideros macropus, M. collina subsp. polymorpha);* The plant has many forms, from tall trees to low shrubs. The flowers are red, rarely salmon, pink, yellow, or white. It was highly desired for its spiritual and symbolic qualities, including for the making of carved images (Ki`i), temple structures, weapons and spears.

It is largely misunderstood and believed that the action of picking lehua blossoms will cause it rain....a "bad sign resulting from offending the rain gods". The fact of the matter is that `ōhi`a lehua grow abundantly and best in environments that are usually wet and rainy. The lesson is to refrain from picking the scarlet blossoms on your way into dense forest trails. For it is best to focus on the trail lest you become disoriented by simply not paying attention to your surroundings. A protocol that is followed by disciples of `aiha`a and hula is to pick and gather on your way out.
Both the `ōhi`a lehua and the `ōhi`a `ai are considered to be sacred kinolau - manifestations of godly nature forms. Along with kupukupu fern, the `ōhi`a is the first plant to appear on a newly formed lava field. It is one of the essential plants that are put on to the kuahu or hula altar.

Pōhaku Hāpai:
Located on the southern boundary of the Kamalomalo`o ahupua`a, Pōhaku Hāpai is situated in between `Ōhi`a and the Kānehā Reservoir. *Lit. Stone to cause conception; to conceive.*

Kānehū:
Kāne is the akua nui or major god that is associated with all forms of fresh water including rain, streams, rivers, and lakes and more. The word, hū means to rise, swell, overflow and percolate, etc. Of Kāne's 70 kinolau or nature body manifestations, fresh water and sunlight are of the greatest significance as forms that are necessary for health, growth and life.

Kānehū is a traditional place name of a fresh water source; spring and stream. Located nearby are two reservoirs that were created by the sugar plantation are also named for/after [the place] Kānehū. Note: There is another stream source as well as a reservoir in Kamalomalo`o which is named, Kānehā. The word hā refers to the breath, life, essence and spirit. The god Kāne, is recognized as the provider and progenitor of fresh water.

Field investigations of the Project Area

Image NK-18 View from above of the project area looking seaward toward the eastern horizon

Hawaiian Religious & Cultural Practices
Gathering Rights

Field investigations of the project area resulted in no evidence or findings of traditional sites, significant plants or natural resources that are associated with Hawaiian gathering rights for subsistence, cultural or religious practices. The project area is overgrown with non-native vegetation that is considered to be highly invasive.

Native Hawaiian informants that were interviewed for this study indicated that the project area was unsuitable for subsistence gathering and hunting purposes in its present state. They also testified that the long history of large-scale commercial sugar and pineapple cultivation could easily have obliterated any cultural or religious sites that may have previously existed in the area.

For more than a century, the project area and hundreds of acres throughout the ahupua`a of Kamalomalo`o and Anahola may have been heavily compromised by the plantations' common use of pesticides containing arsenic and mercuric compounds. As cultivation activities ceased with the closure of Līhu`e Plantation in 2002, the land became an illegal dumping ground for abandoned cars, lead/acid vehicle batteries, household appliances and miscellaneous trash; further accumulating the potential for contamination.

It should be noted that action to clear up the project area by removing scattered debris of abandoned vehicles and old household appliances was already taking place at the time of NK's field investigations and studies in April and May 2012.

Image NK-22. Stressed vegetation consisting mostly of invasive, non-native species at the project area.

The project area is heavily covered with haole koa, African tulip, tall grasses and other non-native invasive plant species. Extremely sparse occurrences of native Hawaiian plant species associated with cultural practices are present in the project area. NK's field inspections resulted in the findings of only three native Hawaiian plant species - all of which were observed to be in extremely stressed conditions. The plants recorded include: ha`uowī *(Stachytarpheta jamaicensis (L.) Vahl. Verbenaceae)* and Verbena litoralis), `ilima *(Sida Fallax),* and `uhaloa *(Waltheria indica var. americana).*

Uhaloa is a small, downy, American weed *(Waltheria indica var. americana)*, with ovate leaves and small, clustered yellow flowers. Leaves and inner bark of root are very bitter and are used for tea or chewed to relieve sore throat. It is one of the kinolau plant forms of the pig demigod Kamapua`a. Also known as, ʻalaʻala pū loa, hala ʻuhaloa, hiʻa loa, kanaka loa.

Image NK-19 `Uhaloa at the project area

Image NK-20 Ha`uōwī at the project area

Ha`uōwī is a weedy kind of verbena *(Verbena litoralis)* from tropical America, with square stems 30 cm to 2 m high, toothed oblong leaves, and narrow flower spikes bearing tiny blue flowers. Hawaiians use it for cuts, sprains and bruises, as well as for a tonic taken as a tea to help with ailments such as diabetes and kidney problems. Also known as ōi, ha`uoi, and ōwī.

`Ilima *(Sida Fallax)* is fairly common on the drier sides of the islands and along the seashore. They can be found from sea level to about 6,000 feet. Unlike many of Hawaii's native flora, 'ilima grows well in somewhat disturbed areas. Medicinally, it is used to treat general impediments including, womb disorders, and asthma. Juices from the flowers are squeezed out to make a gentle baby laxative called kamakamaika'i. Mixed with other plants it was used to treat women during their pregnancy.

Image NK-21
`Ilima Papa at the project area

`Ilima is highly esteemed in the Hawaiian culture for its delicate blossoms used to make garlands lei. It was one of the few non-food plants cultivated by ancient Hawaiians and they have several named varieties. The most preferred variety for making garlands is lei `ilima, which has large orange-yellow flowers. In old Hawai'i, as in many other countries, yellow and gold were, and still are, special colors. `Ilima leis were given to departing friends, as this reputedly brought good luck. Each lei requires about 500 flowers and a great deal of patience to make. Also known as, 'ilima, `āpiki, 'ilima lei, `ilima papa, kapuaokanakama`ima`i. 'ilima kū kala, 'ilima makana'ā.

At least 15 species of invasive, non-native plants contribute to the heavy overgrowth of vegetation throughout the project site; all of which are not associated with any traditional or contemporary Hawaiian cultural practices.

A table of the plants are presented on the following page.

Listing of Invasive Non-Native Plants Occurring in the Project Area

Antigonon leptopus	Mexican creeper mountain rose, coral bells, confederate vine, chain-of-love, hearts-on-a-chain
Bryophyllum pinnatum, Cotyledon pinnata	Life plant, 'oliwa kū kahakai
Pennisetum ruppelii	Forest Grass
Lantana Camara	lakana, mikinolia-hihiu, sage
Schinus terebinthifolius	Christmas berry Brazilian pepper, wilelaiki, nani-o-hilo
Spathodea campanulata	African tulip tree Also known as Fire Tree and Fire Bell
Sphagneticola trilobata	Wedelia
Senna alata	Candle Bush
Leucaena leucocephala	Giant Leucaena Koa Haole
Mimosa pudica	Sensitive Plant or Sleeping Grass (kuku)
Leucaena leucocephala	Giant Leucaena Koa Haole
Syzygium cumini	Java or Jambolan Plum
Psidium guajava	Guava
Clidemia hirta	Koster's Curse or Clidemia
Ricinus communis	Castor Bean

At the present, no other indigenous Hawaiian plants or resources were found to exist in the project area. Wild pigs have been observed to wander and forage in the area. While there are other sites and hunting grounds elsewhere that are considered more favorable, local hunters have pursued wild pigs in this area to support their cultural subsistence practices which help to feed their families.

Sun Observations from Project Area

The Anahola Solar Project area is ideally situated in the sun's east - west corridor of the Kamalomalo`o ahupua`a, ma uka of Kūhiō Highway just south of the Anahola ahupua`a, town and community.

Between the period of April 3 to April 20, 2012, a number of cultural field inspections, sun observations and alignment readings were taken from a contiguous area immediately above of the project site that is simply referred to as, "*the corral*". It is a flat and leveled area formally used as a corral for ranching. The location provided an excellent point of reference for observations and excellent 360 degree view planes.

The observation view planes from this location may potentially have served ideally for kahuna kilo lani and kilo hōkū or priestly experts and practitioners of astronomy in ancient times. Hawaiian oral and literary traditions have numerous accounts of kahuna, oracles and seers who proficiently specialized in articulating the movements of the cosmos as a means of predicting the weather, tracking the seasons, etc. for both secular and ordinary daily occasions. In addition to this area immediately above of the project area, there are many wahi pana in both the Kamalomalo`o and Anahola ahupua`a that were specific to this ancient profession.

From the observation area, the head of Anahola's prominent mountain Kalalea is to the north; the coastline, horizon and threshold for the rising of the sun, moon and star constellations lies in the east; Kalanipu`u and the Mount Hā`upu Mountain range is seen in the distance to the south; and Makaleha and Wai`ale`ale mountains are ma uka to the west.

Using the basic compass rose and azimuth plane, NK investigators collected information and data relating to project area and its alignments to the surrounding natural features and landmarks .

Directly above of the project area to the west is the Makaleha mountain range. From the Anahola Solar Project there is a 270 degrees azimuth alignment to a saddle in the Makaleha mountain range. At this time of the year, the sun is setting 270 degrees into the saddle.

To the right of the saddle is Pu`u Eu, the southernmost boundary of the Anahola ahupua`a. On the left side of this saddle is a peak called Makaleha (not to be confused with the generalized reference of the entirety of the mountain range).

From a Hawaiian perspective, 270 degrees west is very important reference as this is the direction where the sun sets, it marks the completion of a day, spiritually marks the passing of a lifetime, and is the place that divides dimensions from light into dark.

Mount Hā`upu is 180 degrees azimuth from the project site. Hā`upu means *to recollect, to recall, and to remember.* The 180 degree bearing falls on the promontory named Kalanipu`u - *"The Royal or Heavenly Hill."* Kalanipu`u is the southernmost promontory of the Hā`upu mountain range and stands as a sentry overlooking the entry into Nāwiliwili Bay. These landmarks are part of the Niumalu ahupua`a in the moku of Puna.

Peaks along the ridgeline of Hā`upu's mountain range play a very important role in ancient Hawaiian traditions associated with navigation. Peak names such as Hōkūlei , Hōkū`ula, Hōkūnui, Makali`i and other highpoints along Hā`upu's ridgeline provide land-based markers that align with the very stars that they are named for during different seasons and significant times of the year.

From the project area, 90 degrees azimuth is a point called Kalaulau which is located on the Anahola coastline. Kalaulau is a promontory protruding into the ocean. At its opposite side north is a point named Lae Līpoa which serves as the northern boundary point of the Kamalomalo`o ahupua`a. Anahola ahupua`a begins at Līpoa and continues to Lae Kuaehu. The place name may very well be directly related to the sun. When spelled and pronounced Kalā`ula`ū, it is defined as, "*The red, sacred inspiration/growth of the sun*".

90 degrees in the Hawaiian culture represents the direction of the rising of the celestial bodies, the sun being the carrier of life, the moon being the magnetic growth to the land, ocean and people, and the stars that rise serving as navigational guides to frequently travelled ancestral destinations.

0 degrees azimuth from the project site is a promontory that marks the northernmost point of the Anahola ahupua`a named Lae Kuaehu. In the Anahola segment of this study, a detailed account from the mo`olelo of `A`ahoaka expands upon the meanings of the place name, Lae Kuaehu as a sacred birthing site of Kalalea. The significance of this place is further experienced during the summer solstice where the light of the rising sun first touches upon the mountain peak Pu`u Ehu. There is a direct alignment that connects the sun with the seaside promontory/point Lae Kuaehu and the mountain peak of Pu`u ehu, further confirming the relationship of both places and their place names.

Pu`u Ehu is part of the greater Kalalea mountain range. The common translation that has been accepted for Kalalea is, "*Prominent, protruding*". Figuratively referencing its status of importance. The phrase Lālani kalalea describes a protruding line of dorsal fins of sharks above the water.

The peak of Kalalea resembles this. In the mo`olelo of Hi`iakaikapoliopele, she describes the mountain peak as, "*`o ka lae o ka nai`a e `ōkū ana i ka moana,*" or as the forehead of a dolphin rising out of the sea.

However, as Kalāle`a, it carries a reference to the sun as, "*the sun of joy and happiness*" or "the clear perfection of the sun".

Immediately north of Lae Kuaehu lies the ahupua`a of Aliomanu.

These compass readings, along with the research and field investigations of significant wahi pana and landmarks throughout both of the greater Kamalomalo`o and Anahola ahupua`a are helpful in culturally interpreting the place as it relates to indigenous Hawaiian practices and beliefs.

Additional findings considered as incredibly significant and valuable has been regretfully been omitted from this CIA due to limited time constraints.

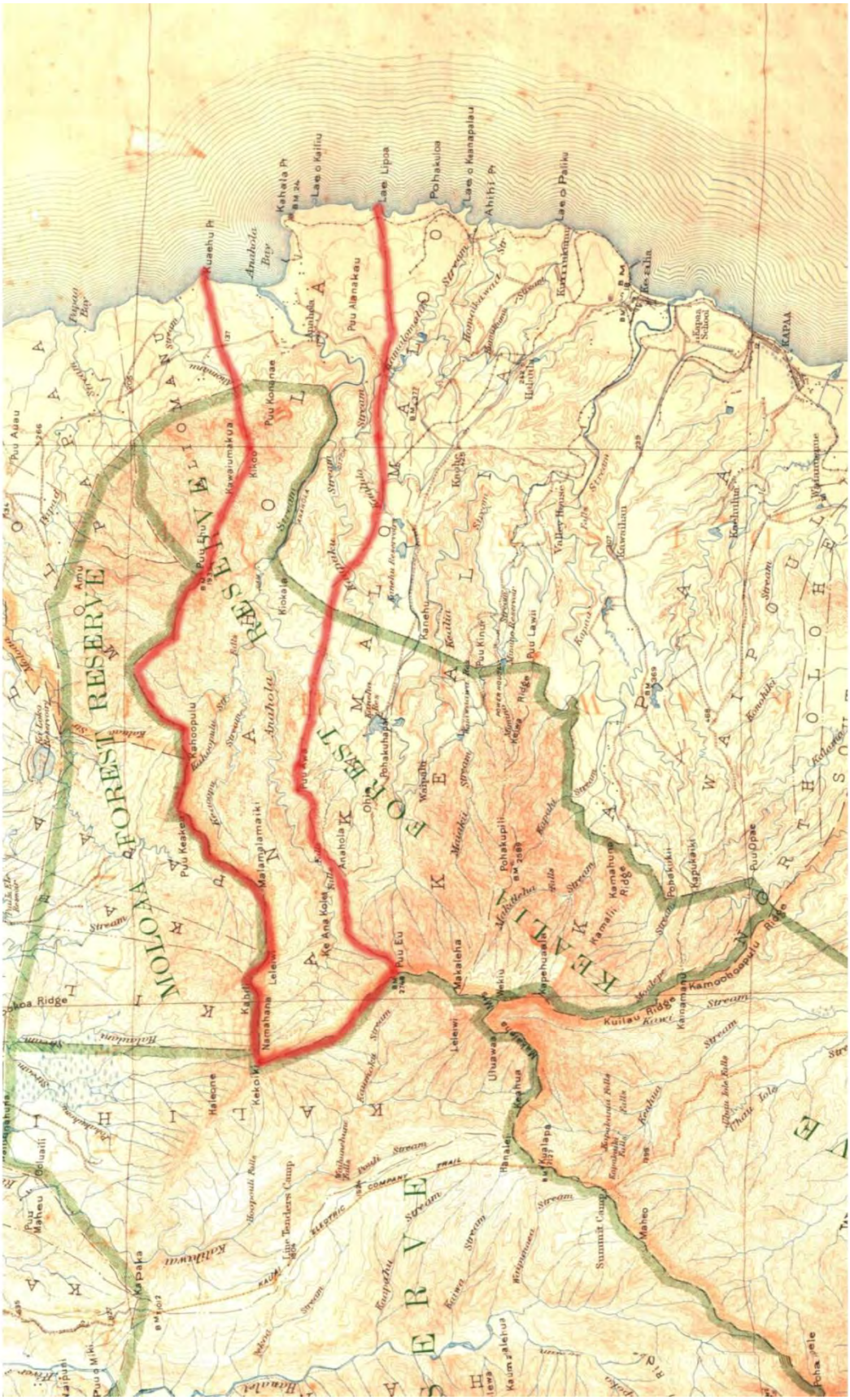


Figure 7. Anahola Ahupua`a highlighted in red. Its seaward boundaries are Lae Kuaehu to the north and Lae Lipoa to the south. Its ma uka boundary points include: Kiko`o, Waiumākua, , Pu`u Ehu, Kaho`opulu, Pu`ukeakea, Mālamalamaiki, Leleiwi, Namahana, Pu`u Eu
US Department of Interior Geological Survey Topographic Map 1912.

Anahola Ahupua`a

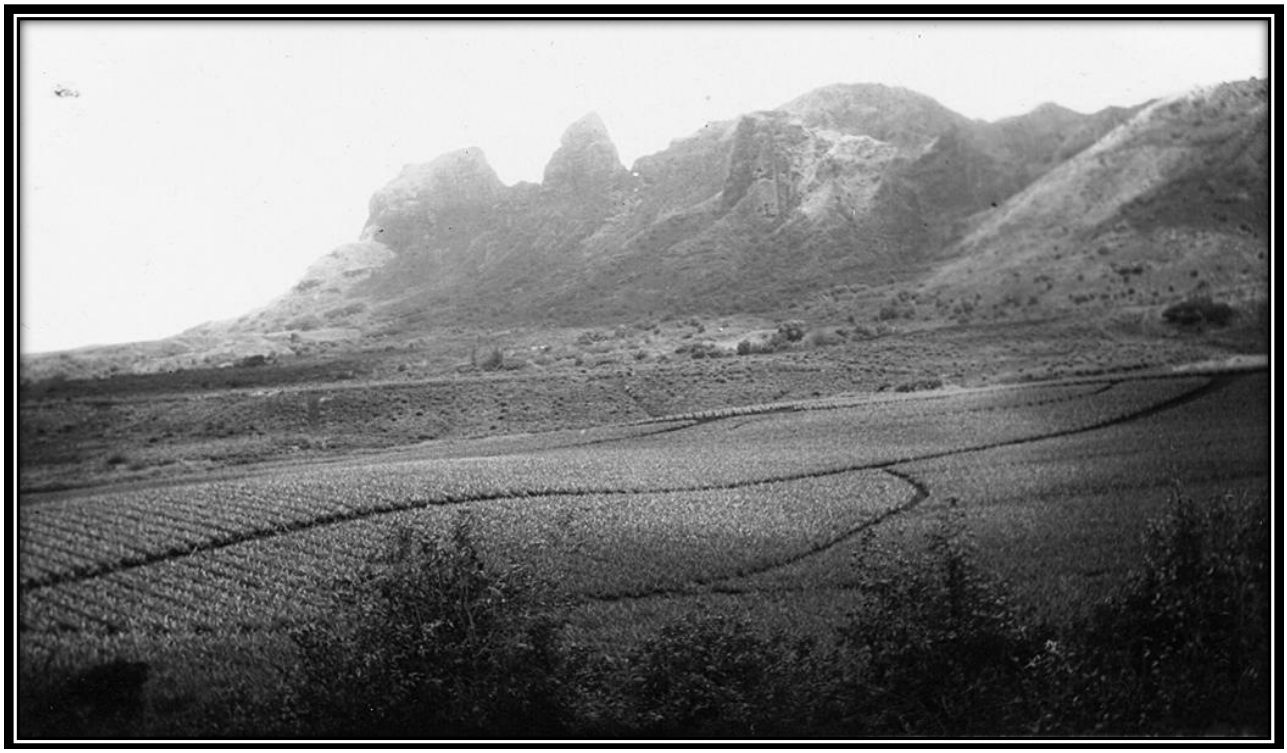


Image KM-7 Kalalea Mountain Range, pineapples fields 1941. Kuchler collection. Showing the "Hole-In-the-Mountain" to the right of Kalalea Peak. Kaua`i Museum Photo Archives.

Holo akula nō lākou nei a `ike akula nō `o Wahine`ōma`o i ke oni mai o kekahi pali, `o ia nō `oe `o ka lae o ka nai`a e `ōkū ana i ka moana, ho`ōho a`ela nō ia, "E kāne ho`i ē? `O wai ho`i kēlā pu`u e kala`ihi maila i ka mālie?

They sailed on until Wahine`ōma`o saw a cliff come into view, like the forehead of a dolphin rising out of the sea, and she exclaimed, "My friend, what is the name of that hill standing so starkly in the calm?

From the Mo`olelo of Hi`iakaikapoliopele as told by Ho`oulumāhiehie
Hawaiian Language Newspaper, Ka Na`i Aupuni of 1905 and 1906

Pane akula `o Hi`iaka, "O Kalalea kēnā āu e `ike akula."
`O ko Hi`iaka manawa nō ia i paeaea a`e ai i kēia kau.

In the epic saga of Hi`iakaikapoliopele, significant wahi pana (storied places) are unveiled in chants throughout the mo`olelo. Highly worthy of the attention and reverence of the goddess Hi`iaka and her companion, Wahine`ōma`o, it is one of two major landmarks that is observed from the ocean on approach toward Kaua`i.

From their canoe outside of the Ka`ie`ie Channel, their first sighting is of Mount Hā`upu - a volcanic relative of Hi`iaka and the fire clan. With humility and aloha, Hi`iaka greets Hā`upu in chant acknowledging its beauty and power. It is essential for her, even in her position as a deity, request permission for entry to the island. In return, Hi`iaka receives a premonition that her sister Pele has broken her promise and that her beloved lehua groves have been burned and destroyed. Shortly after, she also has a vision that the Chief Lohi`au - subject and purpose of her journey to Kaua`i, has taken his own life out of grief and heartbreak for Pele. Hi`iaka is now faced with a greater responsibility and task. She knows that she will need to restore Lohi`au back to life.

As they continue sailing toward the Ko`olau coast of the island, Wahine`ōma`o saw a cliff come into view, appearing like the forehead of a dolphin rising out of the sea. She asks Hi`iaka what the name of the prominent hill is, intrigued by its prominent emergence.

"`O Kalalea kēnā āu e `ike akula."
`O ko Hi`iaka manawa nō ia i paeaea a`e ai kēia kau.

"That my friend, is Kalalea that you see," she replies and lifts her voice to present this chant:

I Kalalea, kuahiwi ki`eki`e i ka lani
`O Keōlewa e lele maila i ka mālie
`O a`u pae pu`u li`ili`i
E huki `ē loa o Wai`ale`ale ke hele ia.

At Kalalea, mountain piercing the heavens
Keōlewa flies by in the calm
My little cluster of hills
Wai`ale`ale shall draw far up as it goes.

Anahola Ahupua`a

Formerly, Anahola was part of the moku or district of Ko`olau. Within the Ko`olau district were the ahupua`a of: Kīlauea, Kāhili, Waiakalua, Waipake, Lepe`uli, Ka`aka`aniu, Moloa`a, Papa`a, Aliomanu and Anahola. Anahola being the largest of the 10 ahupua`a that stretched along the northeast end of Kaua`i.

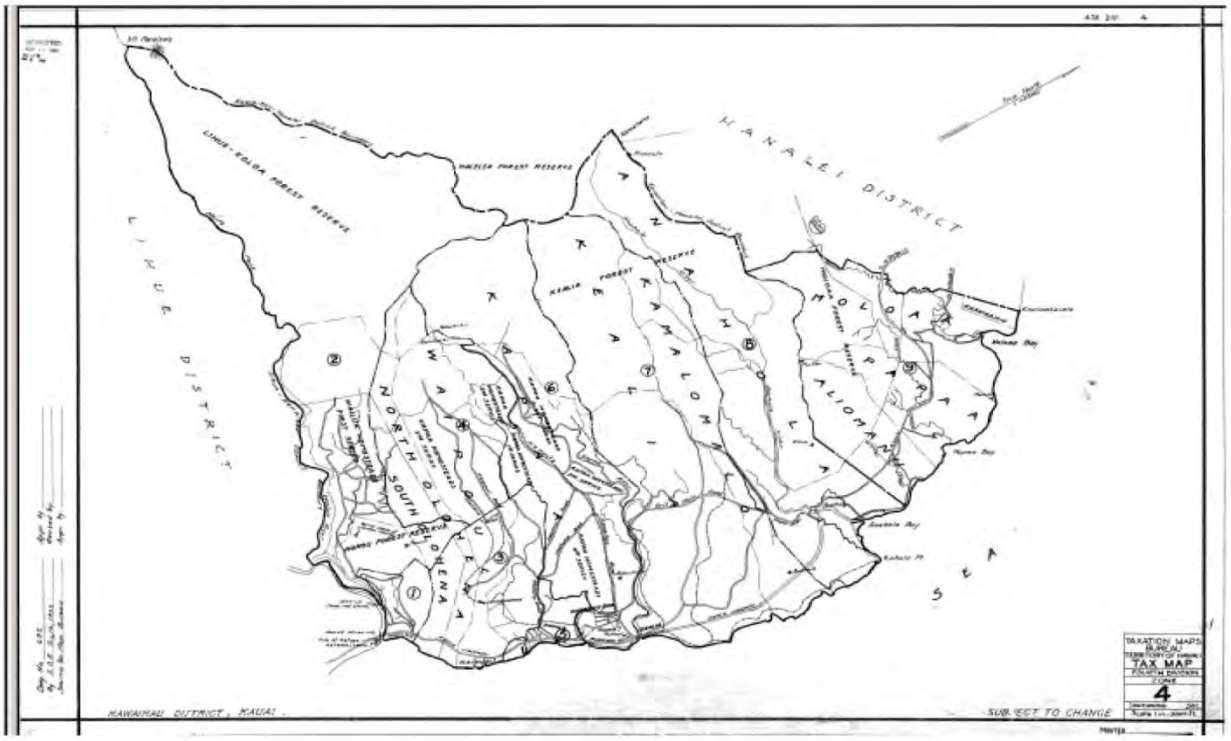


Figure 8. Showing Kawaihau District, East Kaua`i and ahupua`a land divisions including Kamalomalo`o ahupua`a - location of the project area. Taxation Map Bureau Territory of Hawai`i.

Ahupua`a Place Names, Descriptions, etc.

The following descriptions of the project area ahupua`a begin with identification of the *ma kai* or ocean ward boundary points to the north and south. The boundary lines of the ahupua`a are referenced by specific landmarks that lead to the apex of the land division's high point *ma uka* to the west.

The common description that ahupua`a are "pie-shaped" is inaccurate. However, it is a general practice to apply triangulation of the 3 main boundary

points of the ahupua`a when identifying its respective division lines. Additionally, ahupua`a do not terminate at the ocean ward boundary points. The boundary lines are purposely extended into the ocean so that it also includes the resources and minerals of the reef and ocean as well.

The Hawaiian Legislature created the Office of Commissioner of Boundaries in 1862 to determine exact boundaries of previously un-surveyed *ahupua`a*. In 1874, the boundary commission met to identify the Anahola boundaries through native Hawaiian references and landmarks. All persons who had received LCA awards for their lands by names only were mandated to appear before the BC to have their boundaries identified and determined.

Anahola ahupua`boundaries:

Lae Kuaehu (also Kuaehu) is the promontory that divides Anahola from Aliomanu.

Beginning at this northern point of the Anahola ahupua`a, the boundary line runs toward Kalalea mountain from east to west, connecting first to Kīko`o atop of Kalalea mountain. From there, the boundary line connects through the landmarks of Kawaiūmakua, Pu`u Ehu, Kaho`opulu, Pua Keakea, Mālamalamaiki, Lele Iwi and Namahana. From Namahana, the boundary turns south to Pu`u Eu. From there, the southern boundary line turns and continues back east towards the ocean.

Image NK-8. Lae Kuaehu is the northern boundary point for the Anahola ahupua`a. It also serves as the ma kai boundary point for the Aliomanu ahupua`a.

Along the ahupua`a division line shared between Anahola and Kamalomalo`o, there is also a peak called Anahola. This mountain peak serves as the acme of the Kamalomalo`o ahupua`a. Pu`u Anahola connects to Pu`u Awa, and finally ending with Lae Lipoa at the ocean's edge. Lae Lipoa serves as the southernmost boundary in the Anahola Ahupua`a.

He Mo`olelo No `A`ahoaka Ke Koa a me Kona Hānau Kupanaha Ana
He Mo`olelo Kahiko No Kaua`i
A Story of the Warrior, `A`ahoaka and His Extraordinary Birth:
An Ancient Story of Kaua`i

The following is an excerpt from an ancient mo`olelo of Kaua`i that is directly affiliated with the project areas of Anahola and Kamalomalo`o. The main setting of the story is Anahola.

Originally published in the Hawaiian language newspaper, Nupepa Kuokoa in a series of writings from December 30, 1876 to March 3 1877. It is presented below in paragraphs that have been italicized; translated from the Hawaiian text from Nupepa Kuokoa. Please note that we have retained the spelling of all names exactly as it appeared in the newspaper. As such, kahakō or macrons are not used in the presentation of the mo`olelo itself.

Another interesting item of note is the appearance of the place name Anahola as *Anehola.* This variation of spelling has appeared in other writings of mo`olelo and a few examples of chants documented in Hawaiian language newspapers. However, the prevailing use and accounts using the name, Anahola is far more evident in oral and written documentation according to University of Hawai`i at Hilo Hawaiian Language Instructor, Kainani Kahaunaele. All of the kūpuna that were interviewed for this study also concurred that they have only known and used the name, "Anahola" throughout their lifetime.

> *Kalalea was born to Kapa`opa`o the father and Kahala, the mother, Anehola [Anahola] was the birth land. They were ali`i - of the chiefly class from Ko`olau. Their residence was at Kalaewahiwai, located near the upland trailway to a place where the ali`i continue to reside today. While they were living there they were both young.*
>
> *Kahala was pregnant at this time. When it appeared that the time had come for the child to be born, thunder boomed, lightning struck, the earth shook, and the rivers raged with red mud. However, for three nights and three days, there was nothing. No significant signs appeared that this child was soon to arrive.*
>
> *A messenger was sent to seek out the kahuna by the name of Kanoeoalaka`i. Her place of residence was in the uplands of Wainiha. When the messenger arrived, she was seen sitting upon the kuina akaka - a unique kapa from Miloli`i. She had already received a vision of a person traveling and asked, "Why have you traveled here to see me?"*

"I have been sent by the ali`i of Anehola, by Kapa`opa`o, about the childbirth of his wife, Kahala," the messenger replied. "For three nights and three days have already passed, yet the child has not even emerged. Therefore, I have been sent to fetch you."

"I will not go with you today," advised the kahuna. "Instead, when evening arrives tomorrow, I will go and sleep near Kuaehu in Aliomanu."

"Here is what you will say when you return to the ali`i. Fetch pū `awa hiwa with the leaves from Maiakini. This place is located upland of Keālia. Secondly, water must be gathered from atop of Wai`ale`ale; not with a gourd but with the leaf of a mokihana. Bundle it entirely and bring it here to me. Then I can act upon it."

The messenger returned to the ali`i and recited everything that he had heard from the kahuna. The chief listened then turned and asked all of the other ali`i who were sitting there, "Who will be the right one to fetch these things instructed by the kahuna?

Kahala turned in extreme agony and asked her brother Pōhakumalumalu if he could go and fetch the `awa from Maiakini. When asked who would fetch the water, Keanuo`aipō offered to take on the task.

In no time both of the items were gathered and delivered. By the time evening had arrived, the kahuna Kanoeoalaka`i had traveled to lay in the house of Kuaehu. Hoku was the moon phase that evening. And when the morning came, Hoku was also that day. Then the kahuna arrived and stood in front of Kapa`opa`o. Everything had been prepared as instructed. Only the work of the kahuna remained to be done.

All parts of the `awa was prepared, including the roots, stalk, and leaves, until the `awa was soft and mixed with the water. The kahuna then rubbed the ali`i wahine from her head down to her feet. Immediately thereafter, the thunder began clapping, lightening began flashing, and the earth trembled. Then, the cry of a child was heard. Finally, the birthing was complete. The child was a boy, dark skinned on the back from head to toe with dark facial features as well. When ten days had passed the piko was severed and the child was named Kalalea. All of the difficulties were finally over.

In time, Kahala became pregnant once again. Signs of approaching the end of her pregnancy appeared with her cravings for the `ōlalimoeone fish of Hālaulani. When it was almost time for the birthing, just as dawn was about to break, the darkness was honored with the clap of thunder, the flash of lightning and the trembling of the earth. That very evening, the child was born - this time a girl that they named, Nālehuaolulu`upali. The rearing of this child was given to Ho`ohila - a brother of Kahala whose home was in Lumaha`i. These were the only children of these ali`i.

A Connection and Understanding of Place
Traditional Wisdom & Knowledge of Land, Ocean & Atmospheric Forms

The main characters in the story are traditional places in Anahola. They remain significant landmarks to this day. In the process of preparing this study, Native Kaua`i consulted and met with many indigenous Hawaiians of Anahola. While all of them identified and referred to Anahola's landmark mountain range as Kalalea, all were not aware of the individual mountain peaks or their original names and related stories. There was great interest expressed by those interviewed, to learn more of this information.

Kalalea is the offspring born to Kahala - a female, and Kapa`opa`o - a male. Both Kalalea and Kahala are names of traditional wahi pana or storied places in Anahola which will be discussed in further detail separately from this section.

Kahala and Kapa`opa`o - Kalalea's mākua or parents are also names of native fish species that are highly prized as a food source as well as for their symbolism in Hawaiian culture. Both are tropical marine fish in the *carangidae* family which include the jacks, pompanos, jack mackereles and scads. Most species are fast-swimming predatory fishes that hunt in the waters above reefs and in the open sea. Some dig in the sea floor for invertebrates. The largest fish in the family is the greater amberjack or kāhala.

The other characteristic that both the kāhala and kapa`opa`o fish species share is that they are strong, fast and aggressive in nature. They are symbols of protective mana or energy that is an essential value and characteristic of parents with young offspring. These are also `ano or traits that are essential to the child that is destined to grow into a warrior.

As seen on the following page, the pa`opa`o and kāhala have distinctive characteristics of striped markings which elevate their beauty and power as predatory fishes.

Pa`opa`o - Native Golden Trevally
Caranx speciosus

Kāhala - Native amberjack or yellowtail
Seriola dumerilii

The pa`opa`o is also referred to as ulua pa`opa`o as well as the ulua kāni`o (Caranx speciosus); with green and yellow with vertical green bands.

The kāhala is an amberjack or yellowtail (Seriola dumerili). The Kāhala `ōpio is s. *aureovittata*. The name may also be qualified by maoli or moku lei. Āmuka is a variant name or a name for the adult stage of the kāhala fish. Another name that is known by is mokule`ia. Halahala is the young stage of the kāhala fish.

Important as sources of subsistence for Native Hawaiians, the kāhala and pa`opa`o can easily be distinguished by their markings. The kāhala sports a stripe that streaks from its nuku or snout/mouth of the fish through the eye, and all the way to the top of the dorsal. Juvenile pa`opa`o are bright yellow with bold, black bars, adults are brassy with obscure bars and blotches. It is also considered one of the best fishes for eating raw.

Mo`olelo such as those presented here provide insight to the life ways, practices and beliefs of the ancient Hawaiians. We have included this example of a story to share of the kuleana or responsibility that ali`i (or in today's time - government and community leaders) have to the land and the people that they manage and oversee.

Lae Kuaehu held a prominent place in the lives of the ancient people of this district. Located on the coast at the northern boundary line of the Anahola ahupua`a, Kuaehu was identified by native Hawaiian informant, Kauniahi as a place of sacrifice in the olden days, and as a place of worship by Pihuiki. The *kama'āina* also described a resting place called Ahole just *ma uka* of Kuaehu.

Bennett's records of 1931 described several heiau in Anahola. However, he did not identify a heiau within the vicinity of Kuaehu.

There are several definitions to consider when looking at this place name. A *lae* is a promontory or point. It is common throughout the Hawaiian archipelago to see traditional place names attached to them - especially along coastal areas. Lae are seaward boundary points for ahupua`a as well. For the project areas of

Anahola and Kamalomalo`o examples of this is seen in the names of *Lae Kuaehu, Lae o Kahala, Lae Līpoa*, etc.

On a literal level, Kuaehu means, "*silent, still or lonely*". It also describes interactive movements of the environment that is typical to that place. /Windward breezes blowing offshore conjure up waves that carry the *ehukai* or sea spray to create shrouds of ocean mist over the promontory.

However, it is through the experiences of our Hawaiian ancestors, preserved in the form of mo`olelo or traditional stories that we learn there is much more to the place name, Lae Kuaehu.

In the mo`olelo of `A`ahoaka, a messenger is sent by the Anahola chief, Kapa`opa`o to seek out Kanoeoalaka`i who resides in the uplands of Wainiha. The priestess is needed to help his wife, Kahala who is experiencing complications during her pregnancy. In the story, Kanoeoalaka`i is simply referred to as a kahuna - a priestess. However, Kanoeoalaka`i's formal expertise is in the ancient healing practices of obstetrics. She is a *kahuna pale keiki* who is a master of traditional treatments, rituals and healing processes that included pre-natal care, the actual birth and delivery as well as following the birthing of the child. The *kahuna pale keiki* is also an expert in *lā`au lapa`au*, healing treatments using herbs and minerals as well as in lomilomi or massage.

Kanoeoalaka`i does not leave with the messenger, but instead tells him that she will arrive on the following evening, where she will go and sleep near Kuaehu in Aliomanu. The messenger is then advised to return to the ali`i with specific instructions to fetch certain plants and water sources that she will need upon her arrival at Kuaehu. Kanoeoalaka`i prescribed *pū`awa hiwa* from Maiakini above of Keālia, and water from atop of Wai`ale`ale.

Image NK - 1.9 Pu `Awa Hiwa

The *pū`awa hiwa* is cluster of several stalks of *`awa hiwa (Piper methysticum)*. Considered to be the most sacred of all varieties of *`awa*, is the darkest in color (hence, hiwa meaning entirely dark, deep black). It is also reserved for ritualistic use and for offerings made by kāhuna and ali`i. Kanoeoalaka`i also gives instruction that the water not be collected with a gourd, but with the leaf of the mokihana *(Melicope anisata)*. Although the story does not specify why the mokihana leaf is prescribed to gather the water, we know that it is an extremely rare and highly revered plant in Hawaiian culture; especially Kaua`i culture.

Endemic to Kaua`i Island, it is not found anywhere else in the world. Both the berries as well as the leaves have a strong, beautiful fragrance and it is known that both were used to perfume the kapa fiber cloth as well as the bath water of chiefs. The *kahuna* prepares the `awa hiwa roots, stalks and leaves, then administers lomilomi and massages the ali`i wahine hāpai (pregnant chiefess) from her down to her feet. Immediately thereafter, the heavens and earth stirred and rumbled and lightning flashed overhead. The cry of a child was heard, signaling that Kahala's enduring labor was finally complete.

Image NK-1.10 Mokihana (Melicope anisata)

The place that Kanoeoalaka`i treated Kahala was in a *hale* or structure at Kuaehu. This provides us with the hint that there was once a significant heiau at Kuaehu. It is important to look at the area not as we see it today, but as it could have appeared hundreds and hundreds of years ago. Without the present day road, vacation rentals and erosion, Kuaehu would have been much larger than it is today. Storms and the rampant destruction of sacred structures following the breaking of the kapu system and conversion to Christianity are logical possibilities to there being no archaeological evidence of a heiau today.

At the time of Kauniahi and Pihuiki's testimony before the Land and Boundary Commissions in 1862, they use the reference, "in the olden days". It also appears that knowledge and notion of heiau had already been reduced to forbidding "places of sacrifice".

The details given in this portion of the mo`olelo is a crucial link to understanding the significance of Lae Kuaehu - not only as a wahi pana, but as a wahi kapu or sacred place. This was realized only after rounds of research and lengthy discussions regarding traditional cultural practices and protocols associated with ali`i. Repeated field observations to consider alignment of celestial bodies such as the rising sun and moon were prompted by nuances within the mo`olelo that were initiated by the expertise and skill of the kahuna.

At first look of the word, ehu (as well as `ehu), it is easily assumed that there is a reference to the sea spray or ocean mist because of the promontory's Oceanside location. It is the most obvious and sensible meaning behind the place name. According to the Hawaiian dictionary by Pukui and Elbert, "many older people say ehu for `ehu 1-4, which is probably the older form; note lack of glottal stops in such forms as ehuehu, `ehuehu, kaiehu, kēhu, juehu, luehu, puehu."

The mountain peak, Pu`u Ehu along the Anahola ahupua`a boundary prompted additional study to determine all possible meanings and applications of the word, ehu. In doing so we found that Kuaehu and Pu`u Ehu, are directly related and in alignment with each other. During the summer solstice, the sun is directly in alignment with the point, Lae Kuaehu and the summit, Pu`u Ehu.

The expertise of the kahuna pale keiki is shown through her selection of place and its relation to the sun. This is vital to the survival of the chiefess Kahala who is exhausted and weak from enduring the painful burdens (kua) of labor. Kanoeoalaka`i's lā`au lapa`au prescription combining the ingredients of the pū `awahiwa, the pure, sacred water from the summit of Wai`ale`ale and the leaves of the mokihana involve the use of kinolau or nature body forms of the god Kāne.

In his role as the primordial akua, Kāne's principal purpose is to inspire and grant life. The entire process is a ceremony as well. Through her chanted prayers, the kahuna channels the mana of the sun along with the energetic forces from the atmosphere to her patient while simultaneously administering the ancient healing method known as, ehu. Using water mixed with fragrant herbs, the kahuna sprinkles and gently massages her patient from "head to feet" to revive her from fainting or lapsing to death.

> *"All parts of the `awa was prepared, including the roots, stalk and leaves, until the `awa was soft and mixed with the water. The kahuna then rubbed the ali`i wahine from her head down to her feet. Immediately thereafter, the thunder began clapping, lightning began flashing and the earth trembled. The cry of a child was heard...finally, the birthing was complete. The child was a boy, dark skinned on the back from head to toe with dark facial features as well."*

This entire process was pivotal in ushering in the new life cycle of Kahala's first-born ali`i child. Kahala and Kapa`opa`o named their newborn keiki, Kalalea. The naming of Lae Kuaehu is a result and reflection of all of the definitions that have been provided in the preceding narrative. It references the movements and physical interaction of sea spray that is blown upon the promontory and the land. However, it is the mo`olelo that provides us with a deeper understanding of this particular place, and the intricate details of the experiences that occurred there that prompted the naming of Lae Kuaehu. From this mo`olelo, the ancient practice, beliefs and ceremonies associated with chiefs, child birthing, healing and sun worship are revealed to bring the meaning of an ancient place name back to life.

Other Anahola Place Names

Recordings preserved in the Bishop Museum archives feature oral interviews with native Hawaiian kūpuna of Anahola in the 1950s and 1960s were invaluable for this project. The following is based on an interview conducted by Hawaiian scholar, Mary Kawena Pukui and Kūpuna Daisy Waihoikahea Valpoon Lovell.

Hālaulani
Lit. Myriad Breaths of the Heavens

Just outside of Lae Kuahu is a channel where the kūpuna cite the location of Hālaulani - the home of the shark god and his retinue of resident manō. Kūpuna Daisy Waihoikahea Valpoon Lovell spoke about Hālaulani as the home of `aumākua sharks just outside of Lae Kuaehu. She described the relationship and feeding customs that her grandmother and her `ohana were still practicing when she was a young girl. Makahia and Malaepapa are the names of the reef flats in this area where the shark was fed. This shark provided them protection and was both an ancestor and guardian to them. Neither of the two big tidal waves in her lifetime damaged Lovell's seaside home.

The name Hālaulani, also references a heavenly or chiefly structure; such as a home of a chief. The ali`i is not only the native chief who rules over the land.

The manō too, is recognized as a chiefly denizen of the ocean realms - fierce, dominant and ready to protect and regulate over his domain.

Other elders of Anahola, as well as kūpuna in our own family preserved knowledge of these practices through the telling of stories and experiences that were occasionally shared. Admittedly, they did not explain all of the intricate details of how and why they interacted with the manō (sharks) in the way that they did. There was no need to know more beyond their response that, *"We feed them because they are `ohana to us."*

This was especially important for those who sustained their families through the practices of lawai`a or fishing and gathering from the sea.

The Lovell `ohana of Anahola continue to be expert lawai`a today - not only in the gathering, but also in the preparation of fish and produce harvested from the sea. Born and raised in the Oceanside village of Anahola, the offspring of the late master lawai`a, Hosea Kaina Lovell have expanded their lifetime experiences of lawai`a and ocean wisdom. Althea Kalei Arrinaga is an educator at Kapa`a Elementary School. Recognized in 2011 as the District Teacher of the Year, Kalei has implemented innovative curriculum opportunities for her students such as the `Aliomanu Limu Restoration Project.

Her sister, Nālani Kāneakua is a trained chef and the former owner of the highly acclaimed restaurant, Cafe `Āina in Hanamā`ulu. In 1999 she was the only woman on the crew of the Polynesian Voyaging canoe, Hōkūle`a, and served as its cook and quartermaster on its voyage from Rapa Nui to Tahiti. Today, she is part of the staff at Waipā Foundation in Halele`a where she directs `āina-based culinary education programs that involves the gathering and preparation of produce and products from the ocean and the land.

Along with their sibling and cousins, they were raised in an extended family of expert lawai`a whose patriarch and grandfather was Andrew Lovell - noted konohiki of Anahola. As children, to fish and gather from the ocean for subsistence by their late father, Josea Kaina Lovell, Jr. who worked as a farm manager and commercial fisherman, Nālani is adamant that her lifestyle is inseparable from the land and ocean today. Whether for gathering for personal use and home consumption, or even to relaxation and rejuvenation after a day at work, the ocean is an integral part of a family legacy that spans more than 16 generations.

One of our informants, Kūpuna Val Ako who we interviewed for this study spoke very highly of a master lawai`a by the name of Andrew Lovell who was the konohiki of Anahola at the time. Uncle Val, now in his 80s was a young man when he first met Andrew Lovell. He referred to Lovell with great respect, addressing him as uncle or kūpuna.

The elder Lovell was the expert of his day that oversaw and regulated the fishing resources in Anahola. Andrew Lovell is also the father of the late beloved kūpuna, Aunty Loke Pereirra - who too, was highly respected for her knowledge and skills as an expert of the ocean resources. Not only was she well known for gathering limu, fishing and for making the most delicious poke enenue *(Chub fish, also known as rudder or pilot fish Kyphosus bigibbus, K. vaigiensis)*. Aunty Loke was also a leading advocate and activist for protecting native Hawaiian access and gathering rights for sustainability practices. Her husband, Uncle Charlie Perreira is an expert throw net fisherman as well, and a recognized master of Hawaiian throw net making. He can regularly be seen in Anahola and throughout the community sewing his fishing nets. He is always willing and wanting to share and teach of his Hawaiian practice and craft to all that are interested, especially those of the younger generation who he feels will carry on the traditions of Hawai`i.

Anahola Mountain Peaks & Landmarks

One of the most important topics of research for this study was the identification of Anahola's mountain peaks and landmarks. As we spoke with native Hawaiian residents of Anahola, all of them interchangeably identified the mountain in its entirety as, the "Anahola mountains" or as the "Kalalea mountain range". When asked about the names of the individual peaks, a few recognized its most prominent peak as Kalalea. Spelling and pronunciation of other names given included Konānae and Kōnanai, as well as, Hōkū`ālele and Hōkūalele. Aolani, the name of Anahola's famous "Hole in the Mountain" was known to a few.

Over the years, residents have lost touch with the place names and their meanings for this mountain range. The habit of identifying traditional landmarks - whether they are mountains, beaches, etc. by generalization is common. A greater misfortune is the more popular trend and use of nicknames created by recent generations of transient and kama`āina residents. Disappointedly, this has resulted in the greater loss of knowledge and awareness of traditional Hawaiian places and wahi pana.

The June 2010 DHHL Regional Plan sums up a description of the Anahola mountains in 2 short sentences. The only place names that are referenced are the Kealia mountain range, Hōkū`alele peak and Kalelea/Kalele`a, with and without the `okina or glottal stop; singular and plural.

Another random search for Hawaiian names of Anahola mountains produced the following description penned by a travel writer.

> "Looking inland towards the Kalalea Mountain Range our attention was directed to a specific mountain peak, once known as Mano Mountain but which has, in recent years, taken on the popular name of King Kong's Profile due to the fact that it resembles a gorilla head. The Kalalea Mountain Range certainly does inspire one's imagination. "Bam Bam" [tour guide] pointed out that in this very range you can see not only a gorilla's head, but also a bust of George Washington, a tortoise, a hippopotamus and a pregnant lady. He was absolutely right!"
>
> *-- John Fischer, Travel Writer for About.Com Hawai`i Travel - part of the New York Times Company.*

A recent article covering the Kaua`i Habitat for Humanity's Build-A-Thon in the Garden Island Newspaper was an amazing display of the community coming together to support 3 Anahola families. The article was a positive and uplifting news piece for Anahola. However, despite the status, respect, aloha and dignity that Kalalea mountain is given in the oral and literary works of Hawaiian deities, scholars and master practitioners, it has become commonplace to use inappropriate monikers, such as "*King Kong Mountain*" instead. There is an urgent need to educate and inform, first and foremost the native Hawaiian Anahola community of Kalalea's importance and the traditions associated with this storied mountain.

Everyone that we interviewed for this CIA had firsthand knowledge that the name of the mountain is Kalalea. However, no one person was able to articulate any of the other names of the individual mountain peaks and valleys that make up the greater mountain range that stands as Anahola's most prominent landmark. Knowledge of wahi pana and their place names for both subject ahupua`a of this CIA are on the verge of being forgotten and lost altogether. There is a sense of urgency to bring this to the forefront of our collective attention and create learning opportunities for the Anahola native Hawaiian community.

"Realtor volunteers work on the floor of a house in Anahola during the Kauai Habitat for Humanity Build-a-thon, Sunday.

Leonard and Cecelia Mahoe of ‘Ele‘ele were among those helping in the shadow of the “King Kong Mountain.”

Dennis Fujimoto, The Garden Island Newspaper - August 6, 2012

Mary Abigail Kawena‘ulaokalaniahi‘iakaikapoliopelekawahine‘aihonuainālеilehuaapele Wiggin Pukui (1895–1986), (or better simply known as Mary Kawena Pukui) was a Hawaiian scholar, dancer, composer, and educator. Born in Ka`u on Hawai`i island, she was raised in the tradition of hānai by her maternal grandparents who were kahuna, healers and chanters. Fluent in the Hawaiian language, she was later educated at the Hawaiian Mission Academy, and later at Punahou School on O`ahu. From 1938 to 1961, Tūtū Pukui worked as a ethnological assistant at the Bishop Museum where she translated hundreds of documents including stories, chants and early writings of ali`i and Hawaiian historians alike.

Of her notable works during her term at the Bishop Museum, are the oral histories that she led in the 1950s and 1960s. Traveling throughout six of the Hawaiian islands, she interviewed residents on various subjects of Hawaiian culture, stories, places and experiences of the interviewees' lives. Most of the oral histories were recorded in the Hawaiian language.

Kūpuna Recollections - Anahola 1950s

Recordings of oral interviews preserved in the BMA (August 13, 1959) include kupuna, David Kahanu who discusses prominent land features of Anahola. He speaks about the puʾu named Kalalea and Kōnanae, citing that the former - Kalalea, is male and Kōnanai, the latter is female. They are husband and wife companions - allegorical figures in nature that are celebrated characters of indigenous stories and traditions of this region. They are viewed and personified as beloved kūpua or supernatural forms in the landscape that guard, watch over and protect the families who have dwelled in this quaint Hawaiian community for generations.

Other kūpuna participating in the same interview conducted by Mary Kawena Pukui include Mrs. Evelyn Ewaliko and Mrs. Daisy Lovell. In the recorded interviews, they offer up additional place names such as: Pālaha, Heke, Pūaua, Pu`ukōaniani, Makahia, Malaepapa, Alaweo, Kaluaokehulu, Paeaea, Kahe, Kukae`iole, Pali`au, Pukaaolani, Āmū, Pālaha, Pāpa‘a, Heke, and Pūaua amongst others.

Kalalea is seen as the upright peak representing the male prowess and energy of the god, Kū. Kōnanae renders the maternal power of femininity representing the prostrate balance of the goddess, Hina. Together, they serve as icons for procreative vigor, inspiring the potential for perpetuation of family lineages and the population in the community.

Over the recent generations, the traditional place names of the Anahola mountain range, their meanings and stories have become more and more unfamiliar to residents in the community. With the exception of Kalalea, the cherished names and its related mo`olelo have succumbed to hollow monikers such as *"Kong Mountain", "Buffalo Peak", "Tortoise Hill"* and others.

Anahola Kaua`i's Mystic Hawaiian Village (Marti-Kini 2009:40 - 45) provides a listing of place names, suggestions and possible definitions for the various mountain peaks of Anahola's mountain range. The publication only applies the name Kalalea to the entire mountain range. It's most prominent peak which is known to long-time native Hawaiian residents of Anahola as Kalalea, is instead identified as, Kiko`o.

A number of map sources referenced for clarification of place names and peaks produced conflicting information and statistical data as well. Further research, including examination of oral histories and other sources for accurate identification is of great importance and priority.

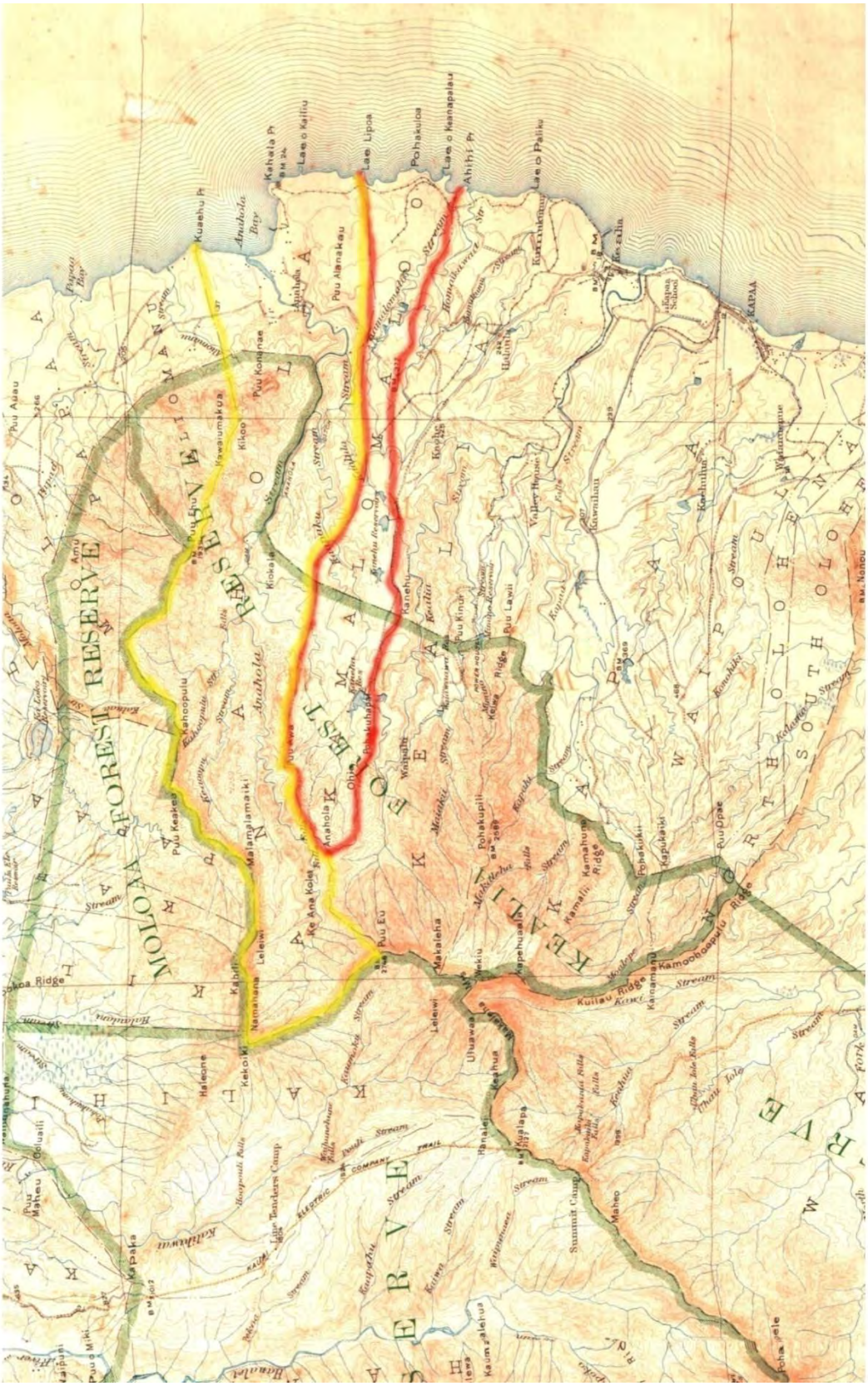


Figure 6. Kamalomalo`o (red) and Anahola Ahupua`a (yellow). US Department of Interior Geological Survey Topographic Map 1912.

Fresh Water Sources of Kamalomalo`o and Anahola

- Kaho'opulu stream (Anahola)

  Lit. To become wet, soaked, drenched by water.

- Kea`o`opu stream (Anahola)

  `O`opu is the general name for fishes included in the families Eleotridae, Gobiidae, and Blennidae. Some are in salt water near the shore, others in fresh water, and some said to be in either fresh or salt water. Varieties include blue-spotted goby (Quisquilius eugenius) and indigo hover goby (Ptereleotris heteropterus). ʻOʻopu ʻai lehua, poetic description of ʻoʻopu found in upland streams where lehua flowers drop into the water; lit., lehua-eating ʻoʻopu.

  O'opu nakea are the largest of the stream gobies, reaching 14 inches (35cm) in length and weighing up to 1/2 a pound. It is endemic to Hawai'i, omnivorous in its eating habits and found in middle to lower reaches. The color pattern is distinctive. The dorsal fins are yellowish with black bars and the base of the tail is dark in color. This species occurs on all the larger Hawaiian islands. Probably because of its large size and abundance, o'opua nakea was a popular food fish among the Hawaiians.

  There is an `ōlelo no`eau: "Kau ke alapiʻi a ka ʻoʻopu, the ʻoʻopu", which translates to say, "Fish form a stairway" `O`opu are said to jump over rocks from pool to pool and are able to climb up steep faces of waterfalls to upstream pools.

- Anahola stream (Anahola)

  Main fresh water source in Anahola. Lit. "Hola Cave"

- Ke Ana Kolea falls (Anahola).

  "The cave of the Kōlea bird"

  The Kōlea is the Pacific golden plover (Pluvialis dominica), a migratory bird which comes to Hawaiʻi about the end of August and leaves early in May for Siberia and Alaska. ***Fig.****, to repeat, boast; a scornful reference to foreigners (Kel. 70) who come to Hawaii and become prosperous, and then leave with their wealth, just as the plover arrives thin in the fall each year, fattens up, and leaves; a less common figurative reference is to one who claims friendship or kinship that does not exist; in some localities the kōlea is an ʻaumakua.*

Figure 10. Reservoirs created during Kaua`i's plantation era offer great potential for future agricultural opportunities in the Anahola Region. 5 reservoirs on DHHL Kamalomalo`o land include: Mimino, Field 1 Keālia, Field 2 Keālia, Upper Anahola and Lower Anahola. Source: June 2010 Anahola Regional Plan.

- Kaupaku stream (Kamalomalo'o/Anahola)

  This stream source begins in the ahupua`a of Kamalomalo`o and continues through to Anahola. Kaupaku is a variation of the word kaupoku which translates as ridge pole, highest point, roof , ceiling; figuratively referring to the greatest. It is located above of Ka`alūlā stream. The mountain valleys of Pu`u Eu and Makaleha are conduits for the receiving of rainwater which is then fed to the main streams of Kaupaku, Ka`alūlā and Kamalomalo`o. Eventually, Kaupaku feeds into Anahola stream in the neighboring ahupua`a.

- Ka'alūlā stream (Kamalomalo'o/Anahola)

  This stream source begins in Kamalomalo`o. Alike the Kaupaku stream it eventually meets and flows into the Anahola Stream. Lit. "Moving Calmly"

- Kamalomalo'o stream (Kamalomalo'o)

  Literally, Kamalomalo`o could simply mean, "dried loincloth". The malo or loincloth is a metaphor for the expanse of land in this relatively smaller than usual size ahupua`a. All accounts of the word "malo" needs to be taken into consideration. The word malō is a variance of malo`o. The reduplication "Dry/dried" upon itself would allude to dry, waterless lands. However, this is not the case here with 3 stream sources. Another translation of malo`o, is to trace as of genealogy.

- Kānehā and Kānehū Reservoirs (Kamalomalo'o)

  Kāne is the akua nui or major god that is associated with fresh water, streams, rivers, and lakes. The word hā refers to the breath, life, essence and spirit. The word, hū means to rise, swell, overflow and percolate. Of Kāne's 70 kinolau or nature body manifestations, fresh water and sunlight are of the greatest significance as forms that are necessary for health, growth and life.

  A post-contact plantation era ditch system (also named Kānehā) runs from the Kānehā Reservoir all the way until it joins the Kamalomalo`o Stream. Additionally, there are the Upper and Lower Anahola Ditches as well. 6 reservoirs created by the plantation in the project area ahupua`a include: Mimino, Field 1 Keālia, Field 2 Keālia, Upper Anahola and Lower Anahola.

  Kānehū is a traditional place name for which another set of reservoirs are named after.

Land Commission Award Claims
Anahola and Kamalomalo`o Ahupua`a

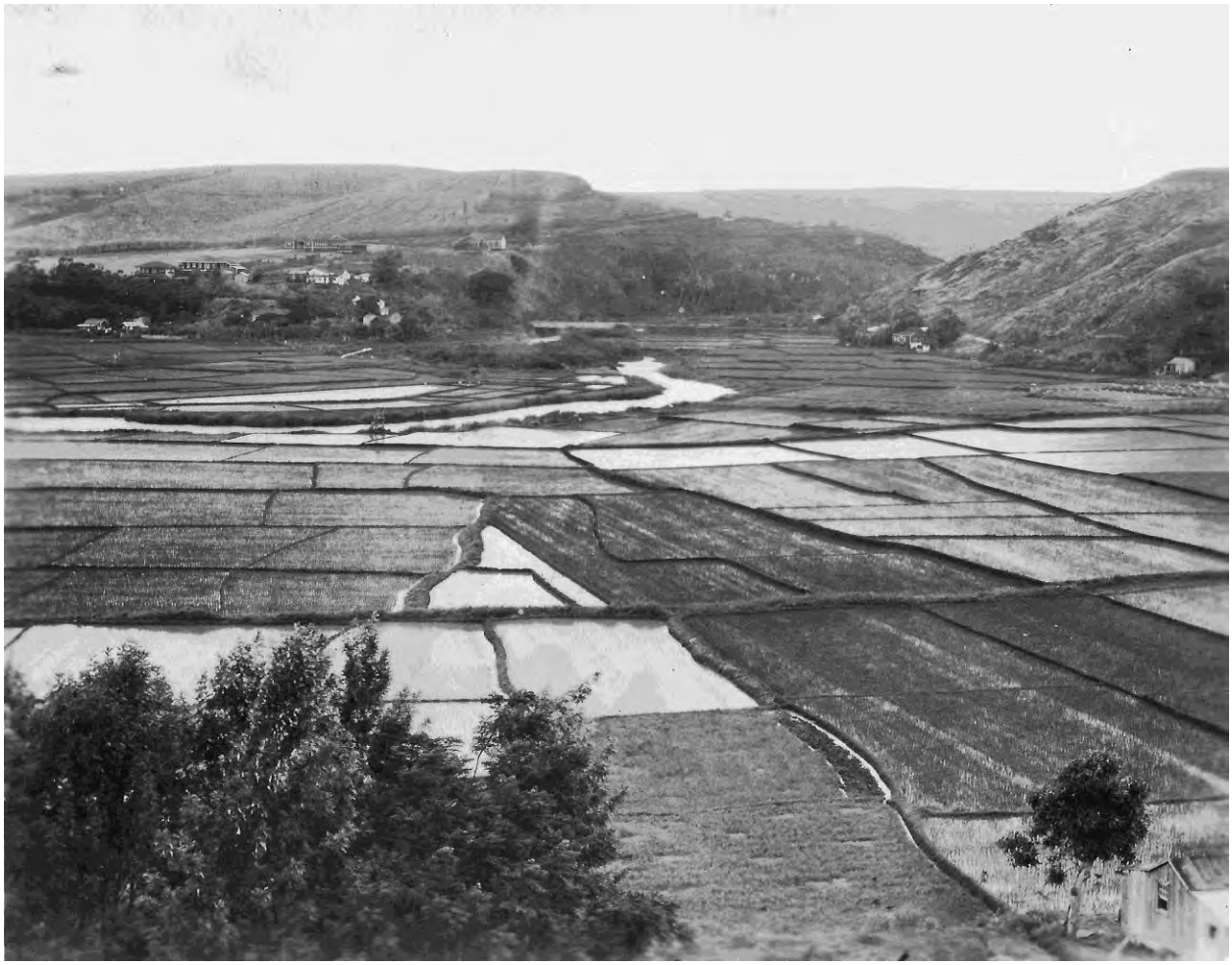


Image KM-6. Rice cultivation and former lo`i kalo (looking ma uka) is shown in abundance in Anahola. Back of photo reads "1890 - 98". Photograph thought to be by Theo Severin. Kaua`i Museum Photo Archives.

With the Anahola Stream as its main source, generations of native Hawaiians thrived in the ahupua`a of Anahola inhabiting mostly the valley and nearby coastal areas. In pre-contact times, prior to transformation of ancient Hawaiian religious and political systems, Anahola's population was comprised of ali`i, kahuna and maka`āinana that were experts in the professions of planting and farming, fishing, healing and kapa making.

Land Commission Award Claims
Ahupua`a of Anahola and Kamalomalo`o

Land Commission Awards and Mahele Awards are Sources of Title adjudicated by the Land Commissioners to claimants.

Mahele Awards are Sources of Title specifically issued to those chiefs who received their lands from the king but failed to present their claims before the Land Commission and thus received titles to their lands from the Minister of the Interior.

Kamehameha Deeds are Sources of Title to Crown Lands that Kamehameha III, IV and V conveyed.

Minister of Interior Deeds were Sources of Titles that conveyed lands from the government to private individuals by the Minister of the Interior during the Kingdom of the Monarchy.

Patents - both Royal and Land were issued on the awards as evidence that the Government's right to commutation therein was satisfied. An award together with a patent perfected the awardee's title to the property.

Grants by Royal Patent and Land Patent were Sources of Title deriving from the sales of government lands.

The term "Royal" indicates that the document was issued during the Hawaiian Monarchy (up to 1893). The Land Patent or Land Patent Grant thus means the document was issued subsequent to the monarchy.

A total of 42 claims for kuleana lands were brought before the Land Commission by native Hawaiians residing in the ahupua`a of Anahola and Kamalomalo`o in January 1848. Majority of the claims made were based on lands in Anahola. Of the 42 listed, 5 claims were not awarded LCAs. It is also known that many native Hawaiians did not appear to petition for their kuleana before the Land Commission.

Of the LC's listed in the following pages, the collective claims accounted for more than 113 lo`i in Anahola in 1848.

28 mala were dedicated to the cultivation of wauke (paper mulberry), plus an additional 10 larger kula or fields and a pali wauke - a steep slope or hill that was also planted in wauke.

A claimant by the name of Naiwi with kuleana at the ili of Mamania, Kaluanui (LCA No. 04780 / RP 3917) noted that in addition to his house lot, his kuleana consisted of: 5 lo`i; 3 mala of wauke; 6 mala of noni; 3 orange trees; 2 Pō`ulu of breadfruit trees.

Pō`ulu are young breadfruit trees from which the bark of tender breadfruit shoots are used to make a less fine, lower grade of kapa.

The January 11, 1848 LCA Claim No. 04627 / RP 6651filed by Paia in the ili of Kapoko at Anahola states that his kuleana land consisted of 3 lo`i and his house lot. In addition, Paia also claimed a *pali wauke*. Pali or cliffs, precipices, steep hills and slopes were found very suitable and favorable for the cultivation of olonā and wauke.

> In a NK's interview taken with Anahola homestead resident, Chono Fernandez, he pointed out how there are so many vacant agrcultural land parcels that should be awarded to lessees. He stressed a sense of urgency for DHHL to take a closer look at the need for lessees to have access to `āina so that they can grow food. As we stood in his yard adjacent to the Anahola Village Soccer Park, he gestured toward the hills that lay beyond the edges of the park and shared that even the slopes and hillsides could be used for that same purpose. A life-long resident born and raised on that same property in Anahola, Chono knows the landscape well, stating how the area (now overgrown with invasive grass and vegetation) has fresh water spring sources.
>
> Chono's idea resonates with common sense and reasoning that "residential lessees should be given access to parcels of agricultural land - even if it is a small piece, enough to grow food to sustain one's family."

A total of 45 mala and kula lands were dedicated to the cultivation of noni, with one claimant growing ipu, and another with an entire kula planted with ulu or breadfruit trees.

Today, the revitalized use of noni as a lā`au lapa`au is primarily used as a natural healing remedy for various ailments. When carefully reviewing the claims, it became evident to us that the large amount of noni was not specifically being grown for medicinal needs of the community. Instead, it served as a supplemental source for natural plant dyes for the making and decorating of

kapa (fiber cloth). The cambium layer from the root of the noni tree is used to make a beautiful yellow dye. When mixed with coral, the dye result is a vibrant red.

NK's field investigators observed great quantities of noni patches and groves growing in the wild throughout the ahupua`a of Anahola. This included upland, valley, and seaward bound areas; no doubt, remnants from previously tended crops that were being cultivated in Anahola 165 years ago.

LCA Claims
Kamalomalo`o and Hōmaikawa`a

The following LCA claims were listed under Kamalomalo`o and Hōmaikawa`a. Between January 22 and February 1, 1848 four claimants appeared before land commissioners to identify lands that they had occupied in Hōmaikawa`a and Kamalomalo`o. The appointment of a new konohiki assigned to replace Holoaumoku as konohiki was the cause of the January 31, 1948 hearing.
In claim no. 8042, Alapa`i is quoted as follows below. Other notes follow as well:

> "I hereby state my claim to you, O Land Commissioners; it is my own claim, 80 fathoms long by 40 fathoms wide. I am with aloha," (no signature is given, Oliva is the witness)

Alapai came forward & made oath that he with his mother (Holoaumoku) & 3 servants of theirs, Pihia, Kaiaoni, Wahaeku & `Ainoa having forsaken their lands in the Ahupuaa of Hōmaikawa`a & gone to Anahola to reside, have no further claims in Hoomaikawaa.

> "Alapai, sworn, before us (two) and before the people whom he governs, in behalf of five claimants. They have rejected their claims permanently without thought of returning again to this land of Homaikawaa."

On February 14, 1848 the lands at Hōmaikawa`a, along with the lands of Kamalomalo`o and elsewhere were awarded to (08559B) King William Charles Lunalilo.

Land Commission Award Claims
Ahupua`a of Kamalomalo`o & Hōmaikawa`a
District of Puna

(Listed in alphabetical order of Claimant's name)

Lands at Hōmaikawa`a and Kamalomalo`o				
Claim Number	**Claimant**	**`Ili/Ahupua`a**	**Kuleana**	**Designation**
08043	`Ainoa	Hōmaikawa`a Kamalomalo`o		Not awarded. Jan. 31, 1848
08042	Alapa`i	Hōmaikawa`a Kamalomalo`o		Jan. 31, 1848
08208	Holoaumoku (Holaaumoku) (Holoumoku) Alapa`i, her son	Hōmaikawaa, Kamalomalo		Not awarded Jan. 22, 1848
08559B*K	Lunalilo, William C. Kanaina, Charles for King Lunalilo	Pilaa, Kahili, Kumukumu, Waipouli, Kapaa, Kamalamalo, Kalihiwai, Hanapepe, Waipouli	Ali`i	Awarded Feb. 14, 1848
11014	Wahaeku	Hōmaikawa`a Kamalomalo`o		Feb. 1, 1848

Land Commission Award Claims
Ahupua`a of Anahola - District of Ko`olau

(Listed in alphabetical order of Claimant's name)

Claim Number	Claimant	`Ili/Ahupua`a	Kuleana	Designation
04547	Anahola	Anahola Puamano, Papaikiahoaka	3 lo'i, 2 mala of wauke, 1 mala of noni and the house site	Award 4547; R.P. 7083; Anahola,Koolau Jan. 11, 1848
04538	Ehuelua	Anahola	2 lo'i, 2 mala of noni, a kula planted in wauke and the house lot	Not awarded Jan. 12, 1848
04593	Haili	Anahola Haili	5 lo'i and a kula adjoining the lo'is, and the house lot	Award 4593; R.P. 6544;Haili Anahola, Ko`olau Jan. 12, 1848
04594	Hiapo	Anahola	2 lo'i, 1 cultivated kula and the house lot and the trees planted on it, an orange, some breadfruits and a kou	Not awarded Jan. 11, 1848
05391	Hilo	Anahola Kaakaulua, Papakolea	Taro land; Name of the taro land is Papakolea, and there is also a house	Award 5391; R.P. 8086; Kaakaulua Anahola, Koolau Jan. 19, 1848
04591	Hulu	Anahola Kuakemana, Paanoho	9 lo'i and 2 mala of noni, an orange tree, a mala of wauke. Kali`ipalala is the name, and Koelonai 2 is the house lot	Award 4591; Poanoho Anahola, Ko`olau Jan. 13, 1848
04581	Huluhulu	Anahola Kanapaa, Kapuonunui, Papaukai	1 lo'i, 3 mala of noni and the house site	Award 4581; R.P. 6631; Kanapa`a, Anahola Koolau Jan. 11, 1848

Land Commission Award Claims
Ahupua`a of Anahola - District of Ko`olau

Claim Number	Claimant	`Ili/Ahupua`a	Kuleana	Designation
04879	Inoa`ole (No name given)	Anahola Kape, Kukuluauki	4 taro lo'i and 1 house lot. Taro lo'i and kula received from Makuakāne	Not awarded; Numerical index lists this as Inoa`ole Jan. 13, 1848
05143	Kaahiki Hilo, his son	Anahola	13 lo'i, 2 kula for wauke, 2 kula for noni, 7 orange trees, 2 kuakua, two hala trees, one place in a gobey fish stream. It was held from Kahanapapa until Panipani (probably Konohiki names)	Not awarded Jan. 13, 1848
05048	Kaehu	Anahola	3 lo'i, 1 mala of wauke and the house lot	Not awarded Jan. 13, 1848
04909	Kaeleu	Anahola Kamalupe, Kaloula/Kalouulu, Olelokana	9 lo'i, a cultivated kula adjoining those lo'is, also another cultivated kula in another place, 2 kula for wauke and 3 kula for noni, two house claims, Malupa and Kumakole, 1 orange tree	Award 4909; R.P. 7487; Kalouulu Anahola, Ko`olau Mar. 13, 1850
05105	Kahaiola	Anahola Pikau, Kalama	2 lo'i and a cultivated kula, and a house lot	Award 5105; Pikau Anahola,Ko`olau 1847
05205	Kaholomoana	Anahola Hahalua	Lo'i and its kula, 1 mala of noni, 2 mala of wauke and one house lot	Award 5205; Hahalua Anahola, Koolau Jan. 12, 1848

Land Commission Award Claims
Ahupua`a of Anahola - District of Ko`olau

Claim Number	Claimant	`Ili/Ahupua`a	Kuleana	Designation
05170	Kalawaia	Anahola Ananakini, Hakaea	9 lo'i, 3 mala of noni, 1 mala of wauke and the house site	Award 5170; Ananakiki Anahola, Ko`olau Jan. 11, 1848
04971	Kalehua	Anahola Kanamoa, Kapuakea	4 lo'i, a kula, a house lot, a plantation of wauke and a mala of noni	Award 4971; Kahaina`a Anahola, Ko`olau Jan. 12, 1848
04981	Kalimaeleele, wahine	Anahola	3 lo'i and the noni standing there and the house site	Award 4981; Anahola, Ko`olau Jan. 12, 1848
05142	Kaliuwa`a	Anahola Hooolakauka, Kamoku	2 lo'i, 1 mala of wauke, 1 mala of bitter gourd, 1 mala of noni, 1 mala of tobacco, and the house lot	Award 5142; Anahola, Ko`olau Jan. 11, 1848
05084	Kaniku	Anahola Palikoa, Puapala	5 lo'i, 5 mala of noni, 3 orange trees, 1 place for catching gobey fish. There are some pōulu, also breadfruit trees	Award 5084; R.P. 6760; Puapala Anahola, Ko`olau Jan. 12, 1848
04913	Kanuha	Anahola Olokuiha, Kamokuapi	2 lo'i and a kula and the house lot	Award 4913; R.P. 6325; Kamokuapi Anahola, Ko`olau Jan. 13, 1848
05099	Kauhaialae	Anahola Puuomano, Olelokana	1 lo'i, 2 mala of noni and the house site	Award 5099; R.P. 5541; Olelokana Anahola, Ko`olau Jan. 11, 1848

Land Commission Award Claims
Ahupua`a of Anahola - District of Ko`olau

Claim Number	Claimant	`Ili/Ahupua`a	Kuleana	Designation
05141	Kaukai	Anahola Kuloa, Koapupu	14 lo'i, 2 mala of noni, 1 mala of wauke and the house site	Award 5141; R.P. 7872; Kuloi`i Anahola, Ko`olau Jan. 11, 1848
05078	Kawaaiai	Anahola Kahalepua, Pohakumano	2 lo'i and kula which adjoins them. 2 mala are in another place, and in another place is a mala of noni and wauke, and also a house lot	Award 5078; Anahola, Ko`olau Jan. 11, 1848
03030	Kawaimakanui	Anahola Palawai, Pauko	House lot and also taro land	Award 3030; R.P. 7275; Palawai Anahola, Ko`olau Jan. 12, 1848
05104	Kawaohia (Kawaaohia)	Anahola Olokauha, Kaheewale	3 lo'i, 2 kula of wauke and noni, and the 2 house lots	Award 5104; R.P. 7314; Kaheewale Anahola, Ko`olau Jan. 11, 1848
04987	Keanuhawai`i	Anahola Pauku, Kaupapa, Papaikiapoaka	4 lo'i, 2 mala of noni, and the house lot and a kou tree	Award 4987; R.P. 6291; Anahola, Ko`olau Jan.. 12, 1848
04590	Kekuaiki Ho`opana, his wife	Anahola Hahalina / Kahalina	5 lo'i and a kula planted in tobacco, 4 mala of noni and the house lot	Award 4590; R.P. 7347; Kahalina Anahola, Ko`olau Jan. 12, 1848
05190	Kekuaiki	Anahola	5 lo'i and the kula planted in wauke and the house site	Not awarded Jan. 11 1848
05083	Kiei	Anahola Kanakawale, Hikii	4 mala of noni, 2 mala of wauke, 3 lo'i and the house site	Award 5083; R.P. 7122; Anahola, Ko`olau Jan. 11, 1848

Land Commission Award Claims
Ahupua`a of Anahola - District of Ko`olau

Claim Number	Claimant	`Ili/Ahupua`a	Kuleana	Designation
04984	Kole (Kale)	Anahola Papooulu, Kealuaahokia/Kalalea	2 lo'i, a kula planted in gourd and the house site	Award 4984; R.P. 7597; Kaluaohiki Anahola, Ko`olau Jan. 12, 1848
04935	Koleaka (Kolehaka) Keolawa, brother in law	Anahola Kalahiki, Hikii	2 lo'i, and a cultivated kula and one house lot	Award 4935; Hiki`i Anahola, Ko`olau Jan. 12, 1848
05023	Kolia, D	Anahola Pukoenieni, Kanakahikio, Kuka, Kuaimanui, Kahonaula, Palikoa, Kauakahi	Small area of land named Kiki`i which was given to me by Kaikioewa. Lo'i named Kuemonū, 2 house lots, 2 mala of noni	Award 5023; R.P. 7740; Kauakahi Anahola, Ko`olau Jan. 13, 1848
05089	Kuhaimoana Nahulekoa, wahine	Anahola	2 lo'i, 6 mala of noni, 1 mala of wauke, and the planted trees: 2 kou, 1 orange and 1 breadfruit	Not awarded Jan. 12, 1848
05102	Kuihu	Anahola Puuoniunu, Papahikiloaka	1 lo'i, 1 mala of noni, 2 mala of wauke, and the mala of bitter gourd, and the house lot	Award 5102; R.P. 5927; Anahola, Ko`olau Jan., 11, 1848
04916	Kumukou	Anahola Lanakini, Piwaha	1 lo'i, 1 gulch planted with noni, and 2 mala of wauke and the house lot	Award 4916; R.P. 7318; Lanakini Anahola, Ko`olau Jan. 12, 1848

Land Commission Award Claims
Ahupua`a of Anahola - District of Ko`olau

Claim Number	Claimant	`Ili/Ahupua`a	Kuleana	Designation
04984	Kole (Kale)	Anahola Papooulu, Kealuaahokia/Kalalea	2 lo'i, a kula planted in gourd and the house site	Award 4984; R.P. 7597; Kaluaohiki Anahola, Ko`olau Jan. 12, 1848
05199	Kuoha (Kueha)	Anahola Puamano, Kalua`o`opu	7 lo'i and a kula for planting tobacco adjoining the lo'is, a mala of noni in another place, and the house lot	Award 5199; R.P. 7120; Kalua`o`opu Anahola, Ko`olau Jan. 12, 1848
04980	Kuohu	Anahola Pu`uoio, Olelokana	1 lo'i, 1 mala of noni, 1 mala of wauke and also the house site	Award 4980; R.P. 6018; Olelokana Anahola, Ko`olau Jan. 12, 1848
05112	Kupukupu Mumuku	Anahola	5 lo'i, a place for planting wauke and also a mala of noni, and the house site	Not awarded Jan. 13 1848
04694	Lono	Anahola Puoio, Kumunana	2 lo'i, 2 mala of noni, 1 mala of wauke, 1 male of bitter gourd and the house lot	Award 4694 to Lono 2; R.P. 6449, Anahola, Ko`olau Jan. 11, 1848
04694B	Lonoiki	Anahola Ananakini, Kalua`o`opu; Puoio, Kapuoni	1 loi in `ili Ananakini 1 lo`i in `ili Kalua`o`opu	Award 4694B; Lonoiki Anahola, Ko`olau (No Date)
04693	Luahele	Anahola Palawai, Koananai	2 lo'i, 4 mala of wauke	Award 4693; R.P. 7598; Palawai Anahola, Ko`olau Jan. 12, 1848

Land Commission Award Claims
Ahupua`a of Anahola - District of Ko`olau

Claim Number	Claimant	`Ili/Ahupua`a	Kuleana	Designation
04699	Lupaieie	Anahola	2 lo'i and a kula which adjoins them, also a mala of wauke in another place, also a mala of noni, another mala of noni at Kamalomalo`o, and my house lot in Anahola	Award 4699; R.P. 7275; Anahola, Ko`olau Jan. 13, 1848 4608 not awarded
04722	Mahilauawa	Anahola Palawai	1 lo'i, and some trees, a kou and a noni	Award 4722; R.P. 7511; Palawai Anahola Ko`olau Jan. 13, 1848
04711	Mailou	Anahola Hakaea, Makaikai	6 lo'i, 3 mala of noni, 1 mala of wauke, 2 orange trees, 2 mala of kikope* and the house site	Award 4711; Land Patent 8090 Jan. 11, 1848
04712	Makaino Kikoo	Anahola Hioka / Kioka	7 lo'i, 3 mala of noni, 1 mala of wauke and the house site.	Award 4712; Hioka Jan. 11, 1848
04721	Makakane	Anahola	1 lo'i, and a cultivated kula and the house lot	Not awarded Jan. 13, 1848
04719	Makaole (Makaola)	Anahola Hoopala	12 lo'i and a cultivated kula adjoining the lo'is, and the house lot	Award 4719; R.P. 3887; Ho`opala Jan. 12, 1848

Land Commission Award Claims

Ahupua`a of Anahola - District of Ko`olau

Claim Number	Claimant	`Ili/Ahupua`a	Kuleana	Designation
04731	Makuakāne	Anahola Kanapa`a, Pouka, Pauka, Palawai	I, the Konohiki on the land of Anahola on the island of Kauai, am under Ka`aha. All the benefits of the Pō'alima confirmed by law as belonging to the Konohiki are what I claim	Award 4731; R.P. 6342; Kanapa`a Anahola, Koolau Jan. 11, 1848
04730	Manamana	Anahola Kalaewahiwai, Kamuliwai, Kekau	6 lo'i, 5 mala of wauke, 3 mala of noni, 1 kula weuweu /grass kula/, 4 orange trees, 2 kou trees and two house lots	Award 4730; R.P. 7118; Anahola, Ko`olau Jan. 12 1848
04718	Maumau	Anahola	1 lo'i and a kula for cultivation and a house lot	Award 4718; R.P. 6685; Anahola, Koolau Jan. 12, 1848
04724	Mona (Mana)	Anahola Kamoku, Kamuliwai, Kekau	4 lo'i, 4 kula of noni, one kula of wauke, 2 house lots	Award 4724; R.P. 7119; Kamoku Anahola, Ko`olau Jan. 12, 1848
04760-1	Naelele	Anahola Palawai, Pukalio	1 lo'i and a kula and 2 mala of noni	Award 4760; R.P. 5666 Anahola, Ko`olau Jan. 13, 1848
04780	Naiwi (Naiui)	Anahola Mamania, Kaluanui	5 lo'i, 3 mala of wauke, 6 mala of noni, 3 orange trees, 2 pō'ulu breadfruit trees, and 1 house lot	Award 4780; R.P. 3917; Kaluanui Jan. 12, 1848

Land Commission Award Claims
Ahupua`a of Anahola - District of Ko`olau

Claim Number	Claimant	`Ili/Ahupua`a	Kuleana	Designation
04782	Nakea	Anahola Pauko	2 lo'i and a kula and 3 mala of noni	Award 4782; Pouko Anahola, Ko`olau Jan. 12, 1848
04690	Nalawaia Nalawaianui	Anahola Kealohi	Lo'i, named Ke`alohi, 2 mala of noni, 2 mala of wauke and 2 house lots	Award 4690; R.P. 7596; Kealohi Anahola, Ko`olau Jan. 12, 1848
04777	Nanukuwaiki (Nukuwaiki) Kukaena, his wife	Anahola Kauapa, Kumuahane, Kapunakuoio	4 lo'i, 5 mala of noni, 2 mala of wauke, 1 mala of bitter gourd, and the house lot	Award 4777; R.P. 3957; Kauapa Anahola, Ko`olau Jan. 11, 1848
04765	Naololi Kekuaiki, his brother	Anahola Pukoanini, Kaupake	5 lo'i, 2 mala of noni, 1 mala of wauke and 2 house lots	Award 4765; R.P. 7319; Kaupaka Anahola, Ko`olau Jan. 11, 1848

Land Commission Award Claims
Ahupua`a of Anahola - District of Ko`olau

Claim Number	Claimant	`Ili/Ahupua`a	Kuleana	Designation
04530	Ohao (Oohao)	Anahola Puoio, Kapahupoko, Kawaikapu	1 lo'i 3 mala of noni and 1 mala of wauke, and the house lot	Award 4530; R.P. 6695; Kahapupoko Anahola, Koolau Jan. 12, 1848
04526	Opae	Anahola Keawaawaehu (Keakaawaehu)	20 lo'i, 2 orange trees and a single mala of wauke	Award 4526; Anahola, Ko`olau Jan. 13, 1848
04624	Pa`a Kawaimakanui, his son	Anahola Kukuluaukai, Paea	1 lo'i and a kula planted with noni and wauke, and the house lot	Award 4624; R.P. 8112; Kukuluaukai Anahola Ko`olau Jan. 12, 1843
04627	Paia	Anahola Kapukalio, Kapoko	3 lo'i and the pali wauke, named Pīwaho, and the house lot	Award 4627; R.P. 6651; Kapoko Anahola, Ko`olau Jan. 13, 1848
03411B	Paupau	Anahola Kalaiula, Hope	1 Loi, kula & house lot, kula in "Kalaiula, 2 Lois in "Hope	Award 3411B; R.P. 7317; Hope Anahola, Ko`olau No Date
04621	Pehuiki	Anahola Hoolakaupu, Kapuapala, Kahononahala	three lo'i and the house lot, and three kula planted in wauke	Award 4621; Land Patent 6687; Hoolakaupu Anahola, Ko`olau Jan. 12, 1848
04643	Piawe (Piawa)	Anahola Pukoenieni, Anahola	three lo'i, four mala of wauke, three mala of noni and two house lots	Award 4643; Anahola, Ko`olau Jan. 11, 1848
04649	Pohaku	Anahola	one lo'i and a cultivated kula and the house lot	Not awarded Jan. 12, 1848

Land Commission Award Claims
Ahupua`a of Anahola - District of Ko`olau

Claim Number	Claimant	`Ili/Ahupua`a	Kuleana	Designation
04611	Pokake	Anahola Kapapa, Manaiki	6 lo'i, 1 mala of noni, 1 mala of wauke and the house site	Award 4611; R.P. 6019; Manaiki Anahola, Kaua`i Jan. 11, 1848
04632	Poopoo Lono, his brother	Anahola	3 lo'i, 2 mala of noni, 2 mala of wauke and the house lot	Not awarded Jan. 11, 1848
04651	Poopoo (Paopao)	Anahola	1 lo'i and a cultivated kula and the house lot	Award 4651; Anahola, Ko`olau Jan. 12, 1848
04640	Puaa (Puaahunehune)	Anahola Keakimoma, Keokala/Kiokele, Kamano	2 lo'i, 1 kula for planting noni, 1 kula planted in breadfruit, and the house lot	Award 4640; Kiokele Anahola, Ko`olau Jan. 12, 1848
04652	Puaeae	Anahola	1 lo'i, 1 mala of wauke and the house lot	Not awarded Jan. 12, 1848
04655	Puaokehau wahine Naiwi, her husband	Anahola Kakaea	4 lo'i, a kula planted in wauke, 2 mala of noni and the house lot	Award 4655; Anahola, Ko`olau Jan. 12, 1848
04657	Puaunahi	Anahola Hikii, Paeia	3 lo'i, a kula for planting noni, a kula for planting wauke and the house site	Award 4657; R.P. 7236; Hikii Anahola, Ko`olau Jan. 11, 1848
04656	Puoa	Anahola Kanaua, Kapoko	2 lo'i, 1 large kula and 1 house lot	Award 4656; R.P. 6762; Kanaua Anahola, Ko`olau Jan. 12, 1848
04535	Upai	Anahola	2 lo'i, 1 mala of noni, 1 mala of wauke and the house site	Not awarded Jan. 11, 1848

Land Commission Award Claims
Ahupua`a of Anahola - District of Ko`olau

Claim Number	Claimant	`Ili/Ahupua`a	Kuleana	Designation
04559	Wahie	Anahola Kaihulu, Palikoa	1 lo'i and a cultivated kula	Award 4559; R.P. 7121; Kaihulu Anahola, Ko`olau Jan. 12, 1848
04556	Wailau Nawelau/Welau Kanuha	Anahola	1 lo'i and the kula for planting wauke	Not awarded No Date
04554	Walanaeku (Walanaiku)	Anahola Koolaukai, Koolaukani Kolauhani	7 lo'i, 1 mala of wauke, 2 mala of noni and the house site	Award 4554; Ko`olaukai Anahola, Ko`olau Jan. 11, 1848

The Hawaiian Legacy of Mo`o

Image NK-14 Lae O Kahala is the promontory of rocks jutting out into the ocean. Immediately in front of is Anahola Bay and the prominent mountain of Kalalea.

From a Hawaiian perspective, hō`ailona are signs, portents and manifestations in nature that symbolize purpose and connection to place, relationships and responsibilities. Hō`ailona associated with chiefly births are thunder, lightning, earthquakes and heavy rains. Extreme weather conditions that bring rain are symbols of health and prosperity. Large volumes of rain fill the streams and rivers. It also saturates the ground and fill aquifers that will provide long term supplies of fresh water. The rains also nourish crops and the earth as well.

In post-contact times, these types of hō`ailona and severe weather conditions are seen as inconvenient and burdensome by the general populace, including

many native Hawaiians today. With influential seeds planted by the introduction of western and puritan ideals since the arrival of Captain Cook (1778) and Calvinist missionaries (1820), a great divide between the Native Hawaiian and his environment and culture has continued to grow. The following is taken from an article titled, "*Earth's Weather Changed by Degeneration and Catastrophe*" published by Eden Communications with content adapted from the book, "Weather and the Bible".

> *"A serious flaw in secular environmentalism is that it sees nature as inherently good and normal. The biblical view is that creation and the weather were originally "very good" When God created the world and until the first man sinned. Due to man's sinfulness, the world did not stay "very good." Not long after creation, all of nature was affected by man's fall to sin and God's curse. The pain and sorrow of this present world, along with severe weather, demonstrate an imperfect world. Furthermore, the worldwide flood of Noah's time would clearly have caused radical changes in our environment. Before the flood, the weather was evidently very mild and different from today; it did not even rain (Genesis 2:5-6, 7:11-12). Thankfully, a new world is coming, when God will burn up this universe and create a new heavens and new Earth (II Peter 3:10-13, Isaiah 65:17, Revelation 21). Paradise will be restored. Once again, deadly storms will not be a part of our world."*

This is just one of myriad examples that show how the worldview of indigenous Hawaiians and western perceptions of nature are opposite poles apart. In a short period of only 2 centuries - 234 years since the arrival of Captain Cook and 192 years since the first ali`i converted to Christianity, a very high percentage of the Native Hawaiian population have become disconnected with the rich history, wisdom and traditions of their fore bearers. This has contributed to the loss of traditional cultural knowledge and the values of not only stewardship, but kinship with the land and environments of Hawai`i Nei.

Ka Mo`olelo O Keaomele
The Story of Keaomelemele

This once-famous story of Keaomelemele was told by Moses Manu in 1884. His version was printed in the newspaper *Ka Nupepa Kuʻokoʻa*, and ran 31 consecutive weeks. The mo`olelo of Keaomelemele tells of the origins of the *moʻo* as a class of spiritual beings in the islands. It also provides insight to the earliest sources of Hawaiian cultural practices and beliefs. Presented here, through this particular story are the traditions of hānai and mo`o.

In this story, there are five children who are born to the gods. The eldest is Kahānaiakeakua *(The one nurtured by the gods),* who is raised by Keānuenue *(the rainbow goddess)* at Waolani. And then Paliuli *(The dark verdant cliffs)*, who is raised by

Waka in the forests of `Ola`a on Hawai'i Island. Although Keaomelemele *(The golden cloud)* is the third child born, she is the heroine of the story. She is raised by Mo`oinanea, the highly revered mo`o or lizard goddess in a house made of clouds in the heavens. The other two siblings are Kaumaili`ulā *(Twilight resting in the sky)* who too is hānai by Mo`oinanea; and the youngest, Kaulanaikapōki`i *(Beautiful daughter of the sunset)* who is raised by the god Kū and goddess Hi`ilei in the mythical island of Kū`aihelani.

All five of them are taken from their birth parents and placed with their `aumākua or spirit/god parents who hānai and raise them as their own. They are reared to understand all that there is to know about the land and sacred resources that bring life and health to the people and all living forms.

mo‘o

1. n. Lizard, reptile of any kind, dragon, serpent; water spirit.

2. n. Succession, series, especially a genealogical line, lineage.

3. n.Story, tradition, legend (less common than mo‘olelo).

4. n. Narrow strip of land, smaller than an ‘ili. Also mo‘o ‘āina.

5. n. Small fragment, as of tapa, not attached to a large piece.

6. n. Narrow path, track; raised surface extending lengthwise between irrigation streamlets.

7. n. Ridge, as of a mountain.

8. n. Young, as of pigs, dogs; grandchild. Ku‘u mo‘o lei, my beloved grandchild.

9. vs. Brindled, as a dog, favored for sacrifice to the mo‘o spirits.

Each of them are groomed to become kāhuna or priestly experts in the cultural and spiritual practices of Hawai`i. In time, they are given respective roles and responsibilities and they are imparted special mana and divine ranks as well. Kaulanaikapōki`i was given the domain of speech and healing and also becomes a master of the hula arts. She is given the ability to call upon the magic trees known as Makalei and Maku`ukao who bring and prepare fish and food to feed the masses of people. Kahānaiakeakua learns the responsibilities of the priesthood and becomes a

master of navigation and the fishing arts. He is the first to show the Hawaiian people this knowledge, along with the arts of omen reading and astronomy, architecture and oratory. Keaomelemele possesses the sacred nature of a deity and the power of extrasensory perception. Along with Kaumaili`ulā, she is given power over all the lands and the people. Paliulli remains with her guardian Waka.

Upon completion of their training and rites of passage, they are given the kuleana or responsibility as akua and `aumākua (Hawaiian deities). They are now obligated to oversee, guide and inspire nourishment for the land, ocean, creatures and people.

Mo`oinanea:
The Nurturing of Mo`o

The goddess, Mo`oinanea appears in many mo`olelo, chants and oral traditions. Mo'oinanea is said to have first arrived on O'ahu from Ku`aihelani and Kealohilani, the lands in the clouds. She settles at Kūkaniloko, a celebrated place well known as one of two of Hawai`i's most sacred birthplaces of ancient chiefs. (The other being Wailuanuiaho`ano here on Kaua`i) With her, she brings the mo`o and the expertise and traditions of the mo`o. A procession of *mo'o* starts out in Waialua, and they march into Waolani. By the time the first ones reach Nu'uanu valley, the end of the procession is still at Waialua.

Kua mo`o, the spine or backbone of supernatural lizards (mo`o) are seen in the natural landscape and succession of peaks and ridges of mountain ranges.

Within the story, other of origins of traditions are mentioned:

Keānuenue is the sister who's going to raise Kahānaiakeakua. But she has borne no children. So when this baby is brought to her and needs to be breast-fed, she has no milk to offer. So she goes to the brothers, Kāne and Kanaloa, and says, *"I need milk for the baby."* And they tell her, take these herbs, and some of them you rub on the breast, some of them you eat, and put this together, and you tweak the nipple of the breast and it will start to produce *waiu*, mother's milk. This is one of the *lā'au lapa'au* (Hawaiian medicine) traditions.

Ho'okau i ka waiū, is a ceremony that is performed to make the breasts fill with milk. Ho'olele i ka waiū is a ceremony that is performed to make the breast cease flowing.

The following is a prayer chant that was offered in the ceremony called, *"Ho`olele I Ka Waiū"*. Directed to the gods Lono, Kāne and Nuakea who is said to be a part of the goddess Haumea who oversees all female functions and responsibilities. Also known as Keakea or Keakealani, Nuakea became the patron of nursing mothers and is prayed to when an increase or decrease in the flow of milk is desired. The prayer chant was offered when a nursing mother is ready to wean the child. It was also offered when a male child was about 4 to 6 years old, as he prepared to transition from the women's house to the hale mua or the men's house. This was for the ritual of separation. At that time it was asked that the child be given prosperity and to guard against the malice of sorcery

.
E Lono, e Kāne, e Nuakea, ka wahine iaia ka poli waiu o ke keiki
Eia ka ukuhi nei o (name)
E lawe aku `oe i ka waiu o ka makuahine.
Ia `oe e ka lā, ke mahina, ka hōkū;
E lawe `oe a kukulu o Kahiki!
Ha`alele aku i ka omino, ka `uwe wale o (name)
A e hānai `oe i ka `ia kapu a Kāne,
`Oia ka hili, ka noho mālie,
Ke ola ia `oe e Kāne!
Amama. Ua noa.

Translation:
O Lono, O Kāne, O Nuakea the woman with breast of mik for the child
We are about to wean (name).
Staunch the flow of milk in his mother.
Yours are the sun, the moon, the stars;
Carry away to the pillars of Kahiki
And there leave the emaciation, peevishness and wailing of the child.
Feed him with the sacred fish of Kāne.
That is the repose and quiet,
This is your blessing, O Kāne!
Amama. The pray is ended and is set free.

In Moses Manu's articles that appear in the Hawaiian language newspaper, *Ka Nupepa Ku`oko`a* in 1884, the Hawaiian historian/writer of Keaomelemele goes into an explanation that this is how different traditions, art forms and practices began and was handed down from that time.

In his writings, he says:

> "*Compare this, to the foreign nations, who of course take milk from other animals, rather than produce their own. So they take the milk of the cow, or the milk of the goat, to feed the children, whereas the Hawaiians were very innovative."*

The kinolau or one of the plant body forms of the god, Lono is the `uala - the sweet potato. Nutritious young `uala or sweet potato leaves were fed to invalids and pregnant women to invigorate them. A broken sweet potato vine could be worn as a lei to induce the flow of milk in a nursing mother. This practice of herbal healing known as, lā`au lapa`au hints to Lono's role in the aforementioned chant as a means to aid and stimulate a source of breast milk through his plant forms.

There are many other native Hawaiian plants that are kinolau forms associated with pregnancy and child bearing traditions. Strips of wauke (paper mulberry) - a Kāne kinolau were also worn around the neck to induce the flow of breast milk. The hau tree sap, along with the base of its blossoms without its petals were mo`o kinolau that were important treatments for the pregnant woman preparing to go into labor. The slimy sap of the hau is said to reduce complications during delivery and child birth.

There are many stories and places that are directly connected to mo`o presence. Mo`o are both male and female...some are generous and compassionate and caring; some are malevolent. In most cases, mo`o are revered as guardians and protectors of land and water sources that provide subsistence for the people. Different mo'o took up residence in different places, mostly watery spaces and land areas that are host to major and minor water sources.

What are the *mo‘o*, exactly?

> *“There are mo‘o that are simply lizards -- the mo‘o of the house, that’s a little wall lizard. And the term is used for lizards, but it doesn’t tell you that these were necessarily lizard formed. It’s hard to say that mo‘o are crocodilians or some kind of serpentine creatures. They are entities that are associated with the wet places; they have to reside in the wet. Whether they take the form of a lizard -- because there are mo‘o that are simply lizards, like the mo‘o of the house: that's a little wall lizard. And the term in general is used for lizards. But this doesn't tell you that these mo‘o were necessarily lizard formed. There just isn’t a reliable sense of what they look like. We have two accounts, two stories of people who saw mo‘o, and dealt with them, and it looked like people to them. Both of the accounts use the same description, in which the whole structure of the face is fluid and keeps moving, so that there’s no way to grasp features. But not that they were shaped or formed like a lizard. "* *-- Puakea Nogelmeir, Editor of Keaomelemele*

The story of Keaomelemele implies that all of the *mo'o* were in effect the descendants of Mo`oinanea. She is reputed to be the grand dame of her descendents, her offspring and all aspects of mo`o-responsibilities that are associated with her. The story identifies some of these *mo'o* individually and where they lived.

Is Anahola's Kalalea Mountain a Mo`o?

Image NK-14 Kalalea Mountain from Lae O Kahala

In the mo`olelo of Keaomelemele, there are 12 noted mo`o who inhabit Kaua`i as large hills and mountains. The mo`o ali`i or royal chief of all of Kaua`i's mo`o was named Keolewa (also appears as Keaolewa). This mo`o resides at the summit of mount Ha`upu where it lives amongst the clouds. It is said that from Hāupu, Keolewa had a full view of all of Kaua`i. The famous freshwater spring and pool named Kemamo belonged to her as well.

The following is an excerpt from the mo`olelo of Keaomelemele:

> Eia nā mo`o ma Kaua`i, O Keaolewa ka mo`o ali`i o Kaua`i, aia kona wahi noho ma luna pono o ka pu`u o Ha`upu i ke ao, ma laila `oia i noho ai e nānā i nā wahi a pau; a no kēia mo`o ho`i ka wai kaulana o Kemamo.
>
> O Pu`umo`o ma uka o Lihu`e, o Kawelowai ma uka o Wailua, o Kalalea ma Anahola, o Kikiula ma Hanalei, nona ka muliwai o Wai`oli, o Kilioe a me Ke`e ma Ha`ena. No laila, e ho`omana`o ka mea e heluhelu ana i ka mo`olelo o Hi`iakaikapoliopele, o keia ka mo`o nana i lawe o Lohiau e huna i luna o ka pu`u o Makana, no laila, ma ka ho`omaopopo ana i keia mo`olelo, ua mua loa aku ka noho ana mai o keia po`e mo`o a me Kamo`oinanea ma keia pae aina, a he hope mai na mo`olelo e ae a pau i ho`olilo ia e na kanaka i mau

> mo`olelo kaao. O Kili`oe me Ke`e a me Miloli`i na mo`o no lakou na pali o Kalalau a hiki i Polihale, o Kawaili`ula ka mea nona o Mana a me Kekaha, a o Makaweli ka mo`o ma Waimea nona ka Waiulailiahi ma laila.
>
> O Papai ka mo`o ma Hanapepe, he mo`o noho kula pili keia, a ua olelo ia ma keia mo`olelo, o keia mo`o ka mea nana i huna kekahi wai ma ke kula ma kahi i kappa ia ma ka inoa o keia mo`o a hiki i keia wa, oia ho`i o Pu`uopapai; a mai Wahiawa a hiki i Koloa, o Po`ipu ko laila mo`o, puni o Kaua`i aia no kona kowai nui ke waiho la ma laila a hiki i keia la, aia wale no lakou a pau ma lalo aku o ka mo`o ia ia o Ha`upu ka pu`u Ki`eki`e; o Lehuakona ko Ni`ihau mo`o nona ka wai a ka pao`o ma Lehua. O ko Maui mo`o ali`i, oia ho`i o Kihawahine, o keia ka mo`o i like pu aku me Kamo`oinanea ka mana, a o keia ka mo`o i oi aku ka nui o nakahu nana oia i malama a me ka nui o ka po`e nana i ho`omana aki ia ia i akua; ua ho`omana na ali`i a me na maka`ainana ia ia a puni o Maui a me Moloka`i a me Lana`i i ka wa kahiko, a no keia mo`o ka lua ma ka loko o Mokuhinia ma Lahaina. E nana i ka mo`olelo o Kihapi`ilani, a malalo aku o keia mo`o o Kalamainu`u a me Klioeikapua, he mau mo`o ino laua. Ua olelo ia ma keia mo`olelo, ua ka`apuni o Kihawahine ia Maui a puni, a pela no ma Hawai`i, O`ahu a me Kaua`i; a ma ia hele ana ona, ua nui wale ka po`e nana i ho`omana aku ia ia mai Hawai`i a Ni`ihau, a oia ka mo`o ho`okahi nana i poai puni keia mau pae moku, a penei ka mo`olelo e pili ana in a kanaka no keia mo`o no Kihawahine.
>
> Keoilii aku nei o Keaomelemele me kona mau hiohiona nani, a o ka nohea ho`i nana e ho`oni na pu`uwai o na tausani hoa kaunu o keia nanea, a kono ae i ka mana`o e hele kino e ike in a wahi a na mo`o a ua kupueu la i luakaha ai.

The mountain of Kalalea in Anahola is one of the named mo`o in the story that falls under the leadership of Keolewa. Kalalea oversees all of the fresh water sources of Anahola and the moku or district of Ko`olau. Other water sources located throughout the neighboring ahupua`a of Kamalomalo`o and Keālia are also part of Kalalea's domain. While there are other mo`o guardians who take up residence in fresh water pools, fish ponds and smaller streams, they too are part of the hierarchy that is accountable to the authority of Kalalea as well.

Here is the translation:

> These were the lizards of Kauai, Keoloewa, a royal lizard whose home was on the summit of Haupu, among the clouds, where it remained and could see in every direction. To this lizard belonged the famous pool of Kemamo.
>
> Pu`umo`o lived above Lihu`e, Kawelowai, above Wailua; Kalalea at Anahola; Kikiula at Hanalei, and to it belonged the Waioli river; Kili`oe and Ke`e lived at Ha`ena. Let the reader recall the story of Hi`iakaikapoliopele. Kili`oe was the lizard that took the body of

> Lohiau and hid it on Makana. In considering this tale, these lizards lived on these islands with Mo`oinanea long before the other characters of the legends told by the people. Kili`oe, Ke`e and Miloli`i were the lizards of the cliffs of Kalalau and on to Polihale. Kawaili`ula was the lizard that owned Mana and Kekaha, and Makaweli was the lizard of Waimea and it was the owner of the reddish water that flowed there.
>
> Papai was the lizard at Hanapepe, a lizard that lived on the plain where the pili grass grew. It was said in this legend that this was the lizard that hid a spring on the plain that bears its name to this day, that is, Pu`uopapai. From Wahiawa to Koloa the lizard was Po`ipu. Its large pool still lies there to this day. These take in all of Kaua`i. All of them served under the lizard of the tall hill, Ha`upu. Lehuakona was the lizard at Ni`ihau and it owned the "pool of the pao`o fish" on Lehua. Maui's royal lizard was Kihawahine and it had mana like Mo`oinanea. This was the lizard that had the greatest number of caretakers and many worshippers to deify it. Chiefs and commoners worshipped it all over Maui, Moloka`i and Lana`i in ancient times and to it belonged the pit in the pond of Mokuhinia in Lahaina. Look at the story of Kihaapi`ilani. Under this lizard were Kalamainu`u and Kilioeikapua, both were bad lizards. It was said in this legend that Kihawahine made a circuit of Maui and also of Hawai`i, O`ahu and Kaua`i. In this journey there were many worshippers from Hawai`i to Ni`ihau. It was the only lizard that went around the islands of the group and this is the tale concerning the people of this lizard, Kihawahine.

The mo`o that are mentioned in Keaomelemele are forested regions that contribute greatly to maintaining Kaua`i's major watersheds on Kaua`i.

The word and idea of mo`o has to do with continuity and succession. One of the primary reasons behind the ancient Hawaiian tradition of hānai for the hiapo or first-born was to ensure the transference of ancestral knowledge and wisdom from the elder kūpuna to the mo`opuna or grandchild.

The word, puna meaning "*freshwater spring*" appears in both Hawaiian words for grandparent or elder (kūpuna) and grandchild (mo`opuna). Kū means to stop or halt. Mo`o means to continue, succession or series. Especially so in a genealogical line; lineage. The fundamental source of a puna (freshwater spring) is to give, nourish and produce life.

Hence, the kūpuna is one who has had his/her children; and in turn, their offspring have reproduced offspring of their own. The kūpuna is one whose reproductive spring (puna) has stopped flowing (kū).

The mo`opuna or grandchild is the succeeding spring, who too will grow and mature to produce offspring of their own. This repetition of life cycle from one generation to the next is essential to the continuation of family genealogies and connection to birth lands of Hawai`i.

Variations of Mo`o:

The following is a list of "Mo`o" words that illustrate the purpose of preservation, perpetuation and continuity of traditions.

Mo`o	Lizard, reptile of any kind, dragon, serpent; water spirit. Succession, series, especially genealogical line, lineage.
Mo`o `Ōlelo	Story, tale, myth, history, tradition, literature, legend, journal, chronicle, record.
Mo`okū`auhau	Genealogy
Mo`omeheu	Culture; cultural
Mo`o Ali`i	Succession of Chiefs
Mo`opuna	Grandchild; great-niece or -nephew; relatives two generations later, whether blood or adopted; descendant; posterity.
Mo`o Lono	Priests of the lineage of Lono, devoted to the worship of Lono.
Mo`omo`o	Ridges (plural of moʻo). Rare. Also, young as of animals
Kuamo`o	Backbone, spine; road, trail, path

Image NK-16 Kuamo`oloaakāne - The long successive spine to the god Kāne. Mount Wai`ale`ale as seen from Wailuanuiaho`ano, Kaua`i

Aia i ke kuahiwi
I ke kualono
I ke `awawa
I ke kahawai
Aia i laila ka wai a Kāne!

NK-17 Sculpture depicting the foot of a mo`o upon the landscape, creating ridges and valleys of a mountain

There in the uplands
Along the ridges
And in the valleys
In the rivers and streams
There is the water of Kāne!

Lines from the ancient chant, "He Mele No Kāne" which articulates the cycle and flow of fresh water resources in the Hawaiian universe. Above left, an artist rendering of a mo`o's foot resembling the ridges, gulches, and valleys of the uplands. Mo`o are symbols of protection, regeneration and succession of lineages for humans as well as that in the environment. They are also spiritual icons associated with forested regions and fresh water resources.

Early Lesson in Acquiring Land Wisdom

Transference of knowledge and skills in Hawaiian customs, beliefs and skills begin at a very young age. In the traditional Hawaiian family system, this on-going process is passed on from kūpuna (grandparents) to mo`opuna (grandchild/children). In the extended family as well as within the community, this exchange and transmission was shared from loea and kumu (masters and teachers) to haumāna who are disciples, students and apprentices.

Kūpuna, loea, `ōlohe, kāhuna and kumu are traditional titles and stations that were, and are still held by accomplished elders, masters and teachers. They are the repositories of extensive knowledge, experience and skills, having endured many years of formal training in various practices and specialized areas of discipline. A customary belief shared by most masters and teachers is that the primary source for all Hawaiian knowledge are inspired and held by our ancient kūpuna. Maintaining a relationship with ancestors through the practices of mo`okū`auhau, pule and ceremony are essential to receiving continued guidance and inspiration by ancestral sources. Equally important is the commitment to responsibly care for, and perpetuate Hawaiian ancestral knowledge by sharing and teaching others.

E lawe i ke a`o a mālama a e `oi mau ka na`auao.
He who takes his teachings and applies them increases his knowledge.
`Ōlelo No`eau #328

NK Principal Kēhaulani Kekua shares of her upbringing under the care of her maternal grandparents in Anahola, Kaua`i in the 1960s.

> *I was very fortunate to have been hānai to my paternal grandparents - Helen Kaipuwai Kekua and Miki Waiau at birth. My grandmother was a kumu hula and my grandfather was a musician descended from a family of chant and music composers. My grandmother taught me at a very young age that every significant waterfall, fresh water pool, stream and river had a resident mo`o that guarded and protected it. During instances of heavy rainfall, the mountain regions - especially water places were avoided. If the surface of a freshwater pond or area of the river was covered with hu`a wai or frothy foam and yellowing leaves of the hau, it was an indication that the mo`o of that place was present and in residence. Kumu in my adult years confirmed these same beliefs.*
>
> *Traditional teachings of my kūpuna conveyed that the water source was to be left undisturbed out of respect for the mo`o and his/her home. It is no different from having consideration for any other person's home or place. Whether it was venturing into the*

forest, mountain or stream-side areas to gather `opae (shrimp), pick palapalai ferns for the making of lei and adornments, or even to hook `o`opu after a big rain or flood, there was a required set of protocols that we always participated in. It was important to observe and heed to weather conditions, cloud formations and rain patterns before determining whether or not it was appropriate to go. This has stayed with me my entire life and I insist that my haumāna (students) adapt these practices as part of their lifestyle. After all, it is a good thing to be respectful and to behave considerately no matter where it is that you go.

Basic Protocols for Visiting Sacred Sites

1. Pule/Oli Komo to ask permission to enter the place;

2. Refrain from loud chatter, yelling or talking. The quieter, the better;

3. In advance, prepare an appropriate ho`okupu or gift-offering as an expression of humility and respect;

4. Take only what is needed; gather responsibly and respectfully;

5. Pule/Oli Mahalo to express gratitude and appreciation;

6. Leave in a quiet, respectful manner.

Origins of Change & Cultural Impacts

Captain Cook's "discovery" of the Hawaiian Islands in 1778 marked the beginning of catastrophic changes to the physical, spiritual and cultural landscape of Hawai`i. Native Hawaiians first came in to contact with foreign diseases brought by Cook's crew, and then by other ships of explorers and tradesmen that followed in his wake. Introduced species of animals brought by the expeditions of Cook and Vancouver in the 1700s included sheep, cattle and goats that quickly began to have negative effects on native species of plants, birds, and habitats. Converse to accounts that describe these were "gifts" to the ali`i, they were purposely imported by captains for future food sources for their expedition crews. Along with new efforts to cultivate potatoes, the animals were specifically introduced to replace the fish and poi options that were foreigners were adverse to.

When King Kamehameha the Great unified all of the Hawaiian Islands into one kingdom under his rule in 1810, he kept the traditional land and kapu systems in place. However, 32 years had already passed since Captain Cook introduced Hawai`i to the Western World. From this, a market economy rapidly emerged attracting explorers, merchants, fur and sandalwood traders as well as whalers to Hawai`i. With this influx of newcomers to Hawai`i, the fabric of Hawai`i's ancient society quickly began to unravel. Different perspectives, beliefs and values began to mount in conflict with laws that had governed native Hawaiians for centuries. A gigantic shift prompted by a new emerging capital economy and the pressures of purchase power of goods and supplies removed the maka`āinana from the balance of a communal, sustainable lifestyle and into laborious conditions.

Although the sandalwood trade had found its way into the Hawaiian Islands around 1790, it wasn't until 1814 that the industry escalated. With Kamehameha I still in control of the sandalwood, he placed a kapu on young trees to allow for regeneration of forest supplies. He was adamant that no transaction was ever done on credit.

Year of Critical Change

1819 was a year of critical change. Upon Kamehameha the Great's passing, his eldest son, Alexander Liholiho ascended to the throne as ali`i nui at the age of 22. However, he was no match for the political power and experience of Kamehameha I's favorite wife, Ka`ahumanu who insisted that she rule alongside him as Kuhina Nui or Queen Regent. Liholiho became the figurehead of the

Hawaiian Kingdom, but it was Ka`ahumanu who took hold of the administrative power.

The vice to usurp power and capitalize from the resources of the land and people, was fueled by greedy foreigners and the ruling chiefs alike. With the social order falling into disarray, Kamehameha II succumbed to the pressures of Ka`ahumanu and Keōpuolani to declare an end to the kapu system. Contrary to claims that the Hawaiians had grown increasingly dissatisfied with the ancient system, this was purely a political move that went beyond spiritual consciousness and integrity.

Foreigners introduced Hawaiians to the concept of "easy credit" by using the persuasion of liquor, military uniforms, silks, guns, leather and silver mirrors that were purchased against future sandalwood income. The Hawaiian economy became overextended and Kamehameha II and the chiefs fell deeply into debt.

Image BM-8 Sandalwood Trade Hawai`i. Bishop Museum Archives

The sandalwood trade exacted a heavy price in human life and health and in ecological damage. In 1823 the Reverend William Ellis described the transport of sandalwood from the adjacent mountains to the beach at Kawaihae by "between two and three thousand men, carrying each from one to six pieces of sandalwood, according to their size and weight. It was generally tied on their backs by bands made of ti leaves."

As the sandalwood forests began to disappear, the north-central Pacific whaling industry arrived to make its base in Hawai`i. The first whaling ship visited the Hawaiian Islands in 1820, marking the beginning of a 50-year presence in

Hawai`i's economy. Within a span of 30 years, the whaling industry expanded with more than 500 whaling ships visiting Hawai`i annually. By 1870, the petroleum industry had overcome the need for whale oil and the number of ships visiting Hawai`i began to spiral down.

Funded by the American Board of Commissioners for Foreign Missions, the first missionaries arrived in the Hawaiian Islands on March 30, 1820 upon the *Thaddeus*. Much had already taken place while they were en route to Hawai`i; including the death of Kamehameha I, and the abolishment of the ancient kapu system by his son and successor - Kamehameha II, Liholiho. Theoretically, there was no alternate belief system in place. However, not all Native Hawaiians entirely relinquished their beliefs or cultural practices.
Winning over the support of the ali`i, the missionaries set out to convert native Hawaiians to Christianity. With the advent of a written form of the Hawaiian language, the missionaries set out to fill the religious void throughout Hawai`i. Over the next two decades as attendance to their churches escalated, they became involved with developments in education and instructed the ali`i in the economy of western politics.

By 1826, American Traders were complaining about outstanding debts owed to them by the king and chiefs and a general tax was imposed upon the people. Ultimately, greed exhausted the forest mountains of sandalwood and the maka`āināna were driven into poverty. The grueling labor of pillaging the mountains of sandalwood led to the degradation and compromise of traditional values and beliefs of the Hawaiian people.

Rising Tides of Political Change

The Hawaiian Kingdom continued to be governed as a sovereign nation until 1838 without legal enactments. It was based upon a system of common law, which consisted partly of the ancient kapu system and the practices of celebrated chiefs that had been passed down by tradition. Advised by foreigners and recognizing Western forms as a useful model, Kamehameha III established the Hawaiian Bill of Rights, also known as the 1839 Constitution of Hawai`i. This was the first crucial departure from the ancient ways - an attempt by Kamehameha III and his chiefs to guarantee that the Hawaiian people wouldn't lose their tenured land.

Kuleana Act-August 6, 1850

One of the notable provisions of the Great Mahele was the Kuleana Act (1850).

Under this provision, maka`āināпā - common people were allowed to petition for title to kuleana lands that they cultivated and lived on. With no concept of land ownership, Native Hawaiians did not understand the process, nor the need to make a claim for land that they already had been given tenure to live and work on.

The only means of learning about the new Kuleana Act solely depended on word-of-mouth communication, or through printed announcements that required the ability to read and write. There was a fee for a required pre-claim land survey as well. Native Hawaiian claimants petitioning for their kuleana lands were also required to appear with two witnesses to back their claims. In many cases, commoners confused or uninformed of the requirements of this new law, were displaced from their lands.

In the following years, judicial and executive branches of government would be formed along with a system of land ownership under the Great Mahele of 1848.

Despite its own political and structural growth, Hawai`i remained in a vulnerable position internationally. The Islands' economy, meanwhile, totally moved toward capitalism under the influence of foreign trade.

E kipi ana lākou nei. ʻAʻole naʻe o lākou ponoʻī akā lākou mau keiki me nā moʻopuna. O ke aliʻi e ola ana ia wā e ku ʻōlohelohe ana ia, a o ke aupuni e kūkulu ʻia aku ana, oia ke aupuni paʻa o Hawaiʻi nei.

These people [the missionaries] are going to rebel; not they themselves, but their children and grandchildren. The ruler at that time will be stripped of power, and the government established then will be the permanent government of Hawai'i.

Prophesied by David Malo

A New Industry in Sugar Arrives in Hawai`i

In 1835, three New Englanders - William Ladd, Peter a. Brinsmade and William Northey Hooper, signed a lease with Kamehameha III for 980 acres of land to start the first large-scale commercial sugar plantation in Kōloa on Kaua`i. This endeavor would open the floodgates to another chapter of change and impacts upon Hawai`i and its people.

Contrary to what is viewed as Hawai`i's most historical, influential and successful industry of all time the development of the sugar in Hawai`i was largely responsible for the demise of Hawai`i's sovereign independence and the overthrow of Hawai`i's Kingdom. With this came foreign power and control of Hawai`i's land, water, and natural resources.

Having access and control of lands in 1887, the struggle for control of Hawaii was at its height as David Kalākaua was elected to the Hawaiian throne. King Kalākaua signed a reciprocity treaty with the United States making it possible for sugar to be sold to the U.S. market tax-free, but the foreign American businessmen were still distrustful of him. They criticized his ties to men they believed to be corrupt, for his revival of Hawaiian sciences and traditions, and encouragement of hula and oral traditions. Kalākaua's creation and funding of a board of genealogy, and the revival of the Hale Naua that promoted the esoteric, spritual and symbolic significance and connection to Hawaiian genealogy, history and law was met disapprovingly as well. They were also greatly opposed to Kalākaua's building of the royal `Iolani Palace. However, it was the King's advocacy for native Hawaiian rights that posed the

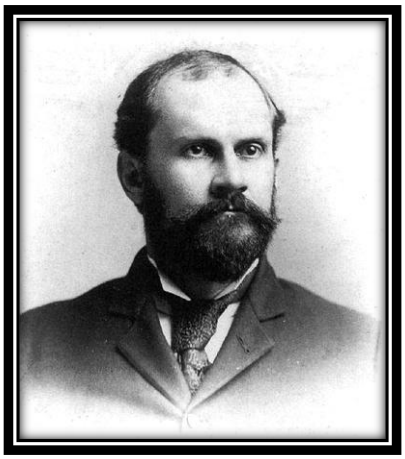


Image HA-1 Lorrin Thurston, leader and key conspirator to the overthrow of the Hawaiian Kingdom

Image HA-2 Asa & Lucy Thurston, Pioneer Missionaries to Hawai`i and grandparents to Lorrin Thurston (left)

greatest threat for foreign and American businessmen. Many of his ministerial appointments went to native Hawaiians which reflected the king's consistent loyalty to his core constituency.

The opposition was led by Lorrin Thurston, a grandson of missionaries who played a prominent role in the overthrow of the Hawaiian monarchy. He formed the

semi-secret Hawaiian League made up of a group of planters and businessmen who were anxious to control the kingdom of Hawai`i - both economically and politically. Accompanied by members of the Hawaiian League, Thurston coerced a new cabinet on King Kalākaua and used the threat of violence to press the King into accepting a new constitution that he had written, eliminating the King of his executive powers.

The 1887 Constitution of the Kingdom of Hawai'i became known as the Bayonet Constitution for the use of intimidation by the armed militia which forced King Kalākaua to sign it or be deposed. The document created a constitutional monarchy like that of the United Kingdom, stripping the King of most of his personal authority, empowering the legislature and cabinet of the government. By 1890, the industry was tightly controlled by former missionary families and foreigners who owned 75% of all privately held lands in Hawai`i. Known as, "The Big Five" these included Alexander & Baldwin, C. Brewer & Co., Castle & Cooke, Theo H. Davies & Co., and American Factors which later became known as Amfac. Additionally, they eventually gained a monopoly over other economic aspects in Hawai`i manipulating banking, shipping, importing and exporting of goods, and warehouse commerce activities. Having corporate control over commodity distribution burdened Hawaiians and Hawai`i's wage-earning labor forces with high prices and a diminished quality of life. In order to survive Kānaka `Ōiwi had to become "contract laborers and serve people like slaves" (Kamakau 1992:403). They were anxious to obtain cheap labor to transform thousands of acres of land into sugarcane fields to secure their profits. This resulted in a Hawaiian population left in impoverished living conditions and eventually, loss of their native lands.

Rise of Sugar, Overthrow of Hawaiian Monarchy

Within decades, title to thousands of acres had fallen into the control of non-Hawaiians. Even Crown Lands that had been owned by the King and his successors, were used to pay for delinquent debts that had been exchanged for foreign goods and supplies.

With close ties as missionaries to the Hawaiian monarchy along with capital investments, cheap labor and land, and increased global trade enabled them to prosper. In 1893, it was the businessmen of missionary families who were directly linked to the overthrow of the Kingdom of Hawai`i. Queen Lili`uokalani was forced into imprisonment and the monarchy illegally overthrown. The new, self-proclaimed provisional government confiscated the remaining Crown Lands.

In 1898 they were instrumental in lobbying for the annexation of Hawai`i by the United States to become the Territory of Hawai`i.
In a short span of only 83 years from Kamehameha I's unification of the Hawaiian Islands in 1810 to the illegal overthrow of the Hawaiian monarchy in 1893, Hawai`i would go through a series of catastrophic changes. The commerce developments of sandalwood, whaling and subsequent industries that followed yielded a heavy price on human life and health, as well.

PUBLIC LANDS NOTICE.

On Monday, November 21st, at 12 o'clock noon will be sold at public auction at front entrance of Judiciary building, Honolulu:

44½ acres of land at Kamalomaloo, Kauai, Broken Gulch Land, about 3½ miles mauka of Government road.

Upset price, $500.

Terms, Cash, U. S. Gold.

For full particulars, plan, etc., apply at Public Lands Office, Honolulu.

J. F. BROWN,
Agent of Public Lands.

Oct. 18 1898. 2013

Public Lands Notice announcing auction sale of 44.5 acres of land at Kamalomalo`o, Kaua`i. Printed in Hawaiian Gazette Newspaper - November 4, 1898, just 5 months following the annexation of Hawai`i as a Territory of the United States. At the time of the Māhele, records of February 14, 1848 show that the lands of Kamalomalo`o were claimed by Kana`ina for (King) William Charles Lunalilo. They would later be referred to as, "Government Lands" which were sold off at the discretion of the self-proclaimed Provisional Government of Hawai`i.

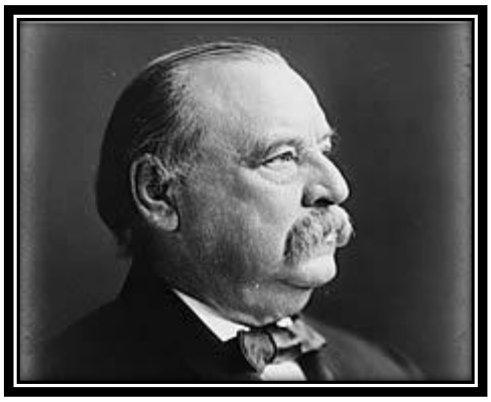
The Significance of Hawaiian History

In the pages to follow, a detailed timeline of political events resulting in the overthrow of the monarchy and the purported annexation to the United States have been included as vital links to understanding the impacts of land issues and lost of cultural identity in Hawai`i.

Queen Lili`uokalani was Hawai`i's last reigning monarch.

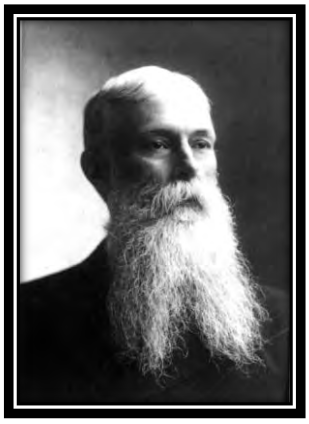
When King Kalakaua died in 1891, his sister Lili'uokalani succeeded him, and members of the native population persuaded the new queen to draft a new constitution in an attempt to restore native rights and powers.
The move was countered by the Committee on Annexation, a small group of white businessmen and politicians who felt that annexation by the United States, the major importer of Hawaiian agricultural products, would be beneficial for the economy of

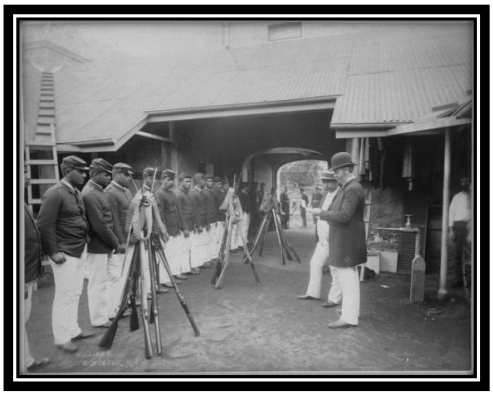
Image HA-3 Queen Lili`uokalani ascended to the throne upon the passing of her brother, King David Kalākaua in 1891. Her reign ended with the illegal overthrow of the Kingdom of Hawai`i by the self-imposed Provisional Government, made up of American businessmen in 1893.



(Above L) President Grover Cleveland appointed James Blount as a special investigator to closely look into the events in the Hawaiian Islands. The investigation found that Minister Stevens had acted improperly and Cleveland ordered the American Flag be lowered from all Hawaiian Government Buildings. He also ordered that Queen Lii`uokalani be restored to power. Figure ___ (Above R) Navy Marines assemble near Honolulu Harbor to support **coup d'état** on January 17, 1893. Image HA-4 and HA-5 Courtesy of Hawai`i

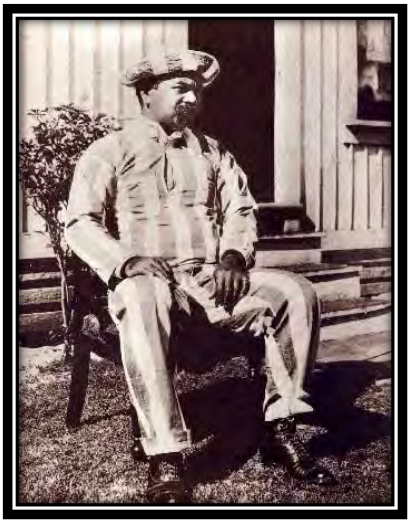
Without permission from the U.S. State Department, Minister Stevens then recognized the new government and proclaimed Hawaii a U.S. protectorate. The Committee immediately proclaimed itself to be the Provisional Government. President Benjamin Harrison signed a treaty of annexation with the new government, but before the Senate could ratify it, Grover Cleveland replaced Harrison as president and subsequently withdrew the treaty. Despite orders issued from President Grover Cleveland, Sanford Dole, the president of the Provisional Government of Hawaii, refused to turn over power as directed. Dole successfully argued that the United States had no right to interfere in the internal affairs of Hawaii. The Provisional Government then proclaimed Hawaii a republic in 1894, and soon the Republic of Hawaii was officially recognized by the United States.





(Above L) Sanford Ballard Dole - son of missionary parents and a lawyer. Although never elected, he became the first President of the Republic of Hawai`i after the overthrow of the legitimate government of the Hawaiian Kingdom. (Above R) The Queen's guards are discharged on January 18, 1893 by Provisional Government Col. John Soper. Images HA-6 and HA-7. Hawai`i State Archives.

On January 5, 1895, the protests took the form of an armed attempt to derail the annexation but the armed revolt was no match for the forces of the Republic troops and police. Amongst the Hawaiian Kingdom loyalists was Prince Jonah Kūhiō Kalaniana`ole who was twenty four years old at the time.



(Above) Prince Jonah Kūhiō Kalaniana`ole is pictured above in prison garb, sentenced to one year in prison for treason and his part in the unsuccessful rebellion of the overthrow of the Queen. Image HA-8 Hawai`i State Archives

Kūhiō, other leaders of the revolt and those involved in the rebellion were captured and imprisoned - along with Queen Lili`uokalani who was additionally charged for failing to put down the revolt. Kūhiō was sentenced to a year in prison while others were charged with treason and sentenced with execution. Death sentences were commuted to imprisonment. Kūhiō served his full term. He was visited daily by his fiancée, Elizabeth Kahanu Ka`auwai. They were later married in October 8, 1896.

Image HA-9. This is the only known photo to exist of the Queen's arrest, where she is seen being escorted to her trial in the former Throne Room of the `Iolani Palace. Hawai`i State Archives

Lili'uokalani was arrested on January 16, 1895, several days after the failed 1895 Counter-Revolution in Hawaii led by Robert William Wilcox, when firearms were found at the base of Diamond Head Crater. She denied any knowledge at her trial, defended by former attorney general Paul Neumann. She was sentenced to five years of hard labor in prison by a military tribunal and fined $5,000, but the sentence was commuted to imprisonment in an upstairs bedroom of 'Iolani Palace. During her imprisonment, she abdicated her throne in return for the release (and commutation of the death sentences) of her jailed supporters, including Minister Joseph Nawahī, Prince Kawananakoa, Robert Wilcox, and Prince Jonah Kūhiō.

Restoration of the Monarchy or Annexation of Hawai`i to the U.S.?

From 1893 to 1896, the Republic of Hawaii actively sought annexation to the United States. However, despite intensive debate on the matter in the legislature, annexation was strongly opposed by the U.S. Presidency of Grover Cleveland 1893 - 1897), the people of Hawai'i, and much of congress.

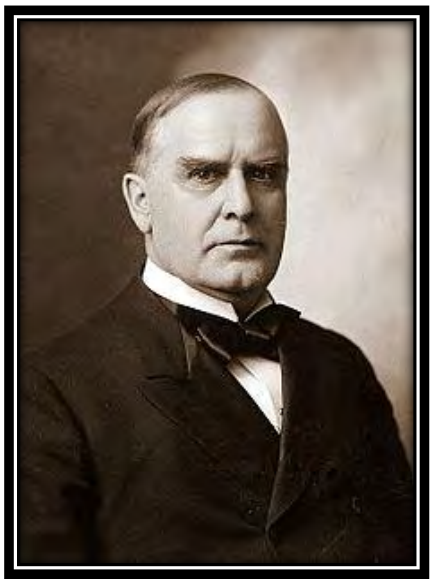


Image HA-10 President William McKinley Hawai`i State Archives

In March 4,1897, William McKinley was inaugurated as President of the United States. Unlike his predecessor, Grover Cleveland, McKinley was in favor of annexation of Hawai`i.

On June 16, 1897, McKinley and three representatives of the government of the Republic of Hawaii –Lorrin Thurston, Francis Hatch, and William Kinney– signed a treaty of annexation. President McKinley then submitted the treaty to the U.S. Senate for ratification.

- Henry Ernest Cooper, American citizen who arrived in 1890, named chairman at mass meeting January 14, 1893
- Crister Bolte, German national, Hawaiian subject, member
- Andrew Brown, Scottish national, member
- William Richards Castle, born in Honolulu 1849, attorney general for Kalākaua 1876, Hawaiian legislator 1878-88, member
- John Emmeluth, American citizen, member
- Theodore F. Lansing, American citizen, member
- John A. McCandless, American, naturalized Hawaiian subject, member
- Frederick W. McChesney, American citizen, member
- William Owen Smith, born on Kaua'i 1838 of American missionaries, member
- Lorrin A. Thurston, born in Hawaii of American grandparents, member
- Edward Suhr, German citizen, member
- Henry Waterhouse, Hawaiian subject of Tasmanian birth, came to Hawai'i 1851, member
- William C. Wilder, American, Hawaiian subject, brother of Samuel Gardner Wilder, member

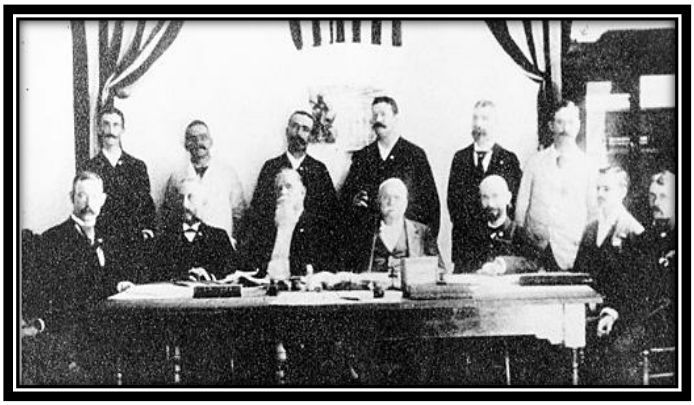


Image HA-11 13-Member "Committee of Safety", conspirators of the overthrow of the Hawaiian Monarchy. Hawai`i State Archives

HO`O KŪ`Ē: TO STAND IN OPPOSITION, TO RESIST
Anti-Annexation Petitions of 1897

As recorded by Professor Noenoe K. Silva, the anti-annexation petitions of 1897 were mentioned in the Native Hawaiian Study Commission's Minority report in 1983. A concerted effort was made to retrieve them as legal evidence for Ka Ho'okolokolonui Kanaka Maoli, The Peoples' International Tribunal convened by Dr. Kekuni Blaisdell in 1993. However, upon contacting the U.S. National Archives, it was advised that a search could not begin without a record group (catalog) number. Nevertheless, even without the petitions in hand, they became part of the Tribunal records in the testimony of several Kanaka Maoli speakers.

In 1996, a page of the petition, along with its record group number, was reproduced in a U.S. National Archives exhibit booklet titled, "Ties That Bind: Communities in American History", by Lisa B. Auel. Noenoe Silva was then able to locate the petitions in the archives in Washington, D.C. A year later a complete copy of all 556 pages finally arrived in Hawai'i Nei.

On January 17, 1998 the petitions were presented to the public in Hawai`i during observances of Sovereignty Sunday at the `Iolani Palace in Honolulu. An entire century had passed since the Hui Aloha `Āina delivered and presented the Anti-Annexation petitions to the United States Congress in Washington, DC. The 556-page document containing more than 21,000 signatures had literally sat, long forgotten in old boxes in the National Archives. Representing well over half of the adult population of Hawai`i at the time, signatures were acquired through grassroots efforts of Hawaiian nationals who traveled by foot, horseback and boat to amass the petitions. The signatures represented the majority of Hawai`i's national population who stood in strong opposition of annexation to the United States. It is a reaffirmation of the actions taken by the ancestors of living Hawaiians today, and their dedication to restore the pono or good and righteous to the wrongs that were committed to Hawai`i as an independent nation and its people.

This alone proves that the overthrow of Lili'uokalani and imposition of the Republic of Hawaii was contrary to the will of native Hawaiians and non-native Hawaiian nationals. It is also a key component to the ongoing Hawaiian sovereignty movement occurring in Hawai`i today.

The following pages contain a detailed account by Professor Noenoe K. Silva of the events that took place upon McKinley's actions to enter into a Treaty of

Annexation with representatives of the government of the Republic of Hawai`i. It shows of the solidarity of the Hawaiian people and others who were loyal to their beloved Queen, Lili`uokalani and the Hawaiian Nation. Most of all, it exhibits the deep love of nation and love for the people, culture and land of Hawai`i Nei.

Also included are selected pages of the petition drive for Kaua`i Island for the moku of Ko`olau and Kawaihau - the two districts that the project area ahupua`a of Anahola and Kamalomalo`o are a part of. Many names that appear on the petitions are names of families that continue to reside in the Anahola community today, showing an excellent example of the endeared term of, *`āina hānau" or birth lands.* Some of the names that have long been familiar and connected to Anahola include: Kelekoma, Lovell, Huddy, Ka`auwai, Kauo, Kahanu, Kaui, Pa, Kapu, Alapa`i and Kekua and many others. Native Kaua`i has also had the privilege of interviewing descendants of some of these kūpuna for this study as well. In another section, some of the same names appear in Land Commission Award claims and testimonies; again showing a history and connection of kānaka `ōiwi or native Hawaiians to these very lands of Anahola and Kamalomalo`o. Kānaka `Ōiwi is another term used to describe the indigenous Hawaiian who is intrinsically linked to places where generations of his/her `ohana and ancestors were born and raised; and even buried.

This petition is a significant source that bears witness to another side to Hawai`i's history. Contrary to the western perspective that Native Hawaiians embraced and welcomed annexation of their country, it is evident that the masses stood in solidarity against annexation.

EXHIBIT A

The 1897 Petitions Protesting Annexation

Noenoe K. Silva

When William McKinley won the presidential election in November of 1896, the question of Hawaii's annexation to the U.S. was again opened. The previous president, Grover Cleveland, was a friend of Queen Liliuokalani. He had remained opposed to annexation until the end of his term, but McKinley was open to persuasion by U. S. expansionists and by annexationists from Hawaii. He agreed to meet with a committee of annexationists from Hawaii, Lorrin Thurston, Francis Hatch and William Kinney. After negotiations, in June of 1897, McKinley signed a treaty of annexation with these representatives of the Republic of Hawaii. The President then submitted the treaty to the U. S. Senate for approval.

The Hui Aloha Aina for Women, the Hui Aloha Aina for Men, and the Hui Kalaiaina formed a coalition to oppose the treaty. Together, these three organizations represented a majority of the Kanaka Maoli (Native Hawaiians). Hui Kalaiaina had originally been formed after the Bayonet Constitution of 1887 as a vehicle for Kanaka Maoli political power. The two Hui Aloha Aina organizations were founded just after the overthrow of the Native government in 1893, expressly to support the Queen and to oppose U.S. annexation.

The Kanaka Maoli believed that the American government was committed to their stated principles of justice and of government of the people, by the people, and for the people. They believed that once the U.S. President and members of Congress saw that the great majority of Hawaiian citizens opposed the annexation, the principles of fairness would prevail, that is, their Native government would be restored. The three huis therefore began to organize mass petition drives. The heading on Hui Aloha Aina's petition read: PALAPALA HOOPII KUE HOOHUI AINA, *Petition Protesting Annexation.*

On September 6, 1897, the Hui Aloha Aina held a halawai makaainana - *a mass meeting* - , at Palace Square, which thousands of poe aloha aina - *patriots* - attended. President James Kaulia gave a rousing speech, saying "We, the nation (lahui) will never consent to the annexation of our lands, until the very last patriot lives." He said agreeing to annexation was like agreeing to be buried alive. He predicted that annexation would open the door for many foreigners to come here, and to take jobs and resources away from the Native people. He asked, "Then where will we live?" The crowd answered, "In the mountains," which figuratively means, "we shall be homeless." He asserted that a mass refusal by the people could prevent the annexation: "If the nation remains steadfast in its protest of annexation, the Senate can continue to strive until the rock walls of Iolani Palace crumble, and never will Hawaii be annexed to America!"

The 1897 Petitions Protesting Annexation
Exhibit: Page 2 continued - Noenoe K. Silva

The annexationist newspapers had published threats that the leaders of the mass meeting would be arrested for treason, but Mr. Kaulia assured the people that their assembly was legal. He said that it was because the brains of the government could not push over the brains of the Kanaka Maoli that the government had to resort to weapons of war. (At this time, Hawaii was ruled by a haole - *European- American* - oligarchy called the Republic of Hawaii that had deprived the Native people of political participation.) He said, "Let us take up the honorable field of struggle, brain against brain." He told the people, "Do not be afraid, be steadfast in aloha for your land and be united in thought. Protest forever the annexation of Hawaii until the very last aloha aina [lives]!" The crowd cheered.

Following Kaulia, David Kalauokalani, President of the Hui Kalaiaina, explained the details of the annexation treaty to the crowd. He told them that the Republic of Hawaii had agreed to give full government authority over to the United States, reserving nothing. It would also give all the government's money, the government and crown lands, government buildings, harbors, bays, military forts, military armaments and warships, and all resources claimed by the government of the Hawaiian Islands. Furthermore, he explained, the laws of the United States would not extend to the Hawaiian Islands, but the Congress of the U.S. would decide how Hawaii was to be governed. It was uncertain whether the Kanaka Maoli would have the right to vote. He said those who favored annexation would want to deny Kanaka Maoli voting rights because, from the very beginning, they have known that the Kanaka Maoli would overwhelmingly vote against annexation and anyone who supported it. This is the reason they were always afraid to put a vote to the people.

A resolution protesting the annexation was read to the crowd, who approved it. It was announced that U.S. Senator Morgan, an advocate of annexation, would be arriving soon, and that there would be another mass meeting held while he was here.

The petition drive started at about this time. Very soon afterwards, Mrs. Abigail Kuaihelani Campbell, President of the Women's branch of the Hui Aloha Aina, and Mrs. Emma Aima Nawahi boarded the inter-island ship the *Kinau* for Hilo on a signature gathering mission.
On September 14, Senator Morgan and four congressmen from the U.S. indeed arrived. On the same day, Mr. Enoch Johnson and Mr. Simon Peter Kanoa boarded the *Claudine* for Maui, and Mrs. Kaikioewa Ulukou departed for Kauai - all bound to gather signatures on those islands. The Hui Aloha Aina paid all of their expenses.At the same time, there was a branch of the Hui Aloha Aina active at Kalaupapa (on the island of Molokai) where people with leprosy were imprisoned1. The President of the Kalaupapa branch was Mr. Robert M. Kaaoao, who not only gathered signatures on the protest petitions, but had also organized a full day's activities to

The 1897 Petitions Protesting Annexation
Exhibit: Page 3 continued - Noenoe K. Silva

commemorate the Queen's birthday on September 2. The activities included a prayer service; boating, swimming, running, horse, and donkey races; as well as pole climbing and apple eating contests.

When Mrs. Campbell and Mrs. Nawahi arrived in Hilo harbor, they were greeted with honors. A delegation of the Hilo chapter of the Hui, consisting of Mr. Henry West, Mrs. Hattie Nailima, Mrs. Kekona Pilipo, and Mrs. J.A. Akamu met them at the harbor. The Hilo delegation showered them with leis, and proclaimed that a Hawaiian double-hulled canoe would carry them into the harbor. They had decorated five seats on the beautiful vessel with leis of maile, lehua, and other flowers, and had a Hawaiian flag waving at the back. The people of Laupahoehoe had sent welcome gifts of opihi, limu, and fish. Mrs. Campbell and Mrs. Nawahi attended meetings of the Hui Aloha Aina all over the Hilo and Puna area, and returned with thousands of signatures.

Meanwhile Mrs. Laura Mahelona was working hard in Kona and Kau; she was the committee member delegated to gather signatures there of both men and women. She traveled from North Kona south to Kau, leaving blank petitions with instructions everywhere she went. She told the chapter presidents to get the petitions signed and return them in a few days when her ship would stop again at the same harbors. When she returned, signed petitions were ready at every harbor. When she landed at each port, she was welcomed by the women of the Hui Aloha Aina branches, carrying leis over their arms, and when she returned to the boat, her clothes couldn't be seen because she was completely covered by leis. Mrs. Mahelona gathered 4,216 signatures. Mrs. Kaikioewa Ulukou gathered 2,375 on the island of Kauai. Mr. Simon P. Kanoa gathered 1,944 in the district of Hana, Maui.

When all the work was done, there were over 21,000 signatures- men's and women's in about equal numbers. When one considers that the population of Native Hawaiians at the time was less than 40,000, this is an impressive number.

The Hui Kalaiaina also had a substantial membership- -they conducted their own petition drive at the same time, collecting about 17,000 signatures.

The Hui Aloha Aina held another mass meeting on October 8, 1897, and at that time decided to send delegates to Washington D.C. to present the petitions to President McKinley and to the Congress.

The executive committees of the three hui met and decided to send four delegates: James Kaulia of Hui Aloha Aina, David Kalauokalani of Hui Kalaiaina, with John Richardson, and with

1897 Petitions Protesting Annexation
Exhibit: Page 4 continued - Noenoe K. Silva

William Auld as secretary. All four were Kanaka Maoli. This was an important sign to the nation. Some people had written in the papers that previous delegates to Washington had failed The because they were not Kanaka Maoli, or because they were too wealthy to truly have the nation's well-being in mind at all times. It is important to note that although a women's representative did not travel to Washington, Mrs. Campbell, President of the women's branch of Hui Aloha Aina, was part of the decision-making committee, and was viewed as a leader of the nation along with the men.

The four Elele Lahui - *National Delegates* - left Hawaii on November 20, 1897. In San Francisco on November 28, they commemorated La Kuokoa - *Hawaiian Independence Day*.
They arrived in Washington on December 6, the day that the Senate opened. They first met briefly with Queen Liliuokalani, who was staying in Washington. Then they met Senator Richard Pettigrew who took them in to the Senate's opening ceremonies. After the ceremonies, they returned to Ebbitt House where the Queen was staying, and where they would also stay. Someone told them at that time that their trip to Washington was useless, since it was known that there 58 votes on the side of annexation, with only 2 more votes needed for the treaty to pass. They said they didn't answer but remained as quiet as doves. They spoke amongst themselves later, however, to plan what to do.

The next day, December 7, they met again with the Queen to consider how to present the petitions. They chose the Queen as chair of their Washington committee. Together, they decided to present the petitions of Hui Aloha Aina only, because the substance of the two sets of petitions was different. Hui Aloha Aina's was called "petition protesting annexation," but the Hui Kalaiaina's petitions called for the monarchy to be restored. They agreed that they did not want to appear divided, as if they had different goals.

The day after that, the delegates met with Senator Hoar, who was against annexation. They braved snow, cold and slippery streets to get to the Senator's residence. They said the "elemakule" (*old man*) greeted them with a handshake. He asked them what the people of Hawaii thought about annexation. John Richardson, the spokesman, explained everything. While he was explaining, they could see tears welling up in the old man's eyes. Richardson told him that they brought petitions signed by the whole nation protesting the annexation. Senator Hoar told them to submit the petitions to him, and he would bring them before the Senate, and then to the Foreign Relations Committee. David Kalauokalani of Hui Kalaiaina also submitted his endorsement of those petitions (so that the U.S. would know both huis had the same goal). On December 9, Senator Hoar read the text of the petitions to the Senate and had them formally accepted. The delegates were present, seated in the area where people are allowed to observe the Senate proceedings.

1897 Petitions Protesting Annexation
Exhibit: Page 5 continued - Noenoe K. Silva

On December 10, the delegates met with Secretary of State John Sherman, and Kalauokalani submitted a memorial protesting annexation (Ka Memoriala a ka Lahui) to him.
In the following days, the delegates met with many different Senators and Congressmen. Senators Pettigrew and White encouraged them in the hope that the annexation treaty would be defeated. They said that they were asked a lot of questions about Japan or England trying to annex Hawaii. They answered that either of them could have taken Hawaii if they had wanted to any time in the past five years. Why would they wait for America to try before they did so? They also reminded the U.S. Congressmen that Hawaii had remained independent for fifty years, partly because of the 1843 resolution signed by Great Britain and France guaranteeing Hawaii's independence.

By the time they left Washington on February 27, there were only 46 votes in the Senate on the pro-annexation side, down from 58 when they had arrived. Forty-six votes was far too few for the treaty to pass -- sixty votes were necessary.

Senator Pettigrew and Senator Turpie insisted that the Kanaka Maoli of Hawaii be given a chance to vote on annexation. But Senator Morgan and the other pro-annexation Senators knew that if a vote were taken, it would be overwhelmingly in favor of Hawaii's independence. In a report, these Senators wrote, "If a requirement should be made by the United States of a plebiscite [vote] to determine the question of annexation, it would work a revolution in Hawaii which would abolish its constitution." They knew, in other words, that if the people were allowed to vote, not only would they reject annexation, they would also reject the haole Republic that had been forced upon them against their will.

Three of the delegates, James Kaulia, David Kalauokalani, and William Auld returned to Honolulu victorious, sure that the treaty would fail, as indeed it did. They had carried the hard work and hopes of the whole nation to Washington in the form of the protest petitions. They had succeeded in persuading many senators to vote against the treaty. They left behind John Richardson to continue the work, along with Queen Liliuokalani, her secretary Joseph Heleluhe, and her devoted friend, J.O. Carter.

One annexation crisis was over, but another was soon to follow. This same year, the peoples of Cuba and the Philippines were fighting wars of independence against Spain. The United States also declared war on Spain after the U.S. warship, the Maine was blown up in a harbor in Cuba. The reason that the Maine was even in Cuba is questionable, since the U.S. had not been involved until it involved itself by sending the ship there. Be that as it may, the United States was at war. Suddenly, the empire-builders of the United States were saying that they needed to send military troops on ships to the Philippines to fight Spain. For this, they said they needed Hawaii. In the midst of the fever of war, a Joint Resolution of Congress called the Newlands

1897 Petitions Protesting Annexation
Exhibit: Page 6 continued - Noenoe K. Silva

Resolution passed by a simple majority of each house, making Hawaii a territory of the United States. That was in July of 1898; the flag of the United States was hoisted over Hawaii on August 12th.

The Kanaka Maoli continued to protest. The Hui Kalaiaina concentrated on persevering to undo the annexation, and restore the Native government. Hui Aloha Aina began to work towards securing full civil and political rights for Hawaiian citizens in the U.S. territorial system. In 1900, the two huis banded together as one political organization called the Home Rule Party. David Kalauokalani was elected President, and James Kaulia as Vice-President. This was the party that elected Robert Kalanihiapo Wilcox as (non-voting) Delegate to the U.S. Congress.

James Keauiluna Kaulia continued his work for his nation until the day of his death at age 41, in 1902. On that Sunday, he spent the morning at the jail house trying to help prisoners assert their rights. After church and lunch, he lay down for a nap from which he never woke up. He died of heart failure.

David Kalauokalani lived until 1915, also serving his people all of his life. He served as a senator in the territorial legislature, and as a member of the Board of Health. His son, also named David, became the first clerk of the City and County of Honolulu.

Mrs. Kuaihelani Campbell served as President of Hui Aloha Aina for its entire existence. She later became well-known as a benefactor for the ill and poor among her people, and for her many charitable deeds. She married Samuel Parker in 1902. Her daughter Abigail married Prince David Kawananakoa at about the same time, and Mrs. Campbell-Parker thereby became an ancestor to the royal family remaining in Hawaii today. She passed away in 1908.

Mrs. Emma Aima Nawahi kept the newspaper *Ke Aloha Aina* running for many years as its owner and business manager. She sold it in 1910. She also remained active in charities until her death in 1935.

The petitions protesting annexation, consisting of five hundred fifty-six pages, are now held in the National Archives in Washington D.C.

The Kanaka Maoli continue to protest today. We have never relinquished our national sovereignty. Kanaka Maoli are working on state, national, and international levels to have our existence as a nation recognized. Kanaka Maoli also continue to resist and protest every encroachment upon our inherent rights to this land, our ocean and fresh waters, and all the other natural resources of Hawaii. We are insisting as well on our rights to keep our language and cultural traditions, and the land itself, alive.

1897 Petitions Protesting Annexation
Exhibit: Page 6 continued - Noenoe K. Silva

Sources consulted

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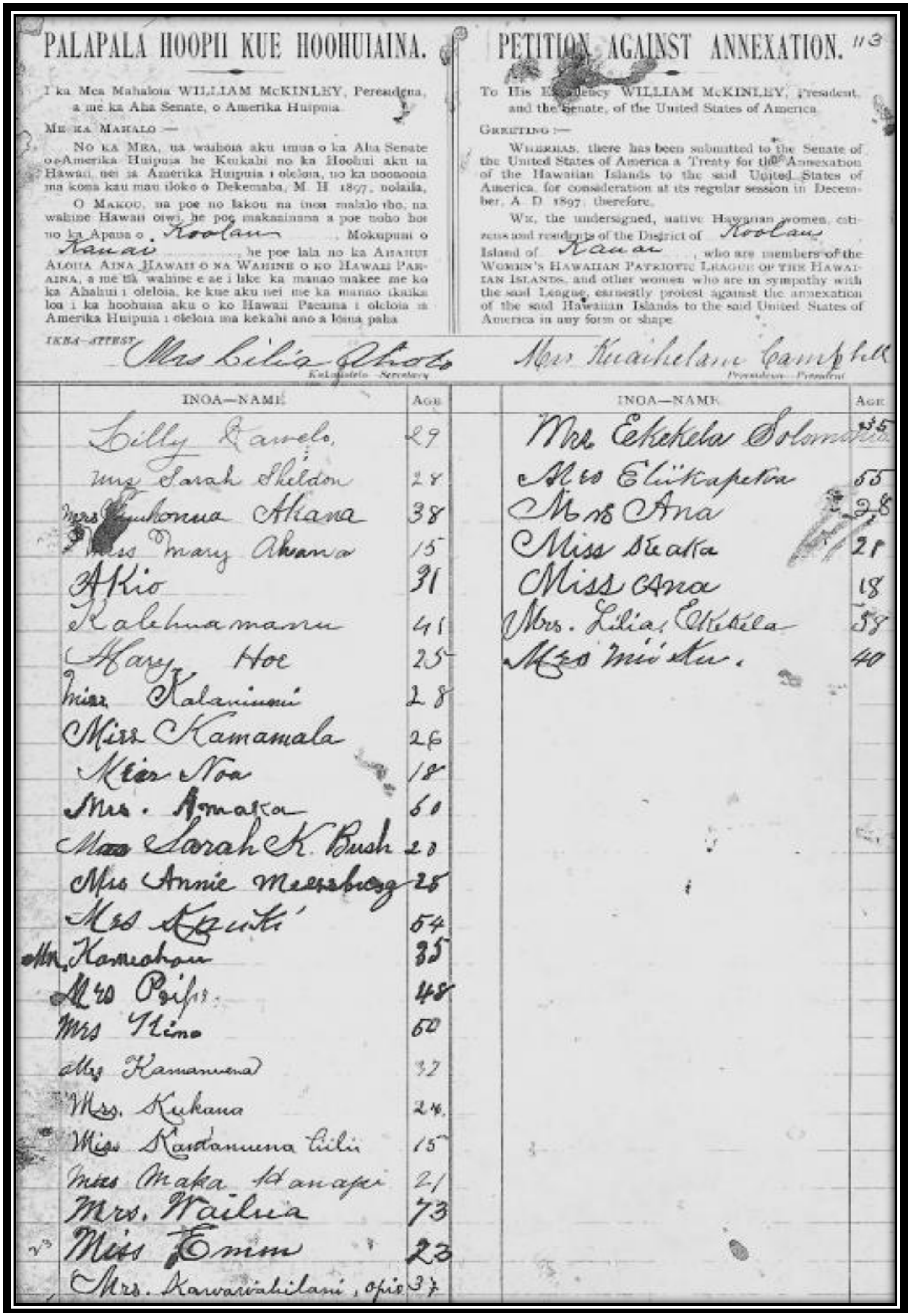
- Ka Loea Kalaiaina (newspaper) various issues 1897-1898.
- Ke Aloha Aina (newspaper) various issues 1897-1898.
- Russ, William Adam. The Hawaiian republic (1894-98) and its struggle to win annexation. Selinsgrove: Susquehanna University Press, 1992 [1961].
- Senate Committee on Foreign Relations. 55th Congress. [Sen. 55A-J11.2]. National Archives and Records Administration.
- Senate Report 681 (55th Congress 2nd Session).

Footnotes

1 The government called their confinement "quarantine," but the people confined called themselves "prisoners." It was nearly impossible to escape the quarantine area bounded by rough seas and sheer cliffs. Prisoners were sent there for life; most would never see any family member again. Furthermore, the prisoners were not given adequate food or medicine, which added to their sense of being punished.

2 This handshake seemed to be an important detail in the reports of their meeting with Senator Hoar. It may be because the delegates were subjected to race prejudice in Washington some white men may have refused to shake their hands. They do not complain of this directly, however.



PALAPALA HOOPII KUE HOOHUIAINA.

I ka Mea Mahaloia WILLIAM McKINLEY, Peresidena, a me ka Aha Senate, o Amerika Huipuia.

ME KA MAHALO —

NO KA MEA, ua waihoia aku imua o ka Aha Senate o Amerika Huipuia he Kuikahi no ka Hoohui aku ia Hawaii nei ia Amerika Huipuia i oleloia, no ka noonooia ma kona kau mau iloko o Dekemaba, M. H. 1897, nolaila,

O MAKOU, na poe no lakou na inoa malalo iho, na wahine Hawaii oiwi, he poe makaainana a poe noho hoi no ka Apana o Koolau, Mokupuni o Kauai, he poe lala no ka AHAHUI ALOHA AINA HAWAII O NA WAHINE O KO HAWAII PAEAINA, a me na wahine e ae i like ka manao makee me ko ka Ahahui i oleloia, ke kue aku nei me ka manao ikaika loa i ka hoohuia aku o ko Hawaii Paeaina i oleloia ia Amerika Huipuia i oleloia ma kekahi ano a loina paha.

IKEA—ATTEST. Mrs Lilia Aholo, Kakauolelo—Secretary

PETITION AGAINST ANNEXATION. 113

To His Excellency WILLIAM McKINLEY, President, and the Senate, of the United States of America.

GREETING:—

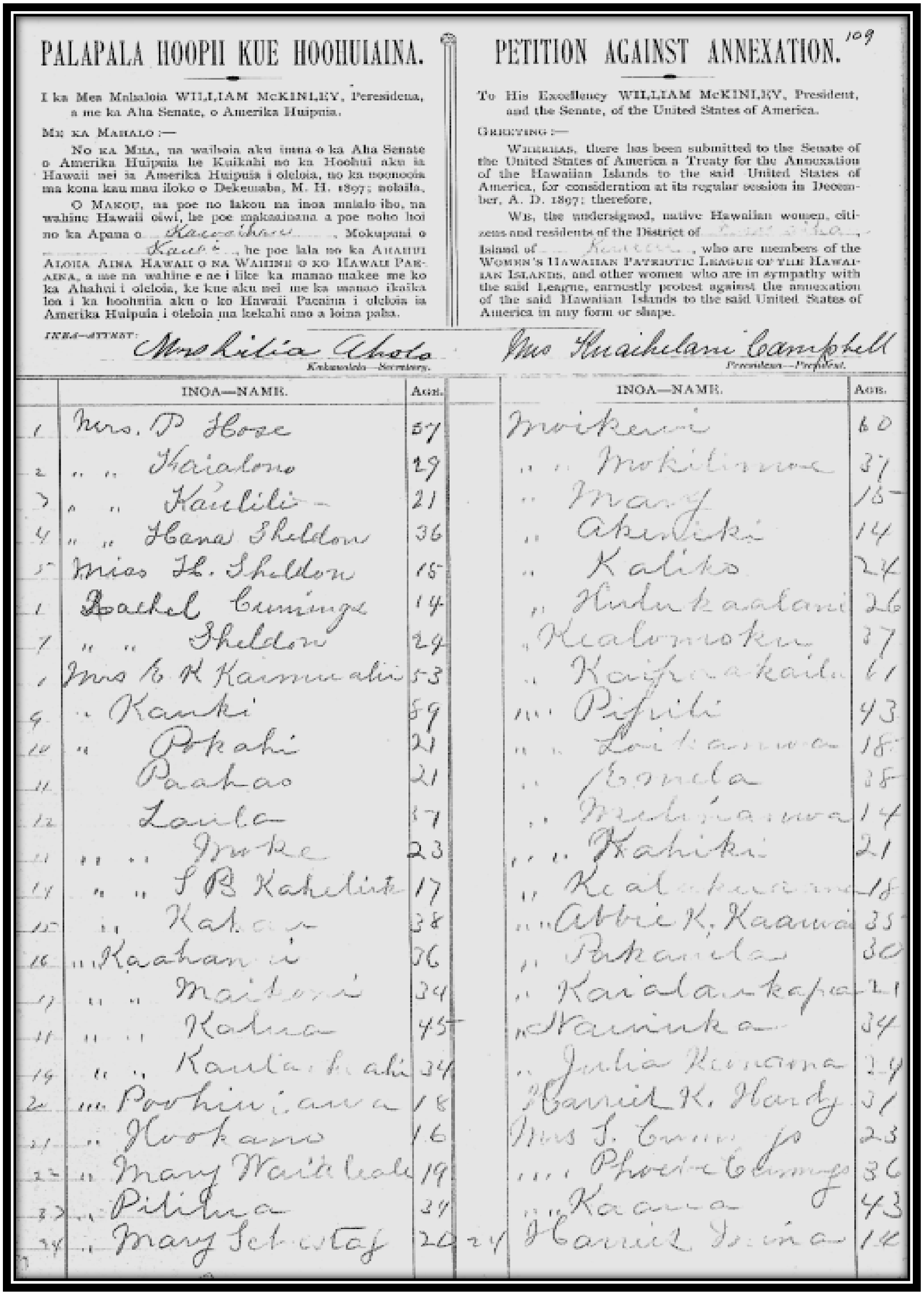
WHEREAS, there has been submitted to the Senate of the United States of America a Treaty for the Annexation of the Hawaiian Islands to the said United States of America, for consideration at its regular session in December, A. D. 1897; therefore,

WE, the undersigned, native Hawaiian women, citizens and residents of the District of Koolau, Island of Kauai, who are members of the WOMEN'S HAWAIIAN PATRIOTIC LEAGUE OF THE HAWAIIAN ISLANDS, and other women who are in sympathy with the said League, earnestly protest against the annexation of the said Hawaiian Islands to the said United States of America in any form or shape.

Mrs Kuaihelani Campbell, Peresidena—President

INOA—NAME	AGE	INOA—NAME	AGE
Lilly Kawelo	29	Mrs Ekekela Solomon	35
Mrs Sarah Sheldon	28	Mrs Elikapeka	55
Mrs Kahonua Akana	38	Mrs Ana	28
Miss Mary Akana	15	Miss Keaka	21
Akio	31	Miss Ana	18
Kalehuamanu	41	Mrs. Lilia Ekekela	58
Mary Hoe	25	Mrs Mioku	40
Miss Kalaniumi	28		
Miss Kamamala	26		
Miss Noa	18		
Mrs. Amaka	60		
Miss Sarah K. Bush	20		
Mrs Annie Meersburg	28		
Mrs Kauki	54		
Mrs Kaneohau	35		
Mrs Paipi	48		
Mrs Keino	60		
Mrs Kamanuena	32		
Mrs. Kukaua	24		
Miss Kaulanuena Lilii	15		
Miss Maka Kanapi	21		
Mrs. Wailua	73		
Miss Emma	23		
Mrs. Kawaiwahilani, opio	37		

Figure 1 1897 Anti-Annexation Women's Petition - Ko`olau, Kaua`i



PALAPALA HOOPII KUE HOOHUIAINA.

I ka Mea Mahaloia WILLIAM McKINLEY, Peresidena, a me ka Aha Senate, o Amerika Huipuia.

ME KA MAHALO :—

NO KA MEA, ua waihoia aku imua o ka Aha Senate o Amerika Huipuia he Kuikahi no ka Hoohui aku ia Hawaii nei ia Amerika Huipuia i oleloia, no ka noonooia ma kona kau mau iloko o Dekemaba, M. H. 1897; nolaila,

O MAKOU, na poe no lakou na inoa malalo iho, na wahine Hawaii oiwi, he poe makaainana a poe noho hoi no ka Apana o Kawaihau, Mokupuni o Kauai, he poe lala no ka AHAHUI ALOHA AINA HAWAII O NA WAHINE O KO HAWAII PAE-AINA, a me na wahine e ae i like ka manao makee me ko ka Ahahui i oleloia, ke kue aku nei me ka manao ikaika loa i ka hoohuiia aku o ko Hawaii Paeaina i oleloia ia Amerika Huipuia i oleloia ma kekahi ano a loina paha.

IKEA—ATTEST: Mrs Lilia Aholo
Kakauolelo—Secretary.

PETITION AGAINST ANNEXATION. 109

To His Excellency WILLIAM McKINLEY, President, and the Senate, of the United States of America.

GREETING :—

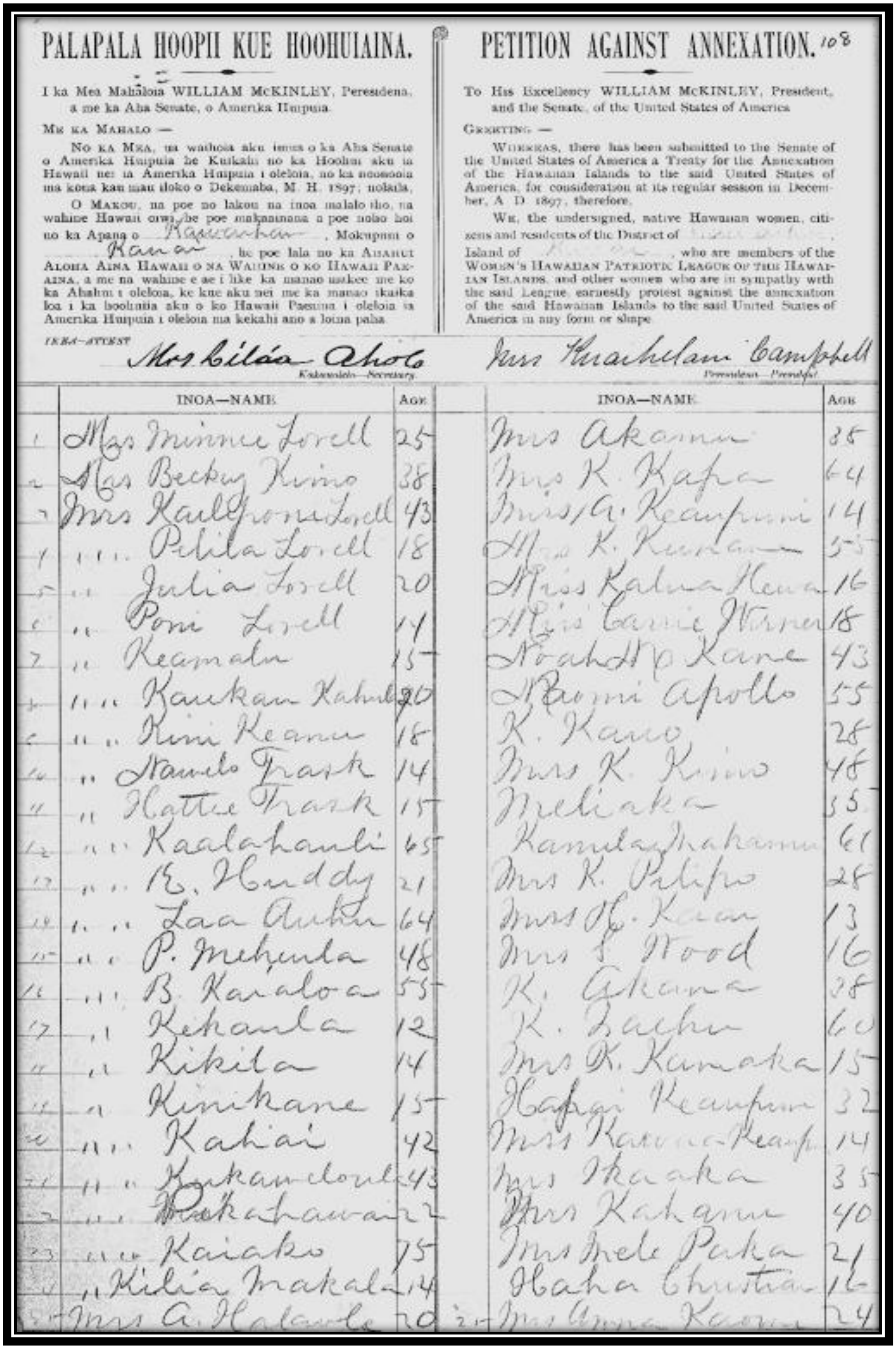
WHEREAS, there has been submitted to the Senate of the United States of America a Treaty for the Annexation of the Hawaiian Islands to the said United States of America, for consideration at its regular session in December, A. D. 1897; therefore,

WE, the undersigned, native Hawaiian women, citizens and residents of the District of Kawaihau, Island of Kauai, who are members of the WOMEN'S HAWAIIAN PATRIOTIC LEAGUE OF THE HAWAIIAN ISLANDS, and other women who are in sympathy with the said League, earnestly protest against the annexation of the said Hawaiian Islands to the said United States of America in any form or shape.

Mrs Kuaihelani Campbell
Peresidena—President.

	INOA—NAME.	AGE.		INOA—NAME.	AGE.
1	Mrs. P. Hose	57		Moikeni	60
2	" " Kaialono	29		" " Mokilimoe	37
3	" " Kaulili	21		" Mary	15
4	" " Hana Sheldon	36		" Akiniki	14
5	Miss H. Sheldon	15		" Kaliko	24
6	Rachel Cumings	14		" Hulukaalani	26
7	" " Sheldon	24		" Kealomoku	37
8	Mrs E. K. Kaimuali	53		" Kaipaakaila	61
9	" Kauki	59		" Pipili	43
10	" Pokahi	21		" " Laikanua	18
11	Paahao	21		" Kemela	38
12	Laila	17		" Meliaiawa	14
13	" " Moke	23		" " Kahiki	21
14	" " S. B. Kahelik	17		" Kealakua	18
15	" " Kahoa	38		" " Abbie K. Kaawai	35
16	" Kaahanui	36		" Pakaula	30
17	" " Maikeni	34		" Kaialaakapa	21
18	" " Kalua	45		" Nawinka	34
19	" " Kaulaheahi	34		" Julia Kuanana	24
20	" Poohiwiawa	18		Harriet K. Hardy	31
21	" Hookano	16		Mrs S. Cumings	23
22	" Mary Waialeale	19		" " Phoebe Cumings	36
23	" Pilihua	34		" " Kaana	43
24	" Mary Schwstaf	20	24	Harriet Trina	14

Figure 2 1897 Anti-Annexation Women's Petition - Kawaihau, Kaua`i



PALAPALA HOOPII KUE HOOHUIAINA.

I ka Mea Mahaloia WILLIAM McKINLEY, Peresidena, a me ka Aha Senate, o Amerika Huipuia.

ME KA MAHALO —

NO KA MEA, ua waihoia aku imua o ka Aha Senate o Amerika Huipuia he Kuikahi no ka Hoohui aku ia Hawaii nei ia Amerika Huipuia i oleloia, no ka noonooia ma kona kau mau iloko o Dekemaba, M. H. 1897; nolaila,

O MAKOU, na poe no lakou na inoa malalo iho, na wahine Hawaii oiwi, he poe makaainana a poe noho hoi no ka Apana o Kawaihau, Mokupuni o Kauai, he poe lala no ka AHAHUI ALOHA AINA HAWAII O NA WAHINE O KO HAWAII PAE-AINA, a me na wahine e ae i like ka manao makee me ko ka Ahahui i oleloia, ke kue aku nei me ka manao ikaika loa i ka hoohuiia aku o ko Hawaii Paeaina i oleloia ia Amerika Huipuia i oleloia ma kekahi ano a loina paha.

IKEA—ATTEST Mrs Lilia Aholo
Kakauolelo—Secretary.

PETITION AGAINST ANNEXATION. 108

To His Excellency WILLIAM McKINLEY, President, and the Senate, of the United States of America.

GREETING —

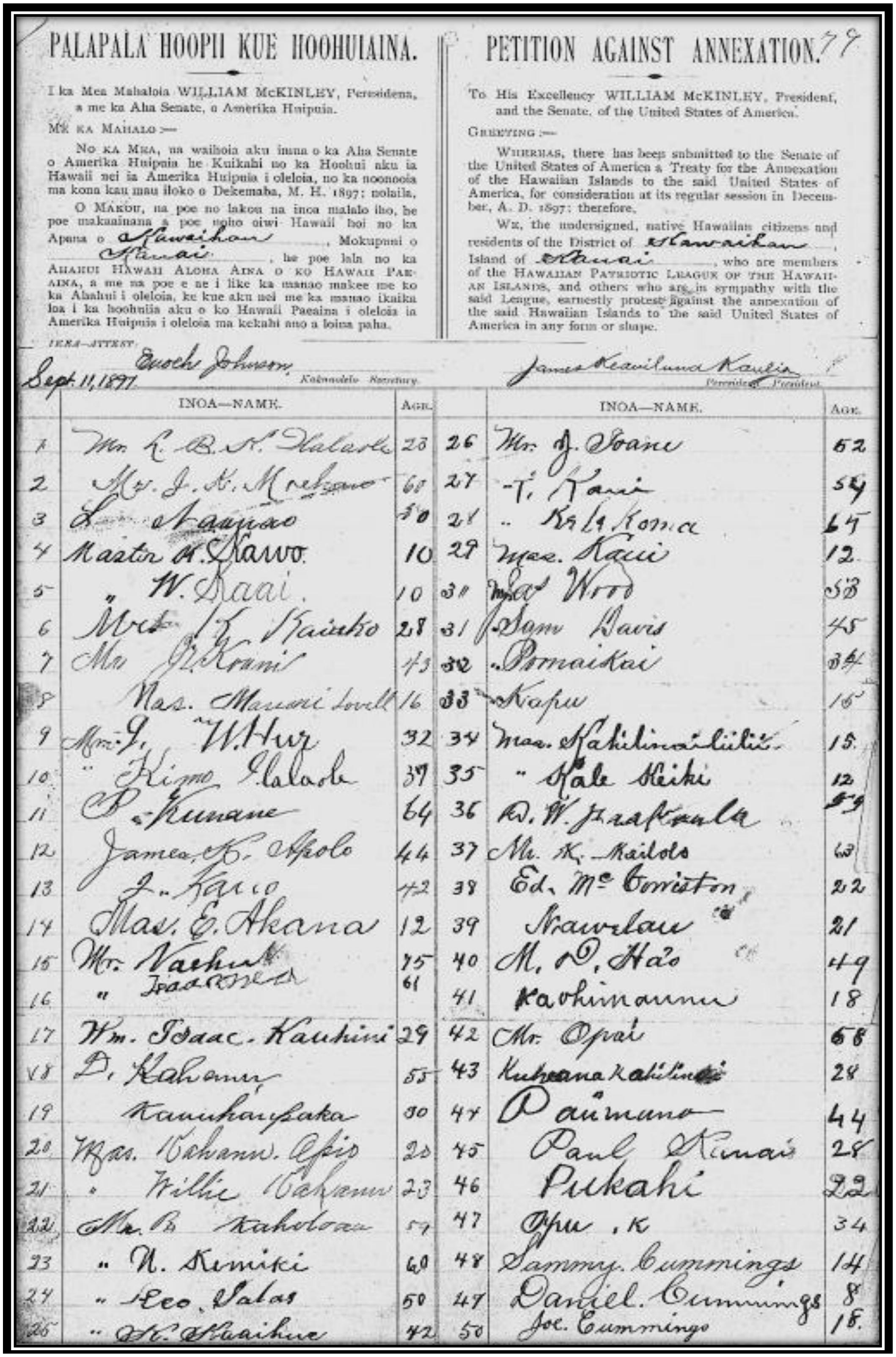
WHEREAS, there has been submitted to the Senate of the United States of America a Treaty for the Annexation of the Hawaiian Islands to the said United States of America, for consideration at its regular session in December, A. D. 1897; therefore,

WE, the undersigned, native Hawaiian women, citizens and residents of the District of [illegible], Island of [illegible], who are members of the WOMEN'S HAWAIIAN PATRIOTIC LEAGUE OF THE HAWAIIAN ISLANDS, and other women who are in sympathy with the said League, earnestly protest against the annexation of the said Hawaiian Islands to the said United States of America in any form or shape.

Mrs Kuaihelani Campbell
Peresidena—President.

	INOA—NAME	AGE		INOA—NAME	AGE
1	Mrs Minnie Lovell	25		Mrs Akamu	85
2	Mrs Becky Kino	38		Mrs K. Kapa	64
3	Mrs Kailiponi Lovell	43		Mrs A. Keaupuni	14
4	" " Pelila Lovell	18		Mrs K. Kunane	55
5	" Julia Lovell	20		Miss Kalua Keaa	16
6	" Poni Lovell	14		Miss Carrie Werner	18
7	" Keamalu	15		Noah Kane	43
8	" " Kaukau Kahale	20		Naomi Apollo	55
9	" " Kini Keanu	18		K. Kaao	28
10	" Namelo Frank	14		Mrs K. Kino	48
11	" Hattie Frank	15		Meliaka	55
12	" " Kaalahauli	65		Kamilapahakamu	61
13	" " B. Huddy	21		Mrs K. Pelipo	28
14	" " Laa Aukai	64		Mrs H. Kaau	13
15	" " P. Mehula	48		Mrs S. Wood	16
16	" " B. Kaaloa	55		K. Akana	38
17	" Kekaula	12		K. Zachu	60
18	" Kikila	14		Mrs K. Kamaka	15
19	" Kinikane	15		Hapai Keaupuni	32
20	" " Kahiai	42		Mrs Kaiona Keaupuni	14
21	" " Kaikaulani	43		Mrs Makaka	35
22	" " [illegible]kahawai	22		Mrs Kahanu	40
23	" " Kaiaka	75		Mrs Mele Paka	21
24	" Kilia Makala	14		Haha Christian	12
25	Mrs A. Halaula	20	21	Mrs Anna Kaau	24

Figure 3 1897 Anti-Annexation Women's Petition - Kawaihau, Kaua`i



PALAPALA HOOPII KUE HOOHUIAINA.

I ka Mea Mahaloia WILLIAM McKINLEY, Peresidena, a me ka Aha Senate, o Amerika Huipuia.

ME KA MAHALO :—

NO KA MEA, ua waihoia aku imua o ka Aha Senate o Amerika Huipuia he Kuikahi no ka Hoohui aku ia Hawaii nei ia Amerika Huipuia i oleloia, no ka noonooia ma kona kau mau iloko o Dekemaba, M. H. 1897; nolaila,

O MAKOU, na poe no lakou na inoa malalo iho, he poe makaainana a poe noho oiwi Hawaii hoi no ka Apana o Kawaihau, Mokupuni o Kauai, he poe lala no ka AHAHUI HAWAII ALOHA AINA O KO HAWAII PAEAINA, a me na poe e ae i like ka manao makee me ko ka Ahahui i oleloia, ke kue aku nei me ka manao ikaika loa i ka hoohuiia aku o ko Hawaii Paeaina i oleloia ia Amerika Huipuia i oleloia ma kekahi ano a loina paha.

PETITION AGAINST ANNEXATION. 79

To His Excellency WILLIAM McKINLEY, President, and the Senate, of the United States of America.

GREETING :—

WHEREAS, there has been submitted to the Senate of the United States of America a Treaty for the Annexation of the Hawaiian Islands to the said United States of America, for consideration at its regular session in December, A. D. 1897; therefore,

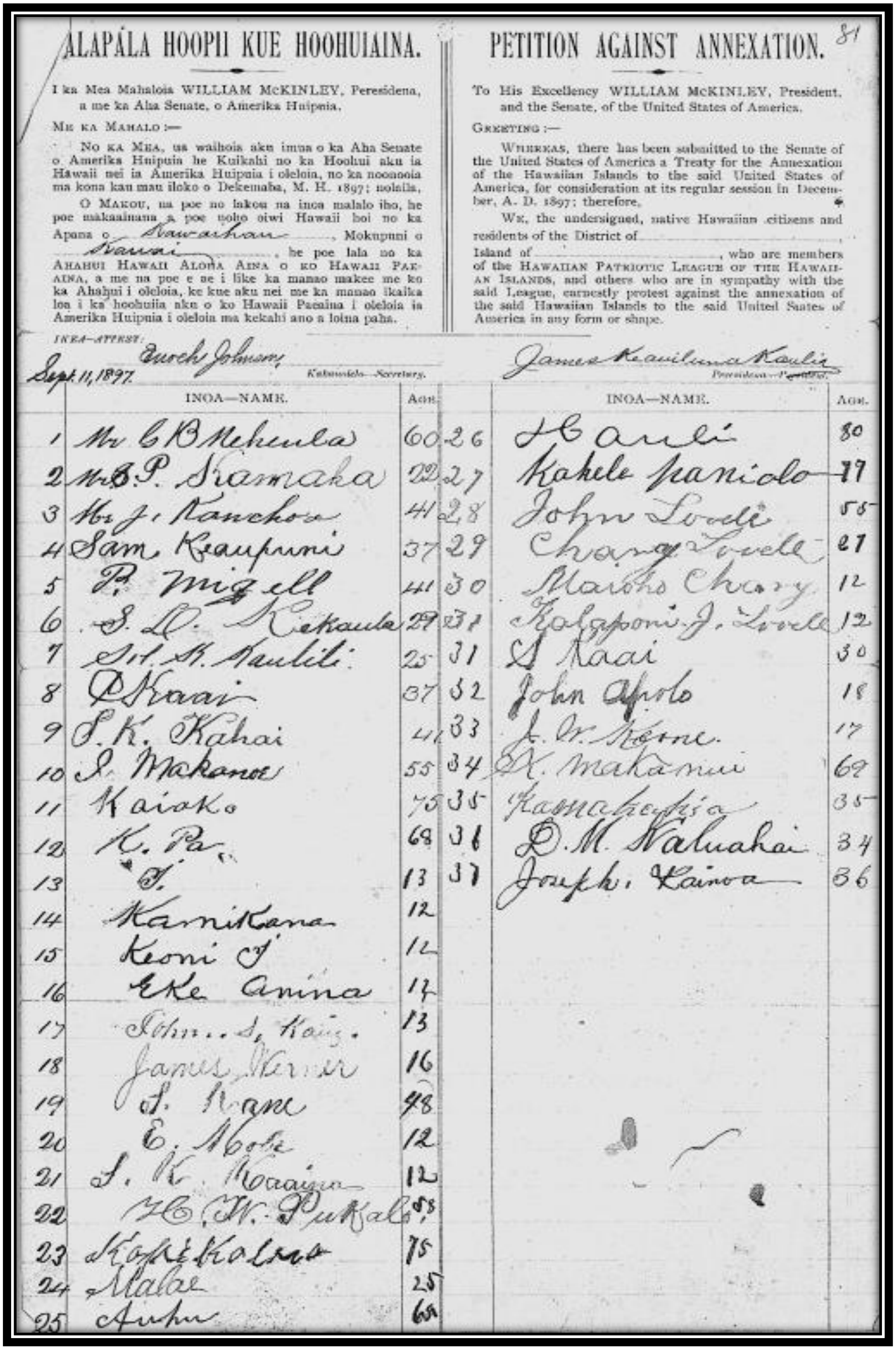
WE, the undersigned, native Hawaiian citizens and residents of the District of Kawaihau, Island of Kauai, who are members of the HAWAIIAN PATRIOTIC LEAGUE OF THE HAWAIIAN ISLANDS, and others who are in sympathy with the said League, earnestly protest against the annexation of the said Hawaiian Islands to the said United States of America in any form or shape.

IKEA—ATTEST: Enoch Johnson, Kakauolelo Secretary. Sept. 11, 1897

James Keauiluna Kaulia, Peresidena President.

	INOA—NAME.	AGE.		INOA—NAME.	AGE.
1	Mr. L. B. K. Halaole	23	26	Mr. J. Soare	52
2	Mr. J. K. Makeano	60	27	T. Kane	54
3	L. Naaipao	50	28	Kelekona	65
4	Master A. Kawo	10	29	Mas. Kaui	12
5	" W. Kaai	10	30	Mat Wood	53
6	Mrs. K. Kaieiko	28	31	Sam Davis	45
7	Mr. J. Kaumi	43	32	Pomaikai	34
8	Mas. Manoi Lovell	16	33	Kapu	15
9	Mr. J. W. Hur	32	34	Mas. Kahilinaiiliili	15
10	" Kimo Halaole	37	35	" Kale Keiki	12
11	P. Kunane	64	36	D. W. Kaakaala	59
12	James K. Apolo	44	37	Mr. K. Kaileolo	63
13	J. Kaeo	42	38	Ed. McCorriston	22
14	Mas. E. Akana	12	39	Nawelau	21
15	Mr. Nakuk	75	40	M. D. Hao	49
16	" Kaaoaoea	61	41	Kaohimaunu	18
17	Wm. Isaac Kauhini	29	42	Mr. Opai	58
18	D. Kahanu	55	43	Kuheana Kahilina	28
19	Kauuhaupaka	30	44	Paumano	44
20	Mas. Kahanu. Opio	20	45	Paul Kunai	28
21	" Willie Kahanu	23	46	Pukahi	22
22	Mr. B. Kaholoaa	57	47	Opu, K	34
23	" N. Kimiki	60	48	Sammy Cummings	14
24	" Leo Salas	50	49	Daniel Cummings	8
25	" K. Kaaihue	42	50	Joe Cummings	18

Figure 4 1897 Anti-Annexation Men's Petition - Kawaihau, Kaua`i



81

ALAPÁLA HOOPII KUE HOOHUIAINA.

I ka Mea Mahaloia WILLIAM McKINLEY, Peresidena, a me ka Aha Senate, o Amerika Huipuia.

ME KA MAHALO :—

NO KA MEA, ua waihoia aku imua o ka Aha Senate o Amerika Huipuia he Kuikahi no ka Hoohui aku ia Hawaii nei ia Amerika Huipuia i oleloia, no ka noonooia ma kona kau mau iloko o Dekemaba, M. H. 1897; nolaila,

O MAKOU, na poe no lakou na inoa malalo iho, he poe makaainana a poe noho oiwi Hawaii hoi no ka Apana o Kawaihau, Mokupuni o Kauai, he poe lala no ka AHAHUI HAWAII ALOHA AINA O KO HAWAII PAE-AINA, a me na poe e ae i like ka manao makee me ko ka Ahahui i oleloia, ke kue aku nei me ka manao ikaika loa i ka hoohuiia aku o ko Hawaii Paeaina i oleloia ia Amerika Huipuia i oleloia ma kekahi ano a loina paha.

PETITION AGAINST ANNEXATION.

To His Excellency WILLIAM McKINLEY, President, and the Senate, of the United States of America.

GREETING :—

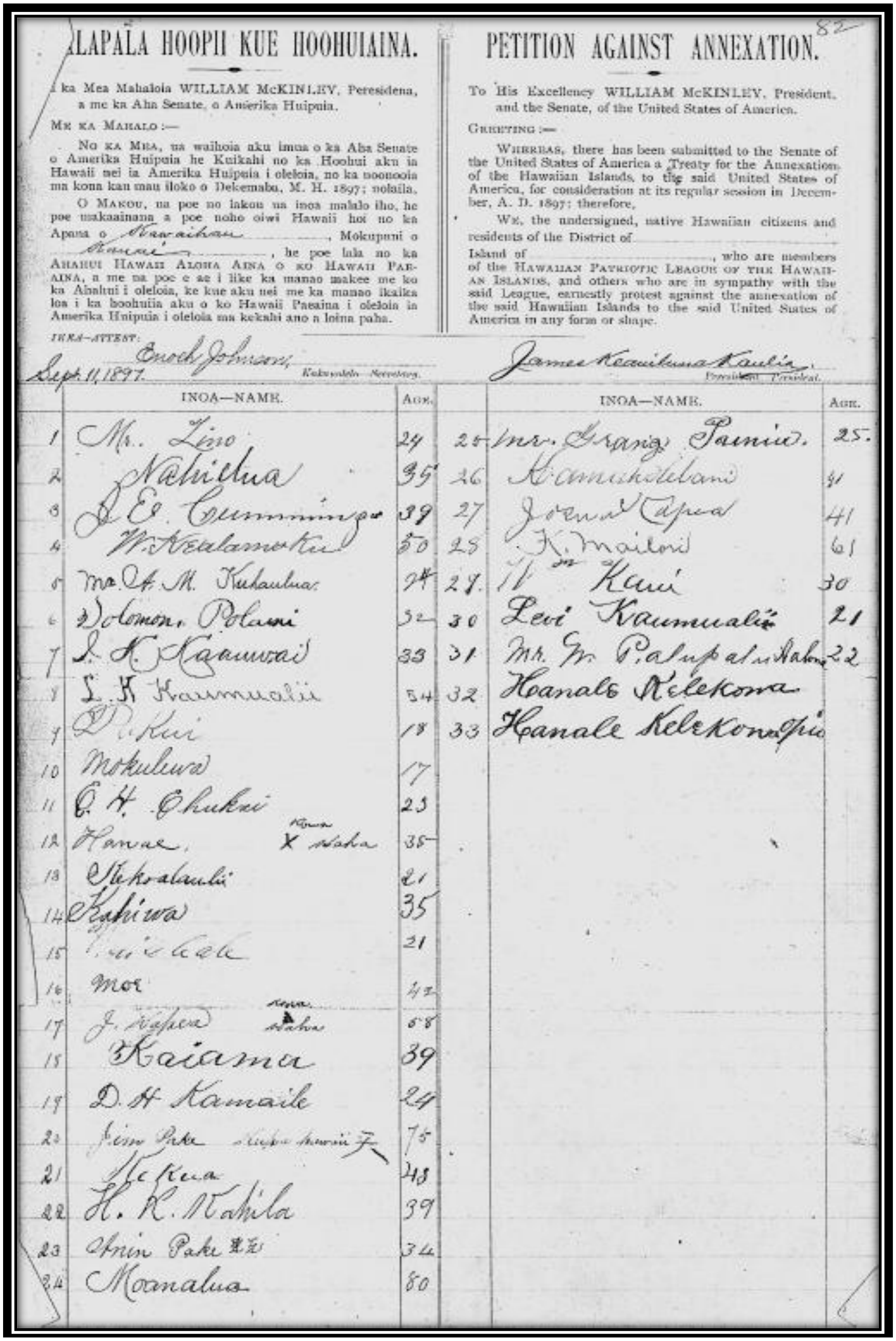
WHEREAS, there has been submitted to the Senate of the United States of America a Treaty for the Annexation of the Hawaiian Islands to the said United States of America, for consideration at its regular session in December, A. D. 1897; therefore,

WE, the undersigned, native Hawaiian citizens and residents of the District of ...., Island of ...., who are members of the HAWAIIAN PATRIOTIC LEAGUE OF THE HAWAIIAN ISLANDS, and others who are in sympathy with the said League, earnestly protest against the annexation of the said Hawaiian Islands to the said United Sates of America in any form or shape.

INKA—ATTEST:
Enoch Johnson, Kakauolelo—Secretary.
Sept. 11, 1897.

James Keauiluna Kaulia, Peresidena—President.

	INOA—NAME.	AGE.		INOA—NAME.	AGE.
1	Mr C B Meheula	60	26	J C Auli	80
2	Mr B. P. Kamaka	22	27	Kahele paniolo	77
3	Mr J. Kanehoa	41	28	John Lovell	55
4	Sam. Keaupuni	37	29	Chang Lovell	27
5	P. Migell	41	30	Marcho Chang	12
6	S. W. Keikaula	29	31	Kalaponi J. Lovell	12
7	S. K. Kaulili	25	31	S Kaai	30
8	D Kaai	37	32	John Apolo	18
9	S. K. Kahai	41	33	J. W. Keone	17
10	S. Makanoe	55	34	K. Makanui	69
11	Kaiako	75	35	Kamakahiki	35
12	K. Pa	68	36	D. M. Naluahai	34
13	S.	13	37	Joseph Kaina	36
14	Kanikana	12			
15	Keoni S	12			
16	Eke Anina	12			
17	John S. Kai	13			
18	James Werner	16			
19	S. Kane	48			
20	E. Moke	12			
21	S. K. Kaaina	12			
22	H. C. W. Pukale	58			
23	Kopekokua	75			
24	Malae	25			
25	Auhu	68			



ALAPALA HOOPII KUE HOOHUIAINA.

I ka Mea Mahaloia WILLIAM McKINLEY, Peresidena, a me ka Aha Senate, o Amerika Huipuia.

ME KA MAHALO:—

NO KA MEA, ua waihoia aku imua o ka Aha Senate o Amerika Huipuia he Kuikahi no ka Hoohui aku ia Hawaii nei ia Amerika Huipuia i oleloia, no ka noonooia ma kona kau mau iloko o Dekemaba, M. H. 1897; nolaila,

O MAKOU, na poe no lakou na inoa malalo iho, he poe makaainana a poe noho oiwi Hawaii hoi no ka Apana o *Kawaihau*, Mokupuni o *Kauai*, he poe lala no ka AHAHUI HAWAII ALOHA AINA O KO HAWAII PAEAINA, a me na poe e ae i like ka manao makee me ko ka Ahahui i oleloia, ke kue aku nei me ka manao ikaika loa i ka hoohuiia aku o ko Hawaii Paeaina i oleloia ia Amerika Huipuia i oleloia ma kekahi ano a loina paha.

IKEA—ATTEST: *Enoch Johnson*, Kakauolelo—Secretary.

Sept. 11, 1897.

PETITION AGAINST ANNEXATION.

To His Excellency WILLIAM McKINLEY, President, and the Senate, of the United States of America.

GREETING:—

WHEREAS, there has been submitted to the Senate of the United States of America a Treaty for the Annexation of the Hawaiian Islands, to the said United States of America, for consideration at its regular session in December, A. D. 1897; therefore,

WE, the undersigned, native Hawaiian citizens and residents of the District of ________ Island of ________, who are members of the HAWAIIAN PATRIOTIC LEAGUE OF THE HAWAIIAN ISLANDS, and others who are in sympathy with the said League, earnestly protest against the annexation of the said Hawaiian Islands to the said United States of America in any form or shape.

James Keauiluna Kaulia, Peresidena—President.

	INOA—NAME.	AGE.		INOA—NAME.	AGE.
1	Mr. Lino	24	25	Mr. Grang Paniu	25
2	Nahiilua	35	26	[illegible]	41
3	J. E. Cummings	39	27	Joenal Kapea	41
4	W. Kealamokui	50	28	K. Mailoni	61
5	Mr. A. M. Kukaulua	24	29	[illegible] Kau	30
6	Solomon Polani	52	30	Levi Kaumualii	21
7	J. K. Kaauwai	33	31	Mr. [illegible] Palupalu	22
8	L. K. Kaumualii	54	32	Hanale Kelekona	
9	D. Kui	18	33	Hanale Kelekona	
10	Mokuleua	17			
11	C. H. Chukai	23			
12	Hanae	35			
13	Nekoalauli	21			
14	Kahiwa	35			
15	[illegible]	21			
16	Moe	42			
17	J. Kapena	58			
18	Kaiama	39			
19	D. H. Kamaile	24			
20	Kim Pake	75			
21	Kekua	43			
22	H. K. Nahila	39			
23	Ahin Paki	34			
24	Moanalua	80			

Figure 6 1897 Anti-Annexation Men's Petition - Ko`olau, Kaua`i

Official Protest to the Treaty of Annexation

I, LILIUOKALANI OF HAWAII, by the Will of God named heir-apparent on the tenth day of April, A.D. 1877, and by the grace of God Queen of the Hawaiian Islands on the seventeenth day of January, A.D. 1893, do hereby protest against the ratification of a certain treaty, which, so *I* am informed, has been signed at Washington by Messrs, Hatch, Thurston, and Kinney, purporting to cede those Islands to the territory and dominion of the United States. I declare such a treaty to be an act of -wrong toward the native and part-native people of Hawaii, an invasion of the rights of the ruling chiefs, in violation of international rights both toward my people and toward friendly nations with whom they have made treaties, the perpetuation of the fraud whereby the constitutional government was overthrown, and, finally, an act of gross injustice to me.

BECAUSE the official protests made by me on the seventeenth day of January, 1893, to the so-called Provisional Government was signed by me, and received by said government with the assurance that the case was referred to the United States of America for arbitration.

BECAUSE that protest and my communications to the United States Government immediately thereafter expressly declare that I yielded my authority to the forces of the United States in order to avoid bloodshed, and because I recognized the futility of a conflict with so formidable a power.

BECAUSE the President of the United States, the Secretary of State, and an envoy commissioned by them reported in official documents that my government was unlawfully coerced by the forces, diplomatic and naval, of the United States; that I was at the date of their investigations the constitutional ruler of my people.

BECAUSE neither the above-named commission nor the government which sends it has ever received any such authority from the registered voters of Hawaii, but derives its assumed powers from the so-called committee of public safety, organized on or about the seventeenth-day of January, 1893, said committee being composed largely of persons claiming American citizenship, and not one single Hawaiian was a member thereof, or in any way participated in the demonstration leading to its existence.

BECAUSE my people, about forty thousand in number, have in no way been consulted by those, three thousand in number, who claim the right to destroy the independence of Hawaii. My people constitute four-fifths of the legally qualified voters of Hawaii, and excluding those imported for the demands of labor, about the same proportion of the inhabitants.

BECAUSE said treaty ignores, not only the civic rights of my people, but, further, the hereditary property of their chiefs. Of the 4,000,000 acres composing the territory said treaty offers to annex, 1,000,000 or 915,000 acres has in no way been heretofore recognized as other than the private property of the constitutional monarch, subject to a control in now way differing from other items of a private estate.

BECAUSE it is proposed by said treaty to confiscate said property, technically called the crown lands, those legally entitled thereto, either now or in succession, receiving no consideration whatever for estates, their title to which has been always undisputed, and which is legitimately in my name at this date.

Note: The typed narrative that appears here shows an error in the date as April A.D. 1877. The correct year is 1897.

BECAUSE said treaty ignores, not only all professions of perpetual amity and good faith made by the United States in former treaties with the sovereigns representing the Hawaiian people, but all treaties made by those sovereigns with other and friendly powers, and it is thereby in violation of international law.

BECAUSE, by treating with the parties claiming at this time the right to cede said territory of Hawaii, the Government of the United States receives such territory from the hands of those whom its own magistrates (legally elected by the people of the United States, and in office in 1893) pronounced fraudulently in power and unconstitutionally ruling Hawaii.

this seventeenth day of June, in the year eighteen hundred and ninety-seven.

Joseph Heleluhe
Wakeki Heleluhe
Julius A. Palmer
Witnesses to signature

Liliuokalani

Ke Ali`i Maka`ainana - the Peoples' Prince
The Hawaiian Homestead Act of 1920

Figure 7 A young Prince Kūhiō
Courtesy of Hawai`i State Archives

Jonah Kūhiō Kalaniana`ole (1871 – 1922) was the son of High Chief, David Kahalepouli Pi`ikoi and Princess Kinoike Kekaulike II. Born on March 26, 1871 at Hō`ai in the ahupua`a and district of Kōloa on Kaua`i Island, he was named after his grandfather, Kūhiō Kalaniana`ole, a high chief of Hilo and Jonah Pi`ikoi, his paternal grandfather who too, was a high chief of Kaua`i. His mother was the granddaughter of Kaua`i's last sovereign king, Kaumuali`i and the sister of Julia Kapi`olani, the Queen Consort of King David Kalākaua. Kapi`olani and Kalākaua would later *hānai*, raise him and his brothers as their foster sons upon the passing of Kūhiō's mother, Princess Kinoiki Kekauike II.

Along with his older brothers - David Kawānanakoa Pi`ikoi and Edward Abnel Keali`iahui Pi`ikoi, Jonah Kūhiō Kalaniana`ole attended the Royal School on Oahu, originally called the Chief's Children School. They also attended St. Allban's College, Punahou and also studied for four years at St. Matthew's College - a private Episcopal military school in San Mateo, California. They would continue their education at the Royal Agricultural College in Cirencester, England, and then eventually graduated from a business school also in England. King Kalakaua's purpose in educating the Princes at the best schools and in England was to prepare them to hold high offices in the kingdom, or eventually wear the crown as heir to the throne.

Upon their return from England, Prince David Kawanakoa was given a clerkship position in the Ministry of Foreign Affairs and Prince Kūhiō was placed in Ministry of Interior and the Customs Service.

In 1895 following the overthrow of the Hawaiian Kingdom, Kūhiō and other native Hawaiians and supporters of Lili`uokalani attempted to restore the monarchy. The endeavor was unsuccessful and Prince Kūhiō was sentenced to a year in prison while others were executed for treason against the republic. Upon his release from prison, he married Elizabeth Ka`auwai Kahanu and left Hawai`i to travel throughout Europe and Africa.

Kūhiō later returned from his self-imposed exile to dedicate the rest of his life to politics. By September 1, 1902, Kūhiō decided to align himself with the powerful Republican Party.

Although the Republican Party represented business interests and included people who took part in the original overthrow of the Monarchy, Kūhiō felt that the move would provide the best advantage to pursue his agenda for helping native Hawaiians. He was appointed as Hawai`i's lone congressional delegate in 1903, a position that he held until his passing in 1921. Kūhiō was called, *"Ke Ali`i Maka`ainana" - the citizens' prince* for his efforts to preserve and strengthen the Hawaiian people.

Kūhiō's greatest accomplishment came in 1920 with the drafting of the Hawaiian Homes Commission Act, an ambitious measure that would make 200,000 acres of land available for Native Hawaiian use. The Hawaiian Homes Commission Act was signed by President Warren Harding in 1921.

He is also noted for reorganizing the Royal Order of Kamehameha in 1903, as well as being the founder of the first Hawaiian Civic Club on December 7, 1918.

Figure 9 (L) Prince Kuhio Campaign Trail. Congressional visit in 1915. Pictured from left to right are Rep. Carter Glass; Speaker of the House Holstein; Delegate Prince Jonah Kuhio Kalanianaole; Rep. Phil Campbell of Kansas; and Mayor John C. Lane of Honolulu. Courtesy of the Hawai`i State Archives.

Other contributions of Kūhiō included the introduction of the first-ever Hawai`i Statehood Act in 1919. Another 40 years would lapse before statehood was realized for Hawai`i.

Prince Jonah Kūhiō Kalaniana`ole died at the age of 50 on January 7, 1922. Six months after his passing, David Kamai became the very first Hawaiian homesteader to move to the Kalaniana`ole Settlement on Moloka`i.

On Kaua`i, native Hawaiian homesteading in Anahola was established in 1957. DHHL's inventory of lands in Anahola and Kamalomalo`o total 4,228 acres, making it the largest Hawaiian homestead community on Kaua`i.

Other DHHL regions on Kaua`i include:

Moloa`a
Wailua
Hanapēpē
Kekaha

The Hawaiian Homes Commission Act

Section 101, "Purpose", of the Hawaiian Homes Commission Act explains the aims of the Hawaiian Homelands program as follows:

> (a) ... to enable native Hawaiians to return to their lands in order to fully support self-sufficiency for native Hawaiians and the self-determination of native Hawaiians in the administration of this Act, and the preservation of the values, traditions, and culture of native Hawaiians.
>
> (b) The principal purposes of this Act include but are not limited to:
>
> (1) Establishing a permanent land base for the benefit and use of native Hawaiians, upon which they may live, farm, ranch, and otherwise engage in commercial or industrial or any other activities as authorized in this Act;
>
> (2) Placing native Hawaiians on the lands set aside under this Act in a prompt and efficient manner and assuring long-term tenancy to beneficiaries of this Act and their successors;
>
> (3) Preventing alienation of the fee title to the lands set aside under this Act so that these lands will always be held in trust for continued use by native Hawaiians in perpetuity;
>
> (4) Providing adequate amounts of water and supporting infrastructure, so that homestead lands will always be usable and accessible; and
>
> (5) Providing financial support and technical assistance to native Hawaiian beneficiaries of this Act so that by pursuing strategies to enhance economic self-sufficiency and promote community-based development, the traditions, culture and quality of life of native Hawaiians shall be forever self-sustaining.
>
> (c) In recognition of the solemn trust created by this Act, and the historical government to government relationship between the United States and Kingdom of Hawaii, the United States and the State of Hawaii hereby acknowledge the trust established under this Act and affirm their fiduciary duty to faithfully administer the provisions of this Act on behalf of the native Hawaiian beneficiaries of the Act.
>
> (d) Nothing in this Act shall be construed to:
>
> (1) Affect the rights of the descendants of the indigenous citizens of the Kingdom of Hawaii to seek redress of any wrongful activities associated with the overthrow of the Kingdom of Hawaii; or
>
> (2) Alter the obligations of the United States and the State of Hawaii to carry out their public trust responsibilities under section 5 of the Admission Act to native Hawaiians and other descendants of the indigenous citizens of the Kingdom of Hawaii. [L 1990, c 349, §1]

The Department of Hawaiian Home Lands is governed by the Hawaiian Homes Commission Act of 1920, enacted by the U.S. Congress to protect and improve the lives of native Hawaiians.

The act created a Hawaiian Homes Commission to administer certain public lands, called Hawaiian home lands, for homesteads.

The Act was incorporated as a provision in the State Constitution in 1959 when Hawai'i was granted statehood. Responsibility for the Commission and the Hawaiian Home Lands was transferred to the State of Hawai`i at that time. Except for provisions that increase benefits to lessees or relate to administration of the Act, the law can be amended ONLY with the consent of Congress.

INDEX OF DESIGNATED LANDS FOR THE HHCA OF 1920

DESCRIPTION OF LANDS CHOSEN FOR HOMESTEADING UNDER HAWAIIAN HOME ACT*
ISLAND ACREAGE LAND POTENTIAL

Source: Albert Horner, Letter to Governor Charles J. McCarthy, 14 February 1921, Delegate Kalaniana`ole File on Rehabilitation

Island/Locations	Acreage	Land Potential
Hawai'i Island		
Kama'oa Puueo	11,000	Useful for grazing only for a few months a year. No water for domestic use.
Pu'ukapu	1,200	Land adjacent to site where a Hawaiian rehabilitation project had been attempted and had failed. Most suitable of available lands for homesteading.
Kawaihae I rocks.	10,000	Same as Kama'oa, except less soil covering
Pauahi	750	Same as above.
Kamoku	12,350	Third class agricultural in part, and Kapulena- balance second class pasture. Water for Nienie domestic use would have to be piped in some miles.
Humu'ula	53,000	Fourth class grazing; no water supply; beyond reach of water; almost entirely lava waste with no agricultural land.
Pi'ihonua	2,000	Second class agricultural; annual rainfall 250 inches.
Ka'ohe Maku'u	2,000	Rocky, almost solid lava; fertile soil, well situated for fishing.
Kaua`i Island		
Kaua'i Upper Waimea	15,000	Third class grazing; valueless without fattening lands, rough, rocky, very dry; could produce crops if $1 million spent to bring water.
Moloa'a	2,500	No agricultural or grazing lands.
Anahola & Kamalomalo	5,000	Second class agricultural land; would require irrigation; large part planted to cane and irrigated.

APPENDIX—*Cont 'd*
ISLAND ACREAGE LAND POTENTIAL

Maui Island		
Maui Kahikinui	25,000	Third class grazing when held in large tracts; most of land can be grazed only few months of year due to frequent dry spells; steep and rocky.
Maui Island		
Kula	6,000	Second class agricultural land; crops can be expected one year out of three.
Moloka'i		
Pala'au	11,400	With irrigation would produce abundant crops, without water is poor grazing land; irrigation project estimated to cost $2 million.
Kapa'akea	2,000	Steep part of mountain; worthless for agriculture
Kamiloloa I and II	3,600	Same.
Makakupa'ia	2,200	Same.
Kalama'ula	6,000	Upper half, second class agricultural land; lower same as Pala'au.
O'ahu		
Nanakuli	3,000	Rough, rocky, dry; no value except for its proximity to sea, and fishing rights.
Lualualei	2,000	Same.
Waimanalo might be first class.	4,000	Second class agricultural or cane lands, with water

Timeline of Historic Political Events

0-1778	Polynesians settle Hawai'i (0-500 AD). A vibrant, sustainable Hawaiian society evolves from its ancestral roots. Hawaiian fishponds, agricultural systems, complex governing mechanisms, feather work, hula, and a host of other Hawaiian innovations emerge.
1778	British naval Captain James Cook encounters Hawai'i. The Native Hawaiian population is estimated at the time to be between 400,000 and 800,000. European and U.S. ships arrive following Cook's "discovery." Hawaiians are exposed to foreign diseases and succumb to these by the tens of thousands through the next century.
1810	Kamehameha I politically unifies Hawai'i, establishing the Hawaiian Kingdom.
1819	Kamehameha I dies. Kamehameha II ascends to the throne. Ka`ahumanu assumes the position of Kuhina Nui and publicly announces her joint ruler ship status as Queen Regent alongside Liholiho- Kamehameha II. Influenced by Ka`ahumanu and his mother Keōpuolani, Liholiho "abolishes" the kapu system by breaking the old law of eating with his female mākuahine.
1820	American Protestant missionaries arrive. Western education and commerce assume growing importance.
1840	Kamehameha III, the Council of Chiefs, and key Western advisors collaborate on the first constitution, codifying in written form citizens' rights and establishing a process by which Hawaiian Kingdom laws are adopted.
1843	France and Britain issue a joint declaration formally recognizing the Hawaiian Kingdom as an independent sovereign nation.
1848	The Māhele begins to transform the Hawaiian land tenure system to a Western one based on private property ownership. Private land ownership paves the way for lucrative sugar plantations operated by businessmen of American and European descent.
1850	The U.S. and the Hawaiian Kingdom enter into the Hawaiian-American Treaty of Friendship, Commerce, and Navigation of 1849, committing the nations to peaceful political and economic interaction.
1873	Hawai'i's first elected king, William Lunalilo, reigns for one year before his untimely death. He establishes the first of the Ali'i Trusts. His trust is dedicated to caring for Hawaiian elderly.

1875 The U.S. and the Kingdom of Hawai'i ratify a reciprocity treaty, allowing for duty-free entry of Hawai'i sugar to the U.S. As a result, the sugar industry enjoys phenomenal profits and expands at an exponential rate.

1887 Sugar business interests assert the passage of a new constitution. Though it is never lawfully ratified, the sugar interests in the Hawaiian government apply this constitution to limit Native Hawaiian voting rights and the powers of the king. This facilitates the passage of a new treaty with the U.S. that offers the U.S. exclusive use of Pearl Harbor in exchange for continued duty-free entry of sugar from Hawai'i to the U.S.

1890 New U.S. legislation ends the competitive advantages that earlier treaties afforded the Hawai'i sugar industry, dealing the sugar businessmen in Hawai'i a devastating blow. They start planning for the annexation of Hawai'i to the U.S. as a permanent solution to ensure their continued profits.

1893 Responding to requests from her people, Queen Lili'uokalani prepares a new constitution to restore voting rights to Native Hawaiians and naturalized citizens and to reinstate the former authorities of the ruling monarch. Sugar business interests initiate their plan, orchestrated with U.S. Minister John Stevens, to have Hawai'i annexed to the U.S. In violation of established Hawaiian-American treaties, Stevens orders that U.S. marines land and station themselves adjacent to the main Hawaiian government building. With this shield, the annexationists proclaim that the Hawaiian Kingdom is ended and that a Provisional Government is established until annexation with the U.S. occurs. Stevens declares the Provisional Government as the legitimate government.

To avoid armed conflict with the U.S. marines under Stevens' authority, Lili'uokalani, under protest, conditionally yields her sovereign authority to the U.S. until the U.S. completes an investigation of its agents' involvement and undoes the actions of those agents.

President Cleveland withdraws the annexation treaty from Congress. U.S. Special Commissioner James Blount is sent to Hawai'i to investigate and finds that U.S. representatives were responsible for the overthrow. President Cleveland refers to the United States' involvement as "an act of war" and requests Congress to support the reinstatement of the Hawaiian Kingdom.

1896 The Republic of Hawai'i legislates that English be the medium of instruction in public and private schools, severely restricting the continuity of Hawaiian as the most common mode of communication.

1897	Grover Cleveland leaves office having served two terms. William McKinley, having won over William Jennings Bryan, becomes President. Proponents of annexation forward a new annexation treaty to President McKinley. Representatives from Hawaiian patriotic leagues travel to Washington D.C. and present two related anti-annexation petitions with a total of 38,000 signatures. The annexation treaty fails.
1898	The Spanish American War begins. Hawai'i is seen as an essential acquisition for U.S. military purposes. Annexationists attempt to have Hawai'i annexed via a joint resolution, a form of legislation that affects only internal U.S. matters. The joint resolution passes with a simple majority vote instead of the two-thirds required to pass a treaty. The U.S. proceeds with an annexation ceremony on August 12. On August 13, the U.S. military occupies Hawai'i to prepare for its engagement in the Philippines. The Republic of Hawai'i cedes to the U.S. 1.8 million acres of Hawaiian Kingdom government lands and crown lands (lands of the ruling monarch).
1920	The Native Hawaiian population is estimated at 41,750 out of 255,900 total Hawai'i residents. Prince Kūhiō introduces the Hawaiian Homes Commission Act to Congress.
1921	Affirming a special relationship between the U.S. and Native Hawaiians, the U.S. enacts the Hawaiian Homes Commission Act of 1920. It reserves for Native Hawaiian homesteading over 180,000 acres of the ceded Hawaiian Kingdom crown and government lands that were deemed unusable for growing sugar.
1959	Hawai'i becomes a state. Reaffirming the U.S. trust obligation to Native Hawaiians, the U.S. cedes to the State of Hawai'i 1.4 million acres of Hawaiian Kingdom crown and government lands, requiring that it be used for five purposes, including "the betterment of the conditions of Native Hawaiians."
1993	The U.S. enacts Public Law 103-150 apologizing for the U.S. role in the overthrow and the "suppression of the inherent sovereignty of the Native Hawaiian people."
1978	Hawaiian leaders organize in the Hawai'i State Constitutional Convention to have the State honor its obligation to use some of its ceded lands revenues to improve the condition of Native Hawaiians, which ultimately establishes the Office of Hawaiian Affairs.
1999-2000	U.S. Dept. of Justice and Dept. of Interior holds hearings and recommend establishing a process of federal recognition for Native Hawaiians.

2000-2010	Native Hawaiian Government Reorganization Act (NHGRA) introduced and considered by U.S. Congress.
2010	Passage of NHGRA is pending in U.S. Senate, after passing U.S. House of Representatives. President Obama has committed to sign the bill into law upon its passage through Congress.

Native Hawaiian Cultural Consultation

It is the policy of the State of Hawaii under Chapter 343, HRS, to alert developers and decision makers, through the environmental assessment process, about significant environmental effects which may result from the implementation of certain actions. An environmental assessment of cultural impacts gathers information about cultural practices and cultural features that may be affected by actions subject to Chapter 343, and promotes responsible decision making. Articles IX and XII of the State Constitution, other state laws, and the courts of the state require government agencies to promote and preserve cultural beliefs, practices, and resources of native Hawaiians and other ethnic groups. Chapter 343 also requires environmental assessment of cultural resources, in determining the significance of a proposed project.

One of the most important parts of conducting a cultural Impact assessment and study is to hold consultation with Native Hawaiian kūpuna or elders, Hawaiian cultural organizations, cultural practitioners and individuals from the community who potentially have knowledge of traditional Hawaiian sites, resources and cultural practices that are related to the project area as well as to the adjacent and extended land areas of the Kamalomalo`o and Anahola ahupua`a. Ultimately, the goal of Native Kaua`i LLC as preparers of this CIA is to produce a document that can be used to protect and preserve the valuable knowledge and traditional practices of nā `ōiwi kānaka, the Native Hawaiian people of these places.

Our goal was to meet with and interview a cross-section of indigenous Hawaiian people from the community; first and foremost, with kūpuna or elders that have memories and personal experiences of the project area and the surrounding lands in Kamalomalo`o, as well as the adjacent lands of Anahola ahupua`a. In addition, we were hopeful to receive their `ike or insight and knowledge about customary practices and traditional places associated with or relating to the project area and Native Hawaiian Homestead community that will be hosting the solar development.

We also aimed to seek out and speak with those of the mākua or parent generation who had potential knowledge, ties and experiences linked to the project area and Anahola. Ages of interviewees varied from individuals in their early 40s to 86.

In the window allocated to complete this cultural impact assessment study, Native Kaua`i interviewed a total of 15 indigenous Hawaiians. Majority are residents of Anahola on homestead lands. Two individuals live outside of Anahola. Some of the interviewees and informants are Kūpuna or elders, educators, activists and cultural practitioners. Some of them fall into 2 or more categories. All are of Native Hawaiian ancestry with personal ties and connection to Anahola.

In this particular endeavor to "interview" Native Hawaiians, we chose to do so in a Hawaiian manner of kukākukā or through "talk-story". We speak with interviewees without being nīele or as a prying meddler (as my kūpuna would say) by being annoyingly inquisitive. While we have specific points of interest for questions that we hope to lead our discussions, it is important that we engage with each person in a manner that is respectful and without imposing pressure. To the Native Hawaiian, a nīele person will never get anywhere by being bold, blunt and direct. However, he or she can be successful by leading up to a subject through indirection and a more `olu`olu or gracious approach. We make every attempt to avoid being maha`oi or presumptuous, brazen and insensitively forward. Ah, but this is how we were raised in the traditional Hawaiian household that was led by kūpuna and mākua who were adamant that the values of aloha (love), ha`aha`a (humility), ahonui (patience)and hō`ihi (respect) apply to the way that we behave and interact with others. This is especially so when talking and meeting with kūpuna, for with the slightest tone of pejorative stance or speech, they will cease to share their valuable insight and experiences. It helps tremendously to have some sort of association with individuals as well, for more is shared when there is a level of comfort, trust and familiarity.

Thus, excessive note-taking and the use of recording devices such as video cameras and tape recorders are not utilized. Downside consequences were avoided by having a Hawaiian face; choosing to utilize colloquial jargons and speaking in the vernacular; making links through genealogy; by NOT having a tape recorder; being understanding and empathetic; using kama`āina as interviewers; judicious note-taking when necessary; by keeping our promise not to divulge any interview comments if requested by the subject; and of course, by not being nīele or maha`oi.

One kūpuna - Uncle Val Ako insisted and encouraged that we use a recording device as he felt that it was best to capture all of the information that he was willing to share. This was extremely helpful, as our conversation continued for 3 hours. Yet, had he not suggested and insisted, we would not have recorded our discussion.

If the interviews had been conducted using a Western format these questions would be asked straight forwardly:

1. What type of cultural practices and cultural beliefs do/did your family practice?

2. Where do/did these cultural practices occur?

3. How do/did the area's sites features or land affect you or your family's cultural practices and beliefs?

4. How would the plans to develop the Solar Energy Project affect you or your family's cultural beliefs and cultural practices?

Instead, we chose to engaged in talk-story sessions with interviewees in individual and semi-group settings that were comfortable for the participants. Oftentimes our discussion took place in their yard, or at their home, or with the case of some of the kūpuna, as a group at their Ke Ola No Nā Kūpuna program that is held at the Anahola Clubhouse. Already well-aware of the extra-sensitivity of asking such questions would be a rude approach of nīele and maha`oi, we allowed our conversations to flow and be directed in ways that were most appropriate and pono for those who were kind to extend us their time, energy and mana`o.

The interviewees that we engaged with for this CIA are:

1.	Mr. Valentine Ako	Kūpuna, Practitioner	Wailua, Kaua`i
2.	Mr. Frank Cummings	Homesteader, Practitioner	Anahola, Kaua`i
3.	Mr. John Pia	Homesteader, Practitioner	Anahola, Kaua`i
4.	Mr. John Ka`ohelauli`i	Homesteader, Practitioner	Anahola, Kaua`i
5.	Mr. Kawika Cutcher	Homesteader, Practitioner	Anahola, Kaua`i
6.	Mrs. Healani Trembath	Kūpuna, Practitioner	Hule`ia, Kaua`i
7.	Mrs. Leonora Kelekoma	Homesteader, Kūpuna, Practitioner	Anahola, Kaua`i
8.	Ms. Jodi Omo	Homesteader, Practitioner	Anahola, Kaua`i

9.	Mr. Chono Fernandez	Homesteader, Practitioner	Anahola, Kaua`i
10.	Mrs. Diana Lovell O'Reilly	Homesteader, Kūpuna	Anahola, Kaua`i
11.	Mrs. Carol Mano`i	Kūpuna	Anahola, Kaua`i
12.	Ms. Essie Williams	Homesteader	Anahola, Kaua`i
13.	Mr. Llewelyn Woodward	Homesteader, Practitioner	Anahola, Kaua`i
14.	Mr. Kamealoha Smith	Educator	Anahola, Kaua`i
15.	Mr. Leroy Ka`ona	Educator, Homestead `Ohana	Anahola, Kaua`i

Other Interviews:

16.	Mr. Kawika Winter	NTBG Limahuli Garden & Preserve	Hā`ena, Kauai
17.	Mr. David "Kawika" Viets	Kaua`i Native Plant Society	Anahola, Kaua`i

All interviews were conducted by `Aikāne Alapa`i and Kēhaulani Kekua between February 15 and April 28, 2012. Subsequently, we found that just about all of the interviewees were more interested in first and foremost, learning about the project itself. Many felt that they were not informed and were cautious to share their mana`o or thoughts and knowledge with us.

As such, the priority topics needed to conduct this CIA of cultural resources and impacts were overshadowed. It was a challenge to steer conversations into that direction without appearing to be presumptuous and insensitive to the needs of the interviewers to be informed of hte project. Native Kaua`i spent a considerable amount of time attempting to provide an overview of the project which was not our area of expertise. Native Hawaiian informants/DHHL homesteaders were encouraged to contact AHHA or KIUC directly for details and information about the solar development project.

Frank Cummings and Kawika Cutcher were the most acquainted with the project as they have been actively involved in participating in outreach meetings, planning discussions, etc. Uncle John Pia and Uncle Val Ako provided incredible insight and their personal experiences of cultural practices and traditions, as well on Anahola history, wahi pana and more. Their contributions are invaluable to this study.

In addition to the 15 individuals listed on the previous page that graciously participated as interviewees for this CIA, we sought out the assistance of Native

Hawaiian Plant experts, Kawika Winter of the NTBG Limahuli Garden & Preserve and David "Kawika" Viets of the Kaua`i Native Plant Society. Their willingness to aid us in our quest to find living specimens of the Native `auhuhu plant was, and still is vital to our research and study; for it is key to understanding the traditions and direct links to both place name and cultural practice of Ancient Anahola.

Mahalo a nui loa iā `oukou for your generous support to contribute and collaborate to this success of this cultural impact assessment and study.

Interviews with Indigenous Hawaiians

Esther "Essie" Kaleialoha Williams was born and raised in Anahola Village and is the daughter of Teddy and Rebecca Williams. She recalled that she was a little girl when the first three houses went upon newly developed homestead land in Anahola.

"The first three homes that came up included Blossom Kauanui's house, Ah Wan Goo and Uncle Jerry Kaialoa on lots immediately ma uka of Kūhiō Highway. The second set of homes included your grandma and grandpa's [Helen and Miki Waiau], Uncle Isaac Poe, and Aunty Mabel Huddy".

Aunty Essie was not really aware of the details concerning the Anahola Solar Project and had several questions regarding its location and proximity to the highway. Her concern was the possibility of traffic distractions caused by the glare off of solar panels. When NK Interviewers shared an overview of the project in Kamalomalo`o, she was relieved and felt that it was pono or good for the benefit of everyone. Aunty Essie stated that whatever sites may have been there have long been destroyed by previous years of sugar and pineapple cultivation, saying that many of these lands were bulldozed and cleared for planting.

She was appreciative that a cultural impact assessment was being conducted by Native Hawaiians and residents of Anahola who had personal experiences of the old folks and the community in its early beginnings. She reminisced of the kūpuna who were integral in building the Anahola Hawaiian Homestead community and of their knowledge, values and life ways that naturally encouraged a great sense of love and `ohana.

When asked about cultural sites or resources, place names , etc. Aunty Essie reconfirmed that there was none associated with the project area. She was interested in passing on more information "when the time was right" at a later date perhaps.

**Leroy Ka`ona** has worked as a teacher at Kapa`a Middle School for many years and has volunteered his time as a soccer and basketball coach for school and community leagues. Uncle Leroy is in support of the solar project and he feels that it would benefit not only the Hawaiian people but also others. He also feels that it would restore the pride of the people and give them good opportunity for jobs. We had an opportunity to speak with him on his nephew's ma uka

homestead farm lot located on Hōkū`ālele Road. We inquired if he was familiar with any of the places names associated with the Kalalea mountain range or any of the heiau sites that exist in the area. Although he was not, he was very interested in learning all that there is about them. He mentioned that some years back someone from the community had volunteered to research and share of the place names. However, to date he hadn't heard of any progress being made. Uncle Leroy feels that knowledge and information of Anahola and Kaua`i place names and its traditional places are extremely important for it will help to instill a sense of place and connection for all Native Hawaiians and others who live in Anahola and on Kaua`i. He was very supportive and gracious to offer his help in disseminating information, flyers, announcements, etc. to the community if needed.

Llewelyn "Blondie" Woodward moved from the north shore to Anahola in the mid 90s. He expressed that he was very thankful that he has a home and homestead land in Anahola. However, at the same time he felt unsettling about a lot of planning and visioning efforts that the community has participated in, in the past that has changed. He inquired about how the Anahola community and residents will benefit from this development in the future moving forward. Particularly, if and how revenues generated will support and benefit the hosting homestead community.

We also spoke briefly about the wahi pana and heiau of `Aikanaka located just beyond the pasture land ma kai of his house. He said that his neighbors from the across of the street had cleared some of the overgrown brush and vegetation so that it is in view from their homes. That way, they can all sort of watch over it to make sure that no one vandalizes or causes any disturbances to the place. Without having to say anything in detail, it was evident to us that there was sense of connection and interest to mālama or care for and respect this sacred area.

Blondie's `ohana are lawai`a, practitioners of the imu, and preparers of Hawaiian food for `aha `āina and lū`au. In all of my years of growing up as a keiki in Anahola, the Woodwards have always been part of many family lū`au. They have helped to support and take the lead on kuleana of more than 3 generations of significant `aha `āina for our `ohana (Kekua, Waiau and Mahi families), including `Aha `Āina Pālala, `Aha `Āina Make, and `Aha `Āina Laulima. These were traditional commemorative Hawaiian feasts that marked significant milestone occasions for certain members of our familly in their respective birth to death life cycles.

The Hawaiian tradition of preparing food for occasions such as those mentioned above, engage in various cultural practices. In many cases, preparing duties are shared by members of the family, whether it requires mahi`ai that farm and plant taro, uala and other food plants, lawai`a - gathering limu, `ōpihi, wana, he`e, i`a, papa`i, hā`uke`uke, etc. Certain members of the `ohana are assigned specific tasks for gathering, preparation and serving of food items. And it is also something that members are trained and raised in as part of their upbringing.

The Woodward family are also renown and respected for their excellent catering services, which is an extension of their cultural upbringing and practices in `aha `āina traditions.

Kawika Cutcher continues to be an active member of the Anahola community and is fully aware of the Anahola Solar Project. He has participated in the meetings and community information processes that has been taking place over the past months. It is his mana`o or opinion that this is a positive project that will benefit the Anahola Hawaiian community in many ways. He feels that it is important for him to be a part of it for it is something that for his family and everybody that he is related to. It is far better to participate and help the community in opposed to just complaining. He sees this as a viable step toward independence and sustainability. "If we get the solar, we can make water," he said. "It too is another source to make electricity too. But if we get the water than we can get the lo`i back in working order again."

Kawika shared that there will always be somebody that is going to complain that there is a better way, but if there was, it would have been done a long time ago. Instead of complaining, he encourages others to participate and get involved. He is excited about the progress that has been done through AHHA and sees that the Market Place project alongside the highway is a positive example in the community.

When asked about possible cultural impacts that could be triggered by the development, he felt that the project area was long clear because of previous sugar and pineapple plantation disturbances upon the land. He is still adamant however, that Native Hawaiians practice their culture.

"We need to cut our selves away from the western stuff… know it. Make sure you know how to fish, hunt, grow garden, grow taro, get salt, pick `ōpihi, hā`uke`uke know when for go, when not for go".

Kawika thinks that the project is 99% good overall and 1% bad. Bad because there will always be someone that will be complain and be hard to please. It would be good to include the sun… especially the morning sun, the rising sun… even the moon, the solar can catch all of this. It's always so hot in that area. Kawika feels that the vision should be, "If one gets ahead they can help the next family and the next family…and it doesn't mean we have to be like the Jones's. It just that we need to be akamai… that's my mana`o".

John Ka`ohelauli`i was awarded his homestead lease in Anahola in 1991 and has long been an advocate for building community. He was somewhat familiar with the Anahola Solar Energy project as he had attended at least one meeting on the subject. He did not go into further detail, except to say that available funding for the purpose of informing community be used in different ways to encourage and engage the community in discussions for important issues and opportunities such as this. With peoples' work schedules and other things going on, it is very challenging to organize meeting opportunities that work for everyone. Perhaps there are other ways in which to achieve community outreach and participation. In all, he felt that the project does have great potential to benefit not only the Anahola homestead community, but the rest of the island as well.

We have had the opportunity to engage and work with John on various cultural projects in the past - mostly having to do with cultural education endeavors. He is a practitioner of crafting `ohe hano ihu or traditional Hawaiian nose flutes. Although simple in appearance, it is one of a few wind instruments that was used by our Hawaiian ancestors. John's knowledge of its culture and history, along with ancient mo`olelo or oral traditions of its creation and use is vast and valuable.

John Ka`ohelauli`i is also the foremost master on Kaua`i today of Kōnane - a strategic and analytical tradition that is often assumed to be a simple game that is compared to checkers. Kōnane was a chiefly pursuit that required skill and focus. Formerly useful in preparation, execution and application during times of peace and war, kōnane is an excellent means of socializing today. Especially so for fine-tuning one's concentration, patience and endurance.

John has made great strides on Kaua`i and throughout Hawai`i to revive this long forgotten ancient Hawaiian tradition. John is also an accomplished and published writer of short stories and contemporary mo`olelo.

Chono Fernandez is one of four children born to Lynette and George Fernandez Sr. He was born and raised in the Anahola Village and continues to live there today. His `ohana has resided in Anahola for many generations adjacent to the Anahola Village Park.

He is highly aware of the solar energy project due to his attendance at some of the community meetings. He is in support of the project, and emphasizes the urgent need and importance of opening up DHHL lands for agricultural use. His mother/family has been on the waiting list for an AG land lease since the 70s. He emphasized that with the opening up of more house lots in recent years that the community has expanded greatly. "This is great for Hawaiians to be put back on to the lands. However, as the population grows and more infrastructure is needed to support that population, it is absolutely necessary to already have in place plans to activate sustainable projects within the homestead community. This should be done by dedicating land for agricultural use to plant and grow food; vegetables, raise livestock such as cattle, pigs, poultry, etc."

He sees that there is an excessive amount of land that is not being used, he gestured to the hillside above of Anahola village park and said that if given the opportunity the entire hillside can be removed of invasive trees and vegetation and replaced with ulu, kukui, uala, squash, and other edible plants and vegetables. Aside of the hau that is growing there right now, everything we see is invasive and cannot feed our people.

Chono also has great concern for changes occurring ma uka that has greatly impacted the fresh water resources and it's natural flow patterns. He has noticed that the lower river is warmer in temperature than it is further up where it is closer to the source. He sees that this is bad for the fish stocks in the river as especially so in the muliwai. He said that these are signs of negative impacts caused by diversion of fresh water resources higher up on the ma uka lands. He is an adamant advocate for restoring water to the lands and the Hawaiian people in Anahola. He also shared that all inside of the heavily overgrown area beyond the Anahola Village Park are fresh water springs that people are not aware of. As newcomers purchase land in Anahola and alter the `āina, they impact the springs by filling them in and covering them up. He said that raising this awareness is vital to the land and the future generations of Anahola. He is unsure of whose kuleana or responsibility it is to maintain these areas. However, in speaking with the older uncles who are kūpuna today, they shared with him that in former times, everyone from the community simply got together and "made it happen". There was no heavy or fancy equipment. Just a sickle and

cane knife. It was done all by hand. The vegetation today is much more invasive and aggressive as compared to the past. The community is much larger and a lot of people don't know each other like before. Having a renewed sense of `ohana would be excellent for the community.

Chono is a lawai'a and engages in hunting and gathering - both on land in the ocean. He always sees mano in the same channels and ocean locations when he goes diving and throw net fishing. He recognizes and respects that these manō are true kama`āaina to these places and that their role is to serve as guardians of the ocean resources. In his frequent encounters with them he has never had any negative experiences, nor does he feel threatened by them in any way.

When asked about the various place names or other cultural practices associated with Anahola, he suggested speaking to other kūpuna in the area. Although he regrets that he did not have knowledge of the various Anahola place names, he is deeply interested in learning them soon. "Some of these things we just didn't think of its importance when we were growing up," he said. "But it's never too late to learn." Chono was happy to learn that a Cultural Impact Assessment was being done Native Hawaiian consultants kama`āina to Anahola. He looks forward to learning more when the studies (including the EA) are completed.

Kamealoha Smith is a Native Hawaiian whose focus is on Bilingual Cultural Education. He currently serves as the Director of the Ke Kaiaulu O Anahola Bilingual Educational Outreach Program that is based at the Ko`olau Hui`ia Church in Anahola. The program is designed to build support for community-based ocean resource management plans for the kai areas of traditional ahupua`a in the Puna and Ko`olau districts. The programs emphasize Hawaiian language, traditional fishing practices and marine science. He also helps/works with the immersion programs at Kawaikini Charter School and Kapa`a School. Currently, they have approximately 55 students enrolled to the program, ranging from ages 8 to 18. Approximately 10 adults aid and participate in the program as well.

Kamealoha is the son of Henry and Lillian Smith. As a young child, they lived in California, but spent summers in Anahola. When his parents were awarded a homestead lease in the 70s, their family moved back to Kaua`i to Anahola. He shared that his family has practiced fishing in Anahola for generations. Today he resides in Wailua.

When asked about any possible impacts - negative and/or positive that the Solar Development may have, he said, "Overall, I guess that it is a good thing since it was pretty much a done deal. It's hard to say anything negative, as we should move forward in support of it." Kamealoha is not for or against development. He wishes that the Hawaiian people could get a better deal out of it. He does feel strongly that revenue sharing should benefit the Hawaiian people. Especially so in support of educational programs. He sees a need for continued restoration of the lands - `Āina Ho`opulapula. He is primarily focused on the ma kai or ocean areas of Anahola and `Aliomanu and the districts on Puna and Ko`olau districts. As far as Kamalomalo`o is concerned, Kamealoha doesn't think that any cultural sites or resources still exist there due to the negative impacts already imposed upon the lands throughout the Plantation era.

NK Interviewers asked if he had any insight on traditional wahi pana, place names or mo`olelo that he might know of that he could share. Either pertaining directly to the project area in Kamolomalo`o, as well as in Anahola and `Aliomanu; from ma uka to ma kai regions.

Kamealoha expressed that there is so much to be uncovered. He mentioned of a traditional trail that they took between Keālia to Anahola but does not know if there was a name. When asked if it followed or was adjacent to the old cane haul road, he said that it wasn't. He simply refers to it as, "Ke Ala Hele O Nā Kūpuna" or "the trail trailed upon by the ancestors."

"I'm excited that every day that I get to spend time in our wahi pana and doing some things...you know, uncovering names, giving names to places that we don't have names for, just going with temporary names. So we've done a lot of renaming - just because we don't have a lot of information. But that'll change as soon as we get a little more information."

He responded that there were many places from Kahala to Palikū and that most people don't know.

"We've only speculated on the names that we have in Anahola. And for instance, like Pillars, I don't know what the traditional name is. But we just call it 'Ka Lae O Ma Waenakonu' which just means 'Middles' basically in Hawaiian. So a lot of it is taking the English names that we have now, and that's an example, instead of calling it 'Smith's Beach' I prefer that we call it 'Kai One O Kalika' even though that's the literal translation. But at least it's Hawaiian."

Kamealoha also shared that they don't have any information or names of the reef system that is in Anahola.

According to Kamealoha, "We are just calling it Papa Iki' which is the smaller brother of Papa Loa which is the ocean boundary for Anahola. You have Ka Lae Līpoa and Papaloa. So it's just making some common sense decisions. In talking with the kūpuna that we work with, I try to piece together what they are saying. The kūpuna that we've been working with include Uncle Vern Kauanui and Kumu Sharon Pomroy. A lot of it is based on experiences, right? We go by what peoples' experiences are and those are family-related. So, whether it is the appropriate way or not, we don't know. At least until I can get in and eventually have access to more information".

Native Kaua`i asked if Kamealoha had any knowledge of heiau in the project area as well as throughout the Anahola. We also asked if during his years as a Hawaiian language student in college or perhaps in designing the Kekaiaulu program if he may have come across any mo`olelo or traditional stories that mention Anahola, or are based in Anahola. Kamealoha replied that he didn't know of any names of heiau in the project area or in Anahola. He also advised that he hasn't been able to access any information regarding traditional mo`olelo.

John Pia was born and raised in the ahupua`a of Hanamā`ulu. As a teenager, he worked in the Pineapple industry on Kaua`i for Hawaiian Canneries when he was 14 years old...3 summers to age 17. So he is very familiar with the project area, all the way up to Waipahe`e (Keālia) in Anahola and the neighboring land divisions. He also worked in the pineapple fields up behind of Kalepa Ridge. It was hard work, 8 to 10 hour days and the wage was only 82 cents an hour. He explained, "We got paid every 2 weeks and all of the money went to help support our family". Of his pay checks, he only kept $5 or $10 at the most.

He was awarded a Hawaiian Homestead Lease in Anahola and moved to his Haku`āina Street home in the 70s - around 1978. Uncle John is also the caretaker that manages the non-profit Anahola Ancient Hawaiian Culture Exchange on land located in Anahola Valley alongside the Anahola Stream. It has long been a gathering place for the community since the 70s. He and his organization have also offered a Summer Ho`okahua program for children in the Anahola community.

Asked if he was familiar with Kalalea Mountain. He said that he has hiked and hunted to many places throughout Kaua`i and that he has spent a lot of time up at Kalalea. They primarily accessed the mountain through the backside or rear of the mountain. To access the mountain from the front, they would hike up through Ka`iwa Gulch.

On one of his treks to Kalalea long ago, he encountered an 8 foot beehive. He believes that the man who fell to his death some years back, (in his attempt to climb to the highest peak on the mountain) probably encountered a swarm of bees which he thinks was the cause of his fall. He said there are only certain times of the year when you can actually go up there without stumbling across hordes of bees.

In the 1970s, he and a friend, Mike Rhoades were the last ones to hike all the way up to the "Puka" or the "Hole in the Mountain". They would go up there to clean it out. When asked how large the hole was, he gestured and said that "it was huge" big enough to walk through and that more than one person could easily fit inside of it. Native Kaua`i estimated the hole size as described by Uncle John was at least 12 to 15 feet in diameter. After a rocky shelf eroded and collapsed, partially blocking the puka, he and Mike had intended to return up to the mountain to clear it. However, Mike moved to the mainland and they never got around to it.

Native Kaua`i spoke about the first pu`u in the Kalalea Mountain Range where there is a distinctive stone that can be seen from below. Uncle John made reference to a legend that there was a man who was running away from pursuers for a committing a wrongdoing. The man was turned into stone atop of the mountain. Uncle John didn't know the name of the pōhaku or anything further about the mo`olelo.

Uncle John described about 3 "lumps" up on the ridge, there is a platform that is a site. I brought Francis Warther, expert astrologer that has done extensive research on heiau sites on Kaua`i to the Taro Patch some years back to show and ask him about a site on his property. According to Uncle John, Mr. Warther told him that the features on his property directly correlated and was relevant to Kalalea Mountain.

Regarding Kīko`o - Name of Road to Taro Patch and Place Name on Kalalea

In the conversation, Native Kaua`i asked about the road named Kīko`o that leads to the Taro Patch; along with its meaning and if it is one of the mountain peaks that is part of the Kalalea mountain range.

According to Uncle John, Kīko`o is a stone that is attached to a rope that you throw to the shore to lash and secure the canoe to the shore. He also said that Kīko`o is not a peak. However, there is a marker on the third pu`u or rise. It is one of the natural landmarks that cites the boundary line of the division of the Anahola ahupua`a.

When referring to United States Department of the Interior Geological Survey Topographic Map of 1912, Kīko`o is noted as a triangulation station. There is a direct line from the ma kai boundary point of Lae Kuaehu to Kīko`o on Kalalea Ridge. This is the delineated boundary line that is adjoins the ahupua`a of Anahola to the south and `Aliōmanu to the north.

Regarding Taro Patches, Heiau and Cultural Sites of Anahola River Valley

Uncle John shared that in the old days, the entire valley was covered with taro patches. Later, they were converted into rice paddies and fields. There was an old rice mill in the valley just across of the river from his Taro Patch property. It was one of several in the vicinity.

Uncle John stated that according to some of the old maps of Anahola that he has, that there was a heiau by the name of Paeaea inside of the valley. Supposedly it was somewhere in the vicinity of the Taro Patch. However, to date he has never found the heiau or any remnants of the ancient site. He mentioned another heiau site that he located a long time ago on the bluff above of `Aliomanu overlooking Anahola river. This was prior to any of the homes being built in the area. (Today this is the Anahola Farm Lots) No walls intact, just remnants and stones that were formerly part of the structure remained when he first went there. He doesn't recall the name or any details associated with the site. He did say that today it is located on private property.

Regarding Plants Used for Traditional Lawai`a Practice of Hola

Native Kaua`i inquired of Uncle John's familiarity with the ancient fishing practice of hola that utilized Native plants such as `auhuhu and `akia. At first, he didn't recognize the plant names or the Hawaiian name of the ancient fishing method. However, when NK went into detail and described the plants and the process of preparation and application, Uncle John knew exactly what the interviewer was referring to. He was familiar with `akia, but not `auhuhu. Uncle John said that the name that they called the plant was "Beretonia" and that it was a vine. However, we were unable to find any reference or listing for a plant by that name. No description or additional information was given by Uncle John.

He did say that when this method was applied, all of the red fish were more affected by the plant than others. He said that it is the best practice for the reefs - especially in rocky shorelines such as those in Anahola and along the coastline. He also shared of another fishing method that included the use of the `ala`ala. or the ink sac of the he`e or octapus. Although he did not identify the method, we are familiar with this traditional fishing custom as, "Melomelo". Uncle John offered the following:

"*You use the `ala bag from the he`e. You cook it and burn it then rub it on a guava stick that has notches in it. You tie a rope to it and throw it in to the ocean. Then all the fish go to the stick. We would then fish in this way.*"

Regarding the Solar Project Development

John Pia is in favor of solar energy and renewable systems. However, he is strongly against the Anahola Solar Energy Development project on Hawaiian Homes Lands. He feels that DHHL lands are so limited and should be prioritized as lands for housing of Native Hawaiians instead of using 60+ acres for the solar project. For him, it is an issue with the shortage and availability of land for Native Hawaiians. Solar is good, but it doesn't outweigh the value of land. According to Uncle John, there are no cultural sites on or around the immediate project area. If there were any, they were destroyed long ago, prior to or at the time that the lands were designated for the cultivation of pineapple.

Kuini Smith Contrades was born here on Kaua`i in 1935. In 1938 their family moved to O`ahu where she grew up in Honolulu. Her father was William Smith and who married a Lovell. Through his side of the family, they are related to Hanohano Pa who was renowned for his knowledge and expertise of the entire Nā Pali coastline, Kalalau, Hā`ena and all of the fishing places, etc. He was also an excellent hunter and planter as well that lived and sustained his family off of the land and ocean resources. As a young child, she learned and studied hula under the late hula master, Sally Wood Naluai. She later married Franklin Manu Contrades, and after having four of their children moved to live in San Francisco in 1957. 11 years later in 1968 they were given an opportunity to lease homestead property on Makaio Road in Anahola where they raised the rest of their family. She and her husband Manu made sure to immerse their children with an upbringing of Hawaiian values and love for their culture. She made sure that all of them learned to sing and play Hawaiian music, as well as dance hula (both sons and daughters). Eventually, they all grew up to perform professionally in different shows and venues throughout Kaua`i. It was not unusual to see mother, father, sons and daughters sharing the same stage.

In addition Aunty Kuini continues to sell leis on another small DHHL leased parcel across of Whalers General Store and the Post Office in Anahola just ma uka of Kūhiō Highway. She has been a lei maker all of her life and continues to enjoy it today. She shared a story of how a couple of young Hawaiian boys had ran out of gas on the highway. They came to her lei stand and told her that they had run out of gas and had no money on them. Upon their asking to borrow $5 to go and buy gas for their car, she asked them to pick plumerias off of the tree near her lei stand. Afterwards, she told them that they could sew two leis and that she would buy the leis from them instead. When both of the boys replied that they had never sewn a lei before, she proceeded to teach them how to do it. After the impromptu lei making lesson was over and two beautiful leis were completed, Aunty Kuini "bought" the leis from them for $10.

At the end, not only were they able to fill their stalled car with gas, but they had reaped the privilege of encountering a gracious kūpuna who imparted a valuable lesson of Hawaiian values by sharing, teaching and coming to their aid.

Aunty Kuini reminisced of the old days in Anahola which was not nearly as populated as it is today. She remembers as a little girl all of the rice paddies that were formerly taro patches from long ago. "We liked that type of life that we had back then," she said. And still feels that she could ease into that simple lifestyle again

When asked about the Solar Project development area immediate south of Anahola on DHHL lands, Aunty Kuini mentioned that she had heard about it but really didn't know anything about it.

Diane Lovell O'Reilly resides down in Anahola Village alongside and nearby many of her relatives that have lived in Anahola for generations. She had deep concerns about the Solar Energy Project and felt that 60+ acres was a lot of land that should be used to develop housing for Native Hawaiians as well. She questioned why couldn't KIUC find land closer to town. "This area that the solar farm is going to built, it's flat land," she said. "It's more suitable and greater to put up at least 10 families." She felt that so many Hawaiians have already been waitlisted to be awarded a homestead lease and that it was unfortunate that this large amount of precious land would not be used for that instead.

"So many of our people have been waiting 20-plus year, even more than that to get on to the land," she shared about Hawaiian people who have applied for

DHHL homestead land leases. "Using the land for housing or even agriculture would benefit our people more".

As she was unfamiliar with what a solar energy farm development would look like, we showed her the example of the solar project that has been built in Kapa`a. She was pleasantly surprised at the low density of such a project and felt that it'd wouldn't be such an infringement on the visual impacts in the area that has been targeted for solar development in Anahola. She did raise other questions, including cost and maintenance responsibilities and how that would affect Native Hawaiians in Anahola.

When asked if she was familiar with any cultural resources or possible impacts - whether negative or positive upon Native Hawaiian cultural practices, she shared that "the area should be cleared and replanted with Native Hawaiian plants that were culturally useful for our people." Aunty Diana also shared that her Aunt - her father's sister, was Rosalie Lokālia Lovell Montgomery, the famous hula master who was instrumental in reviving hula kahiko as a traditional cultural practice. When asked if she or anyone else in her `ohana learned and/or carried on Aunty Lokālia's hula traditions, she said that there was no one that did. She explained that she was named after her, but she too did not learn. She said that Aunty Lokālia moved to O`ahu and then later to Kona on Hawai`i Island to oversee the Hulihe`e Palace. "She [Aunty Lokālia] was very famous and she and her troupe traveled all over the world to perform."

Healani Trembath is a keiki o ka `āina of the Hule`ia Valley and ahupua`a. She is the Manager of Alu Like's Kūpuna Program for Native Hawaiian Elders called, "Ke Ola Pono No Nā Kūpuna". She has been managing both the Anahola and program was well attended by a large number of kūpuna - consistently filling at least 2 or 3 full-size vans. Formerly, the program was held 3 times a week on Monday, Wednesday and Fridays. Due the decline of kūpuna enrolled in the program, and more so, due to drastically cut budgets, the Anahola program only meets once a week on Wednesdays. They average anywhere between 5 to 8 kūpuna a week nowadays.

Aunty Healani expressed a deep interest with several very important questions, first, wanting to clarify if there was a clear title to the ownership of the land dedicated to the Solar Energy Project. "Who owns the land? Is it ceded lands? Has the title and ownership of that land been verified?"

NK Interviewers explained that the land technically falls in the Kamalomalo`o ahupua`a and that the project area in on Department of Hawaiian Homes Lands. It was also shared that 6 project-specific community meetings were held in Anahola to discuss the Solar Energy development.

Aunty Healani also said that not much has been heard about the project aside of the one article that appeared in the Garden Island Newspaper. And like the others, are not clear on the project and what the larger scope of the development entails. She suggested that a posting calling for lineal descendants who may have genealogical ties to the lands be put out to the media i.e., OHA Newsletter, Local and Statewide newspapers, etc. Even if the project area was previously cultivated in sugarcane and pineapple, she is still concerned about possible disturbance of iwi kupuna and unmarked graves that could very well be there.

Leonora Kelekoma is 82 years old and along with her husband, Clay Kelekoma was awarded their Anahola Homestead Lease in the 60s. She lives adjacent to the Anahola Clubhouse and Park. She has raised all of her children and grandchildren in Anahola. Aunty Leonora recalls that the project land area was mostly used in the past for sugarcane and pineapple. Her family are active lawai`a or fishermen and she too, still goes "holoholo" or shoreline gathering and fishing in Anahola till today. While Aunty Leonora did not say too much about the project specifically, she did speak a lot of how Anahola was like in the early years of the community being built. She and her husband moved into Anahola when the second or third unit of homes were built ma uka of Kūhiō Highway on Kalalea Road. One of the things that was very important to the people in the community at that time was to establish a place where they could meet and gather. With a lot of drive and persistency, the Anahola Clubhouse was built and the surrounding 4.95 acres of land was designated as a park. She feels that places and opportunities to have the community come together is very important.

Note: Native Kaua`i later found that Aunty Leonora's husband, Clay Kelekoma has a pastoral parcel that is likely to be affected by the solar development project. This did not come up in our discussion with Aunty Leonora, nor did we have an opportunity to arrange to interview her husband due to time constraints of meeting the draft CIA deadline.

**Carol Mano`i** was the youngest in the group at 64 years of age. She is of Hawaiian and Portuguese ancestry and currently resides in Kalāheo on the south side of Kaua`i. She actively attends the Alu Like Kūpuna program that is held in Anahola every week. Aunty Carol shared that she has seen the Solar Energy Farm that is located up in Kapa`a and that she thought they did a good job in setting it up the way that they have it. "You can hardly notice it as they have planted around it," so it doesn't have too much if any, visual impacts in my opinion.

NK Interviewers shared that part of the plan of the Anahola Solar Energy Project is to include facilities within the service center that will be available for community use.

Jodi Hashimoto-Omo is a homestead lessee in Anahola where she has made her home for many years. Her family has a long history of lawai`a practices associated with fishing and the ocean, as well as with mahi`ai cultivation of kalo.

She sees solar as a renewable energy source that is primarily good and positive for the community. However, she is not aware of the details concerning the Anahola Solar Energy Development project. She mentioned that she had once participated in meetings that were announced to the community as urgent. But it was not on the Solar Energy Development. The topic of that meeting involved Federal grants that were being looked at for the funding of the Bike Path that would connect the existing path in Keālia to Anahola.

"We had grave concerns about that because of the negative impacts on our fishing practices and traditions, access issues, etc," Jodi explained. " It seemed so rushed with a lot of pressure to go after the funding and meet posted deadlines by pressing the community to buy into the [bike path] project."

Jodi has many questions and concerns about the Solar Energy Development project. She also wants to learn more about it and of its potential affects. Native Kaua`i shared that the project was already in progress and in the stage of completing the necessary biological and archaeology studies, as well as the cultural impact assessment, etc. done as part of the required draft Environmental Assessment. Jodi was concerned at the limited timeline to press forward, stating that it seemed so similar to the previous "rush" to gather input from the community to meet Federal Grants and other funding deadlines. "People need to be given ample time to really assess the whole project," she said.

She asked if there were any water sources that would affect anybody in the Anahola community. We touched briefly on the inoperable reservoirs that are on DHHL's Anahola and Kamalomalo`o lands and of the vision to repair and rejuvenate those sources so that they can support agricultural leases and projects.

She is not opposed to sustainable and renewable energy development, but there is still concern for more outreach into community. Like others, she really wants to learn more. She also has questions and concerns about possible health and environmental impacts. Jodi asked if any other studies have been done to address long term affects of solar systems of this magnitude? These are her immediate concerns at this time. Native Kaua`i advised that there will be opportunity to review and comment on the Draft EA when it becomes available in the near future.

She is happy to discuss further, other points associated with cultural practices and resources later. But for now, this is her mana`o and what is most urgent to her.

Frank Cummings Jr. is lifelong resident and lessee on Anahola Homestead land. He is the hiapo or eldest offspring of Gary Frank Cummings Sr. and Ruby Cummings of Anahola. He has actively participated in the community and AHHA meetings and is thoroughly informed of the Solar Energy Development project. Frank sees that this is a great opportunity for the community with many short and long term benefits.

He was gracious to provide a historical overview of the DHHL Kamalomalo`o lands that has been designated for the Solar Energy Development project.

"For more than 70 years, the Plantation had full use and control of the lands from ma uka all the way to ma kai. In 1997 with the closing of the plantation, the land came back to the DHHL inventory. The plantation was paying only $17,000 a year on an annual lease for approximately 5000 acres. Through the negotiations led by HCDC and KIUC for this project, a 20 year license to lease trust lands for non-homesteading purposes would yield $3.2 million."
Under the prior scenario with the Plantation's lease of only $17,000 year for 5,000 acres, DHHL would yield only $340,000 in revenues over for a 20-year period.

"There are other benefits that have been negotiated for in the Homestead Benefits Agreement Summary. It will include employment and business

contracting opportunities, internships, fellowships and employment training, engage local residents including homesteaders and their businesses to perform short and long term operations and maintenance contracts to name a few."

We spoke with Frank if he had any recollections or knowledge of cultural and historic properties on or adjacent to the project area. He advised that he had accompanied the archaeology survey team lead by Thomas Dye and that there were no findings at all of the test sites.

When asked about any additional sites or cultural resources anywhere throughout the Kamalomalo`o and Anahola ahupua`a regions, he touched upon the following:

He pointed to a map explaining the location that he referred to as "Beach House" and asked if we had ever been to a spot overlooking the bay. We acknowledged that we were familiar with the area and know it as Keanapālau. Frank also shared that he has hunted and hiked Kalalea mountain via Ka`awa which is an access point on the front or ma kai face. Many hunters are also familiar with the terrain. Frank shared that Kalalea is also a source for maile; different from the kind that grows in Kōke`e, but nonetheless, fragrant and beautiful.

*Native Kaua`i: I recalled how my hānai brothers and sisters of the Gardner `ohana next door would always have maile and even mokihana from Kalalea for May Day each year. I was perhaps 4 or 5 at the time, but the memory is vivid and clear!

Frank also shared about pristine streams, ancient lo`i terraces and a ko`i or adz shaping quarry in deeper upper valleys of Anahola ahupua`a.
What is a high priority item for Frank is working with AHHA to move forward with moving forward with plans to return flowing water to DHHL's agricultural lands of Kamalomalo`o and Anahola. He explained that the reservoirs have been dried up and have not been maintained since the closing of the Plantation. There is great potential to repair and restore waterways, ditches and reservoirs so that the water can nourish the lands again. Frank pointed out that it was important to at least find a way to get to the point where the reservoirs can be partially filled so that the aquifers can be replenished again. The system is designed and engineered to support one another. This is essential to the future and success of our people on Hawaiian Homelands.

Frank exclaimed, "Water is important, because water is life, right?!!!"

Valentine Ako is a Native Hawaiian kūpuna born in 1926 in Kona on Hawai`i Island. He has made his home on Kaua`i for more than 60 years, having married his wife Elizabeth who is a Native of Kaua`i. Today, at 86 years old, Uncle Val is one of Kaua`i's most knowledgeable kūpuna living today. He was raised in a different time in a traditional and sustainable lifestyle that was dependent on ocean resources and good relationships with `ohana . `Ohana to Uncle Val not only includes immediate relatives, but extended "family" members in the ma uka or upland areas who were farmers and planters. He grew up in a coastal Kona village before electricity and in-door plumbing. After the sun set, light sources were provided by kukui hele pō (kerosine lanterns), kukui lamakū (torches). There were many Hawaiians and no one was considered "poor". Everybody was well fed, for they depended on the ocean and used to barter with the people up ma uka in the kuahiwi. Throughout his upbringing, he was exposed to the old traditions and cultural practices that were very much alive during his childhood and adolescent years.

VA: Because you are sincerely interested in whatever is discussed, I am willing to share. So what is the agenda for today?

We explain that we are working on a CIA for a Solar Energy Development project immediately south of Anahola ahupua`a where there's a large open space ma uka of Kūhiō Highway. Uncle Val immediately responds knowingly, "Kamalomalo`o area?" We continue with an overview of the project and provide him with as many details.

VA: My mana`o now is, I disagree with that because who is it going to benefit? Not the Hawaiians. They are using our land for their benefit. I've been in four corporations and four of them had fizzle out. Number 1, the financial part of the corporation the members don't get any of the information like what KIUC is doing. I want to know how much a person makes?. That's my question. When they form these corporations the members should know what the heck is going on. My mana`o as far as electricity on Kaua`i is to sell the corporation to a state entity like Hawaiian Electric, so now Hawaiian Electric can have Honolulu, Maui, Hawai`i and Kaua`i.

When I first moved to Kaua`i we had Kaua`i Electric and Kapa`a Electric. You know where that Otsuka building is? Right there, that is where the plant was back in the 50s. The owners of Kapa`a Electric was Otsuka and the Fernandes family, so now only Kapa`a had electric, Anahola never had yet… it wasn't until Kaua`i Electric took over then Anahola had. You know the folks in Wainiha had

electricity because of the power plant. This was the only two places that had electricity.

KK: And this is in the 50's?

VA: Yeah, so I'm familiar with all this electric entities entering the State of Hawai`i.

KK: Mahalo nui, Uncle. When we spoke on the phone the other day, you shared a bit of your experiences and knowledge about Anahola. Is it possible for you to touch upon that again? And maybe, even anything you feel is important for us to know about Kamalomalo`o?

VA: Yes, for sure I can. I'm very happy to. Before I do that let's have `ohana first.

Note: `Ohana is a traditional term used by Hawaiian kūpuna or elders to gather for family prayers. It is short for pule `ohana. When we are pau, Uncle continues:

VA: I want to share with you why I do this. You know why I do this? I was baptized in the Protestant Church. Mama and Daddy taught me tradition and culture. As I grew older Mama and Daddy started teaching little more. Number 1 is tradition. One thing I give them credit for is that they always told us, 'Don't spoil the name of the family and do not lie and do not steal and to respect the elders'… and that stuck with me until this very day. And whatever we have we must share… never to hoard, and this is my life style and whatever you folks have to ask, whatever I know I will share with you. No strings attached, it's part of my life.

KK: We are very grateful we have you to share and teach us, a lot of what I know today is because of kūpuna like you who was generous enough to share the information. It's harder for us because we did not grow up in that time… but you did. It's so valuable to us.

VA: I was brought up in a big family. There were 7 boys and 7 girls. There were 21 of us altogether which included children from my father's other relationships," explained Uncle Val. "I was sort of a loner," he said. "And felt rebellious as a child sometimes because I was often singled out.

Uncle Val spoke of his father who was a lā`au lapa`au man who was very well versed and knowledgeable in the ancient practices of herbal

VA: healing. He was quite a prominent man in the village. Out of all of the children in the family, as a young boy, Uncle Val was always the one who had to gather all of the herbs. He said that everything was done secretly and that he was not allowed to ask questions. One simply paid attention, listened, and followed instructions. That was his personal experience with his `ohana.

I had quite an experience, my mama was a very talented person, and everything she did was all self made you know that lauhala hat that's her, she was the designer.

His makuahine or mother was very skilled in working with her hands, especially so when it came to the weaving of lau hala. He explained how as a child, he was the one that had to do all of the dirty work; including gathering, sorting, cleaning and removing the kukū or thorns from leaf edges and midrib of the lauhala. After that was all done, he would have to straighten and soften the leaves with a wooden roller, then assemble them neatly into a kūka`a which is a rolled pack of lauhala fronds ready for plaiting. She wove many different items out of lauhala. However, the one thing Uncle Val continues to be amazed with was a very unusual sleeping mattress (not a mat) that she wove out of lauhala. They called it a "nu`a" but it was not simply a pile of mats as the word is defined in the Hawaiian dictionary. This nu`a was intricately designed and woven with sides that could expand somewhat like an accordion. It was a uniquely woven lauhala mattress that was filled with stuffing to make it soft. Uncle Val has never seen it anywhere else.

Uncle's sister is, Elizabeth Ako Lee who is one of Hawai`i's most renown masters of lauhala weaving. As a child, she was hānai'ed to her aunt and uncle in Kona. By the age of 6, she had learned to gather lauhala and was weaving simple mats and other items.

VA: Like I said I was baptized in the Protestant Church but Mama and Daddy's god was not our lord… my mother's god was Pele, my daddy's god was the manō.

Uncle Val explained how the old folks were so intelligent and smart. He often wondered how they managed to know exactly how, where and when to go out and catch certain types of fish. He witnessed old methods and techniques of fishing that are still extremely valuable today. His kūpuna and mākua communicated and interacted with large resident manō who would assist the lawai`a by herding and chasing fish into their nets. There was a reciprocal

relationship between the people and the shark. One looked after and took care of the needs of the other.

VA: My most important part of life is to educate my children because I wasn't educated, I never played politics. As far as fishing it is so important today that the younger generation accept what our kūpuna's have to share, never to say no that's for your day. There's certain methods of fishing you cannot change that we learned the hard way from our kūpuna and I am willing to share with you anytime. You know I've had competitions with the biologists. There are so many things that they will not accept or believe about things of the ocean that I know and learned from my kūpunas. So now, I don't bother to try and convince them [biologists].

There is particular species of fish called manini. Manini doest hatch manini. I learned through the kūpuna that during whale season the whale spits out a sack - jelly fish like, and it floats toward the shore. And the wave bashes it up against the pali and all the little manini swim into the little tidal pools, we call that kaheka. That manini you can get, at sunrise you can find the sack. When the sack busts open the only way you can identify this manini is the eye and the `ōpū, the rest is transparent.

(NK note: Hāuli is the Hawaiian word for small fish with formerly transparent body beginning to darken; it is also the term used for the embryo of a human or animal)

AA: How small and how many are there in the sack?

VA: There are millions of them. Then, as soon as the sun strikes, then they turn green. I have observed this with my own eyes time and time again growing up. This is not a common thing. It is extremely rare, but nonetheless, a very special one.

AA: Do they come out of the whale in the sack already?

VA: Yeah, that was the relation between my kūpuna and me. The manini in Wake Island is by the acres. But that is a mystery that nobody knows. The biologist from the mainland says that the wahine manini going spread her sperm on the bottom of the ocean… that's full of bologna.
There's a lot of mysteries that happens here on Kauai, like Lumaha`i, over there get sand beach… there's one type of crab that we call Paiea that stays inside of the water.

KK: Does it have a hard shell?

VA: Yes, and its brown and fuzzy. For some reason which we cannot understand, there are times this group of pai`ea form into a ball and they roll onto the sand. That only happens down at Lumaha`i.

KK: What about in Kona? Does this same phenomena occur with the Pai`ea there?

VA: No, Kona get Paiea but just a little at a time. There are a lot of things that happen on Kaua`i that is different elsewhere…I learned all that from the kūpuna over there you know. Have you ever heard of the fish they call Kawalea?

AA: Yes that's the Hellards barracuda.

VA: Yeah, that is the best fish for poke and kaula`i for dry, how many people know.

AA: They travel in schools yeah?

VA: Yes, that is one of the best eating fish, but how many of the young mākua know this.

AA: Nobody. I myself had never heard of it being desirable this way.

VA: A good example: Hā`ena the haoles call that place "Tunnels"… that's Mākua, these are names that we should retain.

KK: Ae. You bring up a good mana`o about place names, Uncle. People do not realize that in the traditional names are stories and pertinent information that are so important to us today. Kama`āina and malihini alike. Our kūpuna were closely connected to these places and they held special aloha for their birth lands. Mākua is an excellent example because it reminds us of that connection that the kupa or Native Hawaiians of Hā`ena have with that place. Mākua is the name of the reef that is there. In the waters around it, inside and on its papa (reef) are i`a (fish, shellfish and sea creatures) and limu (seaweed) that feed and nourish the people. To the Hawaiian people, the ocean and reef life are Mākua to them...just as a parent feeds and nourishes his/her children; Mākua - the place, provides all that is needed for the people.

VA: Pololei. How we got involved with Anahola… Aunty's (his wife, Aunty Elizabeth) great-grandfather was the pastor for Ko`olau Hui`ia Church.

KK: The one in Mola`a or in Anahola, because originally it was in Moloa`a right?

VA: Yeah, it was up in Ko`olau… there's a lot of history there. When I read the scriptures it says "milk and meat" they fed our ancestors in Christianity only milk… and had they shared the meat our choices would have grown. The most important part of Christianity is the meat. The ministers today only give the people spiritual milk. I've been a Protestant member of Ko`olau Huia church for 59 years and I have seen pastors come and go and none of the pastors ever shared spiritual meat it was always milk… and that is why the Protestant churches has dwindled until this very day. When the missionaries came to Hawai`i, the name that was used was "Kalawina" Presbyterian… as they captured all the Hawaiians into Christianity they became congregational. Then in the seventies they wanted to abolish the past congregational and became the "United Church of Christ."

VA: Were talking about Anahola, now the people in the village were not right. Anahola was called `Āina Ma`i, it was a sick village.

KK: About what time period is this?

VA: I would say about from the 1800's. From Ko`olau when they moved to Anahola.

KK: Why do you think they moved from Ko`olau to Anahola?

VA: The population was dwindling and the lease in the village at one time was 999 years. The whole village had a 999 year lease. There was only Hawaiians inside there, this is history.

KK: What kind of sick did they have in the area that was referred to as "`Āina ma`i?"

VA: They had TB (Tuberculosis) etc.

KK: Do you remember some of the original families that lived in Anahola Village?

VA: I can name all the families that lived there… There were the Kaleiohi's, Uncle George Kaleiohi, Ephram Kaleiohi, the Williams `ohana, the Valpoons and others.

VA: I don't know if you ever heard of Ben Ohai?

KK: Yes I have. I have heard his name before. Is he not the `ohana of Levon Ohai? If he is his kūpuna kāne (grandfather), then this is the same Ben Ohai that he learned lā`au lapa`au from.

VA: Ben Ohai was our leader, we got together and fought for Anahola, Kekaha, Moloka`i, and Big Island through the Hawaiian Civic Club. We pushed Hawaiian Homes to get the land back to the people. When we got the land, who is the one that told us, "pālau lelo, you tell tales and exaggerate. No waste your time!" They were the ones that got the land, the people that doubted us. Through our effort they got the land, I was young and looking forward to our Hawaiians to get land because we never had land. The first increments were 1 acre parcels and then they had cut em down to little over 1/2 acre.

KK: Where did they first build?

VA: Up ma uka, you know where the… up on the hill, we fought hard for that, only to get that remark… Pālau lelo, you not going get nothing. All of us fighting already had land. We were fighting for those who did not have land. I want to go to the meeting and explain to the commission to explain that they need to recognize Uncle Ben Ohai… he was the forerunner for all the land here on Kaua`i associated with Hawaiian homes, they never recognized him… and he always told us "no give up".

Now getting back to fishing… Uncle Andrew Lovell, he was the head kilo man for Anahola. As long as Uncle Lovell lived, Anahola always had akule,and his aina was from Anahola to Kāhili… that was his `āina. When I first came to Kaua`i, I was very observant. One kūpuna in Hā`ena showed me all the Ku`unas from Hā`ena to Nu`alolo. Ka`aka`aniu is the true name for what they call, "Larsen's Beach". Larsen was the manager of Kīlauea Plantation. That place is Ko`olau. Above of the beach the name is Lepeuli.

VA: As far as Anahola goes, it was always noted for akule. That kūpuna (Uncle Andrew Lovell) had show me all of the ku`una's… but where I come from, my Tūtū always told us, "When you are in a strange place do not abuse."

I felt that it is true, so I never shared with anybody, not even my mo`opuna. All the ku`una, I felt belongs to the people there of that place.

KK: I remember many hukilau and how the entire community would go down to the beach to help bring in the akule nets. Word spread like wildfire when they would surround the akule in Anahola Bay. I was a little girl, but I always used go with my grandparents. It was so exciting and there was so many fish! Literally, enough to feed the entire community.

VA: And in Moloa`a, that's another place, the akule used to come inside. If the akule stays outside he (Uncle Andrew Lovell) would have "mihi" on the beach and he would tell the families that somebody is grumbling. After we have the `ohana *(`ohana pule, ceremonial prayer)* the akule come right on shore, they no need big net. I was watching some of those people, so stingy! In those days the women used to wear bloomers right?

KK: Yes

VA: They scoop all the fish into the bloomers then they run up the beach to dig hole and bury the fish, and then go back and get some more. In the mean time everybody is stepping all over and they forget where they buried their fish. When they go back and look they cannot find um. Uncle Andrew never did retaliate, everybody got fish and the leftover he would sell… that's how.

There is an old saying that the kūpuna shared with me:
"The fish have eyes to see and ears to hear," and as long as you grumble they not going come in. So I had access to all this that the kūpuna's related to me, the fishing methods. Uncle Andrew Lovell was a very loving person.

Later on, after Aunty's great-grandfather died, Uncle Andrews family and I used to clean that land by the church (Ko`olau Hui`ia), all the plum trees… so big you cannot put your arms around them. Took me 4 years of my own time to cut and burn them. I took care of the graves for 28 years, when I turned 70, I had to stop.

KK: When did uncle Andrew pass away?

VA: Way back in the 70s.

AA: Uncle Val, the other day when we were talking on the phone, I asked you if you were familiar with a Native Hawaiian plant called, `auhuhu? If you don't mind, we'd like to revisit that topic and perhaps expand upon the ancient fishing tradition and method of hola.

VA: Yes, I am very familiar with that. In Kona, they had plenty of that plant. We would gather it, and pound it to make the juice come out. The smashed plants are then put into an `eke (bag) and then into the water where you shake the bag around to release the poison. This is done around the pukas (fish holes) tide pools and reefs along the coast. The juice from the lā`au is strong and it stuns the fish. We put the net around the puka and the fish just float up. The poison only affects the fish. It doesn't affect the taste or humans. The fish is fine to eat and there isn't affects at all.

VA: We would fish like this only in certain areas, not often. After pau, you leave that pace alone for at least 3 months to conserve and replenish the fish supply.

VA: You (gesturing to `Aikāne) are a young mākua that loves the ocean and lawai`a. Another thing that I learned and I want to pass on to you is this: Whatever you catch, if you see a kūpuna on the beach, you take your best fish (or fishes) and you and give it to them. You don't ask. You just give. If you live your life this way you will always be blessed.

`Aikāne and I both mahalo Uncle Val for sharing so generously of his `ike and experiences with us. With the formal interview completed, we spend a few minutes talking story with Uncle Val about his perfected process of making `inamona.

Other Interviews

Kawika Winter is the Executive Director of National Tropical Botanical Gardens' Limahuli Garden and Preserve which is located in Hā`ena on the north shore of Kaua`i. He was specifically contacted to inquire of the `auhuhu plant and any information that he may have regarding its use for traditional fishing practices. Via e-mail response, Kawika confirmed that he knew of the `auhuhu plant. This is his response:

RE: Auhuhu Plant

Tuesday, April 24, 2012 12:25 PM
From:
"Kawika Winter" <kwinter@ntbg.org>
View contact details
To:
"Kehaulani Kekua" <kehaulani.kekua@kaieie.org>

Aloha mai kaua e ke kumu,

Sorry it took me a few days to get back to you. I went to Hana for their taro festival and a hale-construction workshop.

Yes, I know `auhuhu. As I was taught, stunning fish in tide pools using either this or `akia was a practice reserved for the kupuna who were too old and feeble to go very far to get fish. Here's a picture: http://data.bishopmuseum.org/ethnobotanydb/ethnobotany.php?b=d&ID=auhuhu

We don't have any here. I've been wanting to get some, so your inquiry gives me some good motivation. Did you need some soon?

And those dates work well for us. During the work week would be better for us if it can fit into your schedule.

Ke aloha no,

Kawika Winter, Director

Limahuli Garden and Preserve

David "Kawika" Viets is a horticulturist, specializing in native Hawaiian plants and trees. As an artistic landscaper, knowledge of native species and unique tropical plants that are best suited for a location are his primary tools for creating distinctive gardens. Kawika loves to see plants and communities growing together. He is a resident of Anahola on Kaua`i as well, and has long served as a supporter of Kanuikapono Charter School in Anahola where he assists with its Native Plant programs and nursery. Kawika is also the proprietor of Koki`o`ula Nursery and Landscaping.

We contacted Kawika to ask him if he knew of the `auhuhu plant as we had searched throughout Anahola from day one on the project to no avail. Kawika was familiar with `ākia and its similar uses and affects in traditional Hawaiian fishing methods. However, `auhuhu was not known to him. Alternative plant names for the `auhuhu including `auhola, hola, and pōpō `auhuhu were also provided to Kawika in the event he was able to locate the plant through his own additional research or networking efforts.

Summary of Findings

Guidelines for Assessing Cultural Impacts

Number	*Requirement*	*Discussion*
1	A discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area, including any constraints or limitations which might have affected the quality of the information obtained.	Consultation Methodology & Results
2	Descriptions of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken.	Selection of Interview Subjects
3	Ethnographic and oral history interview procedures, including the circumstances which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained.	Ethnographi-Oral History Methodology
4	Biographical information concerning the individuals and organizations consulted, their particular expertise, and their historical and genealogical relationship to the project area, as well as information concerning the persons submitting information or interviewed, their particular knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area.	Biographical Information of Interviewees
5	A discussion concerning historical and cultural source materials consulted, the institutions and repositories searched, and the level of effort undertaken. This discussion should include, if appropriate, the particular perspective of the authors, any opposing views, and any other relevant constraints, limitations, or biases.	Historical & Archival Research
6	A discussion concerning the cultural resources, practices and beliefs identified, and, for resources and practices, their location within the broad geographical area in which the proposed action is located, as well as their direct or indirect significance or connection to the project site.	Cultural Resources & Practices Identified
7	A discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area, affected directly or indirectly by the proposed project.	Cultural Resources & Practices Identified

8	A discussion of confidential information that has been withheld from public disclosure in the assessment.	Confidential Information
9	A discussion concerning any conflicting information in regard to identified cultural resources, practices, and beliefs.	Confidential Information
9	A discussion concerning any conflicting information in regard to identified cultural resources, practices, and beliefs.	Confidential Information
10	An analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place.	Analysis of Impacts
11	A bibliography of references, and attached records of interviews which were allowed to be disclosed.	Bibliography
Source: State of Hawai'i Environmental Council, *Guidelines for Assessing Cultural Impacts* (1997)		

The remainder of this chapter summarizes Native Kaua'i, LLC's findings with respect to each of the required topics. Each informational requirement identified in the above table is discussed in its own subsection, with a summary of findings and conclusions and, where appropriate, relates the requirement to other sections of the document.

Consultation Methodology & Results

As with the composition of the CIA document, consultants from Native Kaua'i, LLC employed interview methods consistent with indigenous Hawaiian values (cf. pp. 1-12, pg. 152). Specific values and methods applied to the interview process included:

Kukākukā, also known among locals as "talking story", is a quintessentially Hawaiian approach to sharing information intended to avoid being seen as *nīele* (i.e., nosy or meddling) and instead being perceived as *'olu'olu*—gracious—in conduct. By approaching the specific interview topics in an indirect manner, Native Kaua'i LLC's interviewers communicated a level of sincerity and respect for the interviewee and subject matter and so avoided their curiosity being interpreted as *maha'oi*, i.e., brazen and forward.

Aloha, or love and abiding regard for the Hawaiian landscape and culture formed the basis for the interview process, communicating deep affection for the subject matter and individuals involved.

Ha'aha'a, or a sense of humility, particularly when speaking with *kūpuna*, where a single pejorative act or statement could create a sense of offense in the interview subject which would lead them to withhold their insight and experience.

Ahonui, or patience, and a measured tempo to the contact and interview process which allows for a sense of comfort, familiarity, and trust to emerge.

Hō'ihi, respect, both for the interviewee and for the subject matter were kept at the very heart of the interview process and shaped the methods employed by Native Kaua'i, LLC.

To these ends, the use of recording devices and a standardized questionnaire were not employed unless requested to do so. Interviews were conducted in individual and small-group settings in homes and back yards, or at the Ke Ola No Nā Kūpuna program at Anahola Clubhouse. Conversations were allowed to flow toward, and at times away from, the specific subject of the Anahola Solar Project as the interview subjects deemed appropriate. Finally, the interviews have not been made public but are instead summarized in this report, so that interviewees may have an opportunity to read and if desired, correct or readdress the presentation of their *mana'o* or viewpoint.

Selection of Interview Subjects

As noted on pg. 151 *Native Hawaiian Cultural Consultation*, an assessment of cultural impacts gathers information about cultural practices and cultural features that may be affected by actions subject to HRS Chapter 343, and promotes responsible decision-making. This process is informed by meeting and talking with members of the indigenous Hawaiian community in the area affected by the proposed action. In the preparation of this CIA, representatives of Native Kaua'i, LLC identified certain criteria which guided the process of identifying individuals familiar with cultural practices and features in, or near, Anahola and Kamalomalo'o ahupua'a (cf. pg. 151). Factors which were considered in the evaluation of potential informants were:

- Was the candidate an Indigenous Hawaiian?
- Was the candidate from the Anahola-Kamalomalo'o area?
- Was the candidate a *kūpuna* or elder, with memories and personal experiences of the project area?
- Was the candidate a *mākua*, or member of the parent generation, with potential knowledge, ties, or experiences of the project area and the Anahola-Kamalomalo'o region?
- Was the candidate familiar with, or possessing insight into, the customary practices and traditional places in or near to the project area?

If a candidate met one or more of the above criteria and was willing to share his or her perspective, the person was considered an appropriate candidate for the interview process. In the timeframe available for the preparation of the CIA, representatives of Native Kaua'i, LLC met with 15 native Hawaiians all with personal ties to Anahola; they also met with 2 additional non-Hawaiian interview subjects possessed of unique knowledge relevant to the assessment. All interviews were conducts between February 15 and April 28, 2012. The majority of interviewees were residents of Anahola, living on homestead lands. The age of interviewees ranged from 40 to 86. Summaries of the results of each of the interviews are provided on pp. 156 -183 of this report.

Ethnographic-Oral History Methodology

As noted previously under Consultation Methodology & Results, the interview procedures employed by Native Kaua'i, LLC were specifically chosen to be consistent with native Hawaiian concepts of propriety. Interviewers avoided use

of electronic recording devices such as cassette tape or digital voice recorders, cameras, or video cameras.

Both interviewers, L. Kēhaulani Kekua and A. ʻAikāne Alapaʻi, are themselves indigenous Hawaiian cultural consultants and practitioners able to speak in the vernacular, familiar with the area, and capable of the traditional process of identifying links through genealogy. The interviews were conducted conversationally in informal surrounds; interviewees were encouraged to ask, as well as answer, questions.

If, as the CIA notes (cf. pg. 152) the interviews had been conducted in a standardized Western scholarly format without reference to Hawaiian cultural values, the questions might have been uniformly presented and limited to the topics most relevant to the project, such as:

- What type of cultural practices and cultural beliefs do/did your family practice?
- Where do/did these cultural practices occur?
- How do/did the area's sites, features, or land affect your or your family's cultural practices and beliefs?
- How would the plans to develop the solar energy project affect you or your family's cultural beliefs and cultural practices?

However, this approach was considered inappropriate for the reasons discussed in Consultation Methodology & Results. A constraint, or limitation, of the low-pressure approach preferred by the interviewers was that many of the interviewees were interested in learning more about the solar project proposed by Kauaʻi Island Utility Cooperative. In these cases, the interview priority of identifying and evaluating impacts to cultural practices and resources were sometimes overshadowed by the interviewer's need to inform interviewees about plans for their community. Native Kauaʻi, LLC recognizes the challenge of gently steering conversations towards topics of project relevance without being presumptuous or insensitive to the needs of the interviewees, but believes that the benefits of its approach outweigh any possible drawbacks.

Biographical Information of Interviewees

The names of interview subjects, their qualifications (see criteria for selection of interviewees, above) for inclusion, and their place of residence are provided in tabular form on pp. 153-154 of this CIA. In addition, a brief biographical sketch,

including information relevant to the interview process is provided on pp. 156 - 183. Relevant information includes, but is not limited to, interviewees' historical or genealogical relationships with the project area, cultural knowledge, and expertise.

Historical & Archival Research

Primary research references used in this study include, but are not limited to— land use records, including those obtained from an extensive review of Hawaiian Land Commission Awards (LCA) records from the 1848 Great Māhele, territorial land patent grants, oral history interviews preserved in the Bishop Museum Archive, and an extensive review of historical texts authored or compiled by D. Malo (1951), M.K. Pukui (1972), Handy and Handy with Pukui (1972), and Marti-Kini (2009). The study also relied on accounts from Hawaiian language newspapers such as *Ka Na'i Aupuni* and *Ka Nupepa Ku'oko'a* (translated by P. Nogelmeir, M.K. Pukui, and Native Kaua`i LLC). Other sources examined and incorporated include regional planning documents, modern English language newspapers, travel writers familiar with the Anahola region, and important testimony of elder kama 'āina of the lands of the Anahola-Kamalomalo'o region.

Researchers also took full advantage of historical and archival resources from the collections of the Bishop Museum, Kaua`i Museum, Kaua`i Historical Society, Ka`ie`ie Foundation, Kaua`i Heritage Center and Hālau Palaihiwa O Kaipuwai. All information is cited by the author in the bibliography included in this CIA.

Research of published and unpublished written literature, as well as Hawaiian language documents, maps and photographs found in public and private collections for references and other relevant information were explored. Additionally, the examination of indigenous Hawaiian chants and interviews conducted with kūpuna or Native Hawaiian elders were extraordinarily revealing and valuable to producing this cultural study.

One of the cultural sinews that have remained intact for millennia is the continuation of `aiha`a. Later more commonly known as hula, the practice maintained the complexities of ancient history and knowledge through the oral traditions of chants, dances, genealogies, ceremonies and more.

It is through the extensive teachings of Hālau Palaihiwa O Kaipuwai – a traditional Kaua`i hula seminary rooted in the sacred practices of `aiha`a that

the initiative for approaching this cultural study from the perspectives of Native Hawaiian scholarship and practices are made. Founded in 1945 by the late hula master, Helen Kaipuwai Kekua, the hālau was established as a means of perpetuating and disseminating Hawaiian ancestral knowledge beyond the sacred restrictions held within her family's traditional practices of hula kapu. She and her husband, the late Edgar Miki Waiau were amongst the first DHHL homesteaders in Anahola in the late 1950s. The Waiaus built an enclosed hula studio in back of their Makaio Road home in Anahola where Mrs. Waiau based her hālau and continued her teachings through her passing in 1988. This is also the location at which raised her granddaughter, Kēhaulani Kekua in the traditions of hānai and immersed her in the formalities of strict hula training from the early age of 2. This upbringing would set the foundation for a lifelong commitment of cultural practice and preservation of traditional Hawaiian knowledge for the successive generations of the Kekua `ohana.

In the capacity of their collective practice of `aiha`a and hula, the research and investigative team also represents the leadership of Hālau Palaihiwa O Kaipuwai with Kekua as Kumu Hula (hula master) and Alapa`i as Alaka`i (Senior Apprentice). Hālau Palaihiwa O Kaipuwai is a cultural repository of traditional teachings that has continued with uninterrupted practice for countless generations. It is from the expertise of this ancient house of knowledge that the structure and contents of this cultural study articulates upon indigenous beliefs and religious perspectives, customary practices, art forms and cultural traditions.

Sources of information for this project, which were not otherwise referenced, are from the personal life ways, traditional training and cultural practice experiences of the Native Kaua`i research team received from *`ohana* or family traditions, *kumu loea* (masters) and *kūpuna* (ancestors and elders).

Cultural Resources & Practices Identified

Neither the literature sources consulted nor the interviews conducted identified any ongoing native Hawaiian cultural resources or practices located on the Anahola Solar Project site. As indicated by background research and many of the interviewees, the broad Anahola-Kamalomalo‘o region has a rich history replete with *mo’olelo* (legends) and *wahi pana* (traditional place names and their stories) however none of these have any significant direct or indirect connection to the project site. In addition, the long history of intensive industrial-scale sugarcane and pineapple agriculture in this area has likely destroyed any cultural materials and prevented in cultural practices which might have been

present in the past. This is confirmed by the Archaeological Inventory Survey prepare by T.S. Dye & Colleagues for the Anahola Solar Project.

Confidential Information

Native Kaua'i, LLC has not disclosed the entirety of all of its interviews to be made public in verbatim form. Some of the interviews pertain to sensitive cultural practices and beliefs which they consider sacred and profound. It is, therefore, the prerogative of interviewees to allow or disallow full disclosure of their interviews (cf. pg. 152). However, despite the confidential nature of the interviews, with regard to the presence of ongoing cultural practices, resources, or beliefs in or related to the project site there were no significant conflicting testimonies.

Analysis of Impacts

The Anahola-Kamalomalo'o region, which includes the area proposed for the Anahola Solar Project, is a place of prehistoric and historic significance in the Hawaiian civilization. Oral histories and written records tell of the continuing traditions, beliefs, and cultural practices of the region. However, none of the background research, archaeological evidence, or interviews conducted in the preparation of this Cultural Impact Assessment indicates that the cultural practices, resources, or beliefs are tied to the proposed project site, which has long been used for modern agricultural purposes. This longstanding agricultural use of the area may be one reason for the absence of cultural properties and resources in a region which has seen many centuries of habitation by native Hawaiians. The site has been significantly graded in the past, and until recently was used intermittently as a pasture for animals.

The information summarized in this report indicates that there are no known extant historic cultural resources within the immediate vicinity of the project site that may be impacted as a result of the proposed project. More specifically: The lands on which the Anahola Solar Project would be situated have been significantly altered from their original condition by industrial-scale agriculture. Conclusions from the recent Archaeological Inventory Survey prepared for this project by T.S. Dye & Colleagues (Dye and Sholin, 2012) suggest that historic-era alterations involved large-scale ground disturbance to the extent that no archaeological resources are likely to be found in the general vicinity. Traditional Hawaiian uses of the lands in the Kamalomalo'o and Anahola ahupua'a are known from prehistoric times. Such uses, including habitation,

agriculture, and gathering continues throughout the region, but none is known to exist within the project site. Access to sensitive *wahi pana*, streams, the shoreline, or the mountains will not be compromised by the Anahola Solar Project.

Native Hawaiian beliefs and traditions associated with the Kamalomalo'o and Anahola *ahupua'a* persist but these are general associations not specific to the project site. No *kūpuna* (elders) or *mākua* (parents) could be located that had knowledge of traditional beliefs or practices specific to the project site.

Despite the absence of cultural practices and resources within the project area, kūpuna and mākua informants interviewed for this CIA expressed concern and questioned why the land being dedicated to the Anahola Solar Energy Project was not being used to take native Hawaiians off of extensive waiting lists and on to the land for residential and/or agricultural use. As a result of these queries, Native Kaua`i researchers felt an obligation to include an overview of Hawai`i's political history and the events surrounding the loss, control and use of Native Hawaiian lands.

This CIA has been prepared in accordance with the guidelines set forth by the State of Hawai'i Environmental Council for the completion of Cultural Impact Assessments and the requirements of HRS Chapter 343 and HAR §11-200. There are no known cultural resources or practices with the potential to be negatively impacted as a result of the proposed project.

Closing Comments & Recommendations

Cultural impacts upon Native Hawaiian people, customary practices and religious beliefs have infiltrated the history of Hawai`i Nei for more than 200 years since the arrival of Captain James Cook in 1778. Within a period of 40 short years, the Kapu system was abolished by Kamehameha II - Alexander Liholiho and the Queen Regent, Ka`ahumanu bringing an end to the strength of the closely knit Hawaiian religion and political system of Hawai`i. With the arrival of Calvinist missionaries in 1820 came a new god and religion which leveraged the beginnings of severing the native Hawaiians' veneration of the natural world.

By the 1890s, subsistence lifestyles, agriculture and rural communalism had entirely been replaced by commercialism, urbanization and individualism as key features of life in the Hawaiian Islands. Foreign sugar plantation moguls usurped control of Hawai`i's prime agricultural lands and fresh water sources to sustain their crops. Miles and miles of irrigation ditches were engineered to redirect the natural flow of water out of the ahupua`a; forever changing the balance of environments and lifestyles of generations of native Hawaiian families.

By and large, the issues of cultural impacts in Hawai`i are rooted in the loss of access and use of Hawai`i's land and natural resources as formerly practiced in pre-contact Hawai`i. It is a deep-seated dilemma caused by the intrusion of forced principles brought on by Westernization and the rise of a monetary economy.

Despite the absence of cultural practices and resources within the project area, kūpuna and mākua informants interviewed for this CIA expressed concern and questioned why the land being dedicated to the Anahola Solar Energy Project was not being used to take native Hawaiians off of extensive waiting lists and on to the land for residential and/or agricultural use.

As a result of these queries, Native Kaua`i researchers felt an obligation to include an entire section entitled, *"Origins of Change and Cultural Impacts"* to provide an overview of western influences, invasion and occupation of lands in Hawai`i. Included are lists of kūpuna's names and descriptions of their kuleana land claims presented to the Land Commission following the Great Mahele in 1848. Additionally, copies of the 1897 anti-annexation petitions showing the actual signatures of kūpuna from the Kawaihau and Ko`olau districts here on Kaua`i are included as well.

Many of these families still exist and inhabit the lands of Anahola today. Several of those interviewed by the researchers and authors of this CIA are descendants of the very kūpuna who stood in solidarity to protest the annexation of their beloved birth lands to foreign control and occupation. There was great love, passion and attachment to protect the lands and resources that had breathed life into generation upon generation of Hawaiian families of this region. The overthrow of the Hawaiian Kingdom and the admission of the Hawaiian Islands into the United States of America as the "50th State" still resonate with unrest for many indigenous Hawaiians.

However, the lasting affects upon native Hawaiian people that have resulted in their disconnect to traditional practices, beliefs and knowledge of place goes back further to the introduction of Christian tenets that prohibits veneration and expression of nature or ancestor worship in any way, shape or form. There is great anxiety amongst contemporary Hawaiians to embrace the values and ideologies of their ancient ancestors out of fear instilled by the doctrines of the dominant western religion which most have adopted. This alone, largely contributed to the depreciation of interest to learn and maintain family genealogies, enroll to formal training in cultural practices that engage in ceremony and spiritual processes, etc.

All forms of traditional Hawaiian cultural practice included religious and spiritual processes of protocols, ceremonies, prayers and prescribed tabus and restrictions. The removal of this crucial part of Hawaiian cultural expression separated and dissolved the sacred and profound of the practice itself. It also eliminates the individual's conscious connection to the environment which is also considered as a sacred and profound aspect of the practice itself.

For example, hula is mostly taught today strictly as a dance form, without the formalities of the hula altar. The contrasting experience of the hula disciple that engages in the practice of the kuahu is stimulated by a deeper understanding of his/her role that also appeals, meditates and prays for protection and nourishment of the atmosphere and environment. The offering of prescribed plants from the native Hawaiian forest and the articulation of accompanying prayers and chants are directly associated with the spiritual processes and adulation of forested watersheds that provide us with live giving water. The main focus of the hula practitioner is to engage and encourage for the health and wellbeing of the land and resources, as well as that of the populace by spiritually petitioning for the continuum of life cycles.

Additionally, they were historians and archivists, who preserved details of history, genealogies, migrations, ceremonies, names of winds and rains, places and more in volumes of oral traditions that were documented to memory and conveyed to following generations through the teachings of chants, dances and oratory.

One of the primary goals of Native Kaua`i was to complete a comprehensive CIA study that would satisfy the requirements of HRS Chapter 343 and HAR §11-200 by following the guideline established by the State of Hawai`i Environmental Council for the completion of Cultural Impact Assessments. Another was to thoroughly research, compile and complete a thorough cultural document that would serve as a valuable and informative resource for the people of Anahola.

As developments continue to occur throughout Kaua`i and Hawai`i, the required processes of conducting environmental reviews and cultural impact assessments such as this, will continue to seek out indigenous Hawaiian informants who possess the expertise and knowledge about their cultural practices, religious beliefs and storied places. While it is great that researchers and authors of CIAs have the potential to produce documents with invaluable information, it is no longer uncommon to find end results of studies determine no known cultural resources or practices are occurring today.

There is a sense of urgency for native Hawaiians to rejuvenate themselves in the cultural practices, teachings and knowledge of the ancients of these islands. There will continue to be findings of "no negative cultural impacts" if cultural practices are no longer occurring. And precious lands of our ancestors will be surrendered future developments that may ultimately erase every bit of cultural value. Perhaps it may be that many contemporary indigenous Hawaiians have forgotten or have never received transmission from elders of the previous generations of mo`olelo, mo`okū`auhau, wahi pana and other `ike or knowledge that are pertinent to Hawaiian cultural practices. However, it is never too late to learn and embrace the teachings of ancestral intelligence that is the birthright of every living and yet to be born Hawaiian. Native Hawaiians have the mana and the ability to participate and articulate upon the intricacies of Hawaiian knowledge and intelligence. Not only were our forefathers expert fishermen and planters, but they were priests and master genealogists, navigators, biologists, geologists, artists, craftsmen, astronomers and more whose scholarship of the land, environment and atmosphere was insightful and profound in ways unimaginable today.

To reiterate the use of the word, *minamina* on page 6: A considerable amount of focus was put toward the research of traditional places, their names and stories when preparing this study. It is ***minamina,*** a sad and unfortunate loss when valuable information is lost or forgotten. There is an urgent need to preserve and pass on ancestral knowledge that was widely known just a few generations ago. Kaua`i's unique culture and heritage associated with traditional places are key to nurturing a sense of place and connectivity. It is a vital component to the health and wellbeing of native Hawaiians, as well as the perpetuation of native Hawaiian life ways and culture.

In closing, Native Kaua`i offers another translation of minamina as:

> 2. To prize greatly, value greatly, especially of something in danger of being lost; to value, place great value on; value, worth.

The Anahola Solar Project presents an exceptional opportunity for its development partners to join together in an effort to support the revival and rejuvenation of traditional Hawaiian cultural education for the host community families of Anahola. Potential ideas recommended for consideration include:

- Encourage for the uniting of development partners in traditional Hawaiian ceremony to launch ground breaking and dedication of land and facilities

- Provide use of on-site indoor and outdoor facilities to accommodate a variety of cultural education programs for the community

- Cultural lectures and workshops presented by Hawaiian cultural experts, kūpuna and master practitioners on various subjects, art forms and cultural practices

- Rejuvenation of land within and surrounding the project area that promote the values of aloha `āina and mālama `āina

- Create opportunity for landscape design of the project area that utilizes native Hawaiian plants that teach and reflect upon cultural values and practices for healing, subsistence, dyes, making of traditional tools and utilitarian materials

- Create opportunity for interior design concepts that honor and celebrate the wahi pana of the Kamalomalo`o - Anahola region through pictorial exhibits, commissioned art pieces created by native Hawaiian artists,

DHHL homesteaders and children enrolled to the Kamehameha Pre-School and Kanuikapono Charter School.

- Sponsor Anahola's Hōkū`ālele Canoe Club, as well as other seasonal sports teams including soccer, basketball, t-ball, baseball, etc. that promote health and fitness for children, adults and elders in the community

- Support Ke Ala No Nā Kūpuna program and provide opportunity to bring elder kūpuna, mākua, `ōpio and keiki together in kūkākūkā activities to reinvigorate a sense of place for Anahola and its incredible history and culture

- Sponsorship of Anahola kumu hula, master craftspeople, artists, fishermen, healers, etc. to provide teaching opportunities for youth and adult members of the community in master-apprentice programs or in group settings

- Create a training programs and curriculum that merges ancient Hawaiian paradigms of cultural knowledge and practices associated with the sun and the modern workings and technology of solar energy production systems

- Sponsor seasonal and annual events that correlate with the vernal and autumnal equinoxes as well as the summer and winter solstices that are significant and auspicious sun occurrences throughout the year

- Encourage family and community participation in observances, ceremonies and gatherings that celebrate Hawaiian culture, ancestral knowledge of other traditions such as the opening and closing of Makahiki

- Support the need for on-going cultural and historical research of the topics highlighted in this study. This CIA document is only a mere example and fraction of the vast land and seascapes that have yet to be explored and articulated upon in this Kamalomalo`o - Anahola region

Ho`i hou i ka `iwi kuamo`o

Return to the backbone

An `ōlelo no`eau or ancient Hawaiian proverb and poetical saying to return to the homeland or family after being away. This doesn't only pertain to a physical departure or absence from the `āina hānau (birth lands) or `ohana (family). It especially speaks to the importance of immersing oneself in his or her cultural practices, traditions and values. It is a reminder of the fundamental relationships and inherent connections Native Hawaiians have to their ancestral homelands that are based on environmental kinship and land wisdom.

Na wai ho`i ka `ole o ke akamai,
He ala nui i ma`a i ka hele `ia e o`u mau kupuna?

Why shouldn't we know this, when it was a road often traveled by our ancestors?

Glossary of Hawaiian Words

ahu.pua‘a
n. 1. Land division usually extending from the uplands to the sea, so called because the boundary was marked by a heap (ahu) of stones surmounted by an image of a pig (pua‘a), or because a pig or other tribute was laid on the altar as tax to the chief. The landlord or owner of an ahupua‘a might be a konohiki. 2. The altar on which the pig was laid as payment to the chief for use of the ahupua‘a land.

`āina
n. Land, earth. Cf. *‘ai*, to eat.

ā.iwaiwa
vs. Inexplicable, mysterious, marvelous, strange, amazing, fantastic, fathomless, incomprehensible, wonderful because of divinity; wonderfully proficient or skilled; weirdly bad, notorious.

‘ā.kia
n. Endemic shrubs and trees (Wikstroemia spp.) with small leaves, tiny yellowish flowers, and yellow to red, small, ovoid one-seeded fruits. The bark yields a fiber; the bark, roots, and leaves (as W. oahuensis) a narcotic used for fish poisoning (Neal 616), and according to Kep., used in ‘anā‘anā sorcery. Varieties are qualified by the terms lau nui. mānalo, and pehu. Also kauhi.

akua
1. vs. God, goddess, spirit, ghost, devil, image, idol, corpse; divine, supernatural, godly.
2. *(Cap.)* n. God (Christian).
3. n. “It” in a game of tag or hide-and-seek.
4. *(Cap.)* Name of the 14th night of the full moon. (PEP ‘Atua.)

akule
n. Big-eyed or goggle-eyed scad fish (Trachurops crumenophthalmus), Stages of growth are pā‘ā‘ā, halalū or hahalalū, and akule.

‘ala‘ala
n. Ink sac in octopus or squid; after salting, drying, and broiling on the fire, it is mixed with ‘inamona or chili peppers and eaten; mixed with ‘auhuhu juice it is used as bait. **Fig.**, useless.

ali‘i
nvs. Chief, chiefess, officer, ruler, monarch, peer, headman, noble, aristocrat, king, queen, commander; royal, regal, aristocratic, kingly; to rule or act as a chief, govern, reign; to become a chief. *Fig.*, kind

ali‘i ‘ai moku
n. Chief who rules a moku (district)

aloha
nvt., nvs. Aloha, love, affection, compassion, mercy, sympathy, pity, kindness, sentiment, grace, charity; greeting, salutation, regards; sweetheart, lover, loved one; beloved, loving, kind, compassionate, charitable, lovable; to love, be fond of; to show kindness, mercy, pity, charity, affection; to venerate; to remember with affection; to greet, hail. Greetings! Hello! Good-by! Farewell! Alas!

ʻano
n. Kind, variety, nature, character, disposition, bearing, type, brand, likeness, sort, way, manner, shape, tendency, fashion, style, mode, circumstance, condition, resemblance, image, color, moral quality, denomination, meaning.

ao
1. nvi. Light, day, daylight, dawn; to dawn, grow light; enlightened; to regain consciousness.
a. To marry; marriage (old term, probably *lit.*, to stay until daylight).
b. *(Cap.)* Night of the day called Huna, eleventh night of the month, when the hoʻāo nuptials took place. (PPN ʻaho.)
2. n. Any kind of a cloud, including ʻōpua, but specifically, high clouds that when wind-blown scud along (kaʻa).
3. n. World, earth, realm.
4. vt. To be careful, beware, watch out.

ʻau.hola
Same as ʻauhuhu., a shrub.

ʻau.huhu
n. A slender, shrubby legume (Tephrosia purpurea syn. T. piscatoria), 30 to 60 cm high, with small, compound leaves, small white or purplish flowers, and narrow pods, used for poisoning fish. The plant is known from tropical Asia eastward into Polynesia. (Neal 448–9.) Also ʻauhola, hola. Cf. *pōpō ʻauhuhu*.

ʻau.makua
nvt. Family or personal gods, deified ancestors who might assume the shape of sharks, owls, hawks, ʻelepaio, ʻiwi, mudhens, octopuses, eels, mice, rats, dogs, caterpillars, rocks, cowries, clouds, or plants. A symbiotic relationship existed; mortals did not harm or eat ʻaumākua (they fed sharks), and ʻaumākua warned and reprimanded mortals in dreams, visions, and calls. (Beckwith, 1970, pp. 124–43, 559; Nānā 38.) **Fig.**., a trustworthy person. (Probably **lit.**., ʻau 4, group, + makua, parent.) `aumākua is plural.

ʻawa
n. The kava (Piper methysticum), a shrub 1.2 to 3.5 m tall with green jointed stems and heart-shaped leaves, native to Pacific islands, the root being the source of a narcotic drink of the same name used in ceremonies (Neal 291), prepared formerly by chewing, later by pounding. The comminuted particles were mixed with water and strained, When drunk to excess it caused drowsiness and, rarely, scaliness of the skin and bloodshot eyes. Kava was also used medicinally.

awāwa
n. Valley, gulch, ravine.

hā
1. num. Four, fourth (commonly preceded by the numeral-marking prefixes, as ʻehā keiki, four children; Pōʻahā, Thursday; *lit.*, fourth day). Hā and multiples of four are sacred or formulistic numbers
2. nvi. To breathe, exhale; to breathe upon, as kava after praying and before prognosticating; breath, life.
3. nvs. Stalk that supports the leaf and enfolds the stem of certain plants, as taro, sugar cane; layers in a banana stump. Cf. *ʻohana*. (PPN faʻa.)
4. nvi. Trough, ditch, sluice; to form a ditch or trough. Hā wai, water ditch or trough.
5. n. Stick or furrowed stone used as a sinker, with hooks attached. Also hā lawaiʻa.
6. n. A native tree (Eugenia [Syzygium] sandwicensis), with red, edible fruit about 8.5 mm. in diameter, related to the mountain apple, ʻōhiʻa ʻai. The bark was used to color tapa black. Also ʻōhiʻa hā, and pāʻihi (on Maui). (Neal 635.)

haʻa
1. nvs. Low; dwarf; man or animal of short stature. hoʻo.haʻa To lower; humble.
2. n. A dance with bent knees; dancing.

hale
nvi. House, building, institution, lodge, station, hall; to have a house.

hā.loa
1. vs. Far-reaching, long, everlasting, eternal.
2. n. Poetic name for lauloa taro.
3. n. A variety of sweet potato.
4. n. A type of prayer. (For. 6:37) *Lit.*, long breath.

hā.nai
1. nvs. Foster child, adopted child; foster, adopted. Keiki hānai, foster child. Lawe hānai, to adopt a child. Makua hānai, foster parent. Kāna hānai, his adopted child.
2. nvt. To raise, rear, feed, nourish, sustain; provider, caretaker (said affectionately of chiefs by members of the court).
3. n. Body of a kōkō net carrier, and cords attached to it; fish net or trap, as for ʻoʻopu fish; kite.
4. Same as hanahanai.
5. n. Hawaiʻi name for mānai, needle.

hā.nau
nvi. To give birth; to lay (an egg); born; offspring, child, childbirth; productive, fertile. Hānau ʻo Hina, Hina gave birth. Hānau ʻia ʻo Hina , Hina was born. ʻIliʻili hānau, reproducing pebbles. Welo hānau, productive or prolific family.

hanauna
n. Generation; relative whose relationship was established several generations previously; ancestry, birth. Hanauna like, relative of the same generation; of the same generation, contemporary. Makuahine hanauna, aunt, female cousin of one's father or mother. Keiki hanauna, nephew, niece. Kaikuahine hanauna, female cousin of a male. Pili ma ka hanauna, related through having a common ancestor. Nā makua kāne hanauna (For. 4:161), uncles, fathers, brothers and male cousins.

haole
nvs. White person, American, Englishman, Caucasian; American, English; formerly, any foreigner; foreign, introduced, of foreign origin, as plants, pigs, chickens; entirely white, of pigs (Malo 37; perhaps Malo actually means of foreign introduction). See *kolea* 1. References in traditional literature are few, but these have been noted: He haole nui maka ʻālohilohi (FS 201), a big foreigner with bright eyes [referring to Kama-pua'a, the pig demigod]. Hānau ke poʻo haole, he haole kēlā (KL. line 505), born was the stranger's head, that was strange. Hoʻokahi o Tahiti kānaka, he haole (Kua-liʻi chant, For. 4:375) only one people in Tahiti, foreigners. ʻĀina haole, foreign land. ʻŌlelo haole, European language, especially English. hoʻo.haole To act like a white person, to ape the white people, or assume airs of superiority [often said disparagingly, especially of half-whites]. Hoʻohaole ʻia, Americanized, Europeanized; to have become like a white person or have adopted the ways of a white man.

haumana, haumāna
n. Student, pupil, apprentice, recruit, disciple

heiau
n. Pre-Christian place of worship, shrine; some heiau were elaborately constructed stone platforms, others simple earth terraces. Many are preserved today.

hiki
1. nvs. Can, may; to be able; ability; possible. Cf. *hiki nō*, *hikiwale*, *hikiwawe*, Gram. 4.4. Hiki ʻole, impossible, can't do. Pau ka hiki, no longer able to do; impotent. Hiki iāia ke hele mai, he can come; he may [has permission to] come. E hiki ana, when possible. Ka lā e hiki ana, any possible day. Ka manawa e hiki ana, any possible time.
2. interj. All right, O.K. (in sense of "able to do"), certainly, surely (used alone or preceding nō).
3. vi. To get to or reach a place, come, arrive, approach, appear, arise.

hikina
n. East

hina
1. nvs. To fall, tumble, or topple over from an upright position (cf. *hāʻule*, to drop); to be "controlled," as a disease (Kam. 64:102); to fall morally; to throw down.
2. vi. To blow in a straight course, of wind. Ke hina maila ka makani mai uka mai, the wind is now blowing steadily from the uplands.
3. vs. Gray- or white-haired; gray.
4. A goddess. (PPN Sina.)

Hoku
n. Night of the full moon. When this moon set before daylight it was called Hoku Palemo, Hoku that slips away. When it set after daylight it was called Hoku Ili, grounded Hoku.

hō.kū
n. Star.

hola
nvt. Same as hohola, to spread. Cf. *kauhola*, *mahola*, *pāhola*. (PPN fola.) 2. Same as ʻauhuhu; to drug fish with this poison. ʻUpena hola, net used with this poison. Hele nō i ka hola iʻa i ka lā, go to poison fish in the daytime [more efficient to work by day]. Niʻihau.

hua.kaʻi
nvi. Trip, voyage, journey, mission, procession, parade; to travel.

hula
1. nvt. The hula, a hula dancer; to dance the hula.
2. nvt. Song or chant used for the hula; to sing or chant for a hula.
3. vi. To twitch, as a muscle or eyelid; to palpitate, throb. (PCP (f,s)ula.)

huki.lau
nvi. A seine; to fish with the seine. *Lit.*, pull ropes (lau).

iʻa
n. 1. Fish or any marine animal, as eel, oyster, crab, whale.
2. Meat or any flesh food.
3. Any food eaten as a relish with the staple (poi, taro, sweet potato, breadfruit), including meat, vegetable, or even salt. Also ʻīnaʻi.
4. *(Cap.)* Milky Way. Ka Iʻa ui o ka lani, the turning Milky Way of the heavens. Ua huli ka Iʻa, the Milky Way has turned [changed position; it is past midnight].

ʻike
1. nvt. To see, know, feel, greet, recognize, perceive, experience, be aware, understand; to receive revelations from the gods; knowledge, awareness, understanding, recognition, comprehension and hence learning; sense, as of hearing or sight; sensory, perceptive, vision. ʻIke hoʻomaopopo, conscious, consciousness.
a. To show, make known, display, tell, exhibit, reveal, indicate, inform, report, notify, explain, testify, cause to know or seen, discover, announce, allege; acquaint; testimony, notice, information; identifying characteristics, as of land claims; proof, token guide, exhibition.

ʻili
1. n. Skin, complexion, hide, pelt, scalp, bark, rind, peel.
2. Leather. ʻIli lahilahi, thin leather. ʻIli mānoanoa, thick leather.
3. Surface, area. Cf. *ʻili ʻāina*, *ʻilikai*.

ʻili
4. Binding, cover. ʻIli paʻa, hard cover (of a book).
5. Land section, next in importance to ahupuaʻa and usually a subdivision of an ahupuaʻa.
6. Strap of any kind, as reins, harness, fan belt, machine belt; hose. Cf. *alaʻume*.
7. Pebble (less used than ʻiliʻili); kōnane pebble.
8. vs. Square, as in measurements. Ana ʻili, square measurements.

ʻī.naʻi
nvi. Accompaniment to poi, usually meat, fish, or vegetable; to serve as ʻīnaʻi. *Fig*., to flavor, garnish, spice.

ʻina.mona
n. Relish made of the cooked kernel of candlenut (kukui) mashed with salt (perhaps a contraction of ʻīnaʻi momona, sweet garnish). (Neal 506.) Also ʻakimona.

kaha.wai
n. Stream, creek, river; valley, ravine, gulch, whether wet or dry.

kaha.kai
loc.n. Beach, seashore, seacoast, seaside strand.

kā.heka
n. Pool, especially a rock basin where the sea washes in through an opening and salt forms; salt pan.

kahiki
1. n. Tahiti. Cf. *holokahiki*. Holo i Kahiki, sail to Tahiti. The sky was divided (Malo 10) into five areas beginning with the term Kahiki: Kahiki-moe, horizon; *lit.*, prostrate Kahiki. Kahiki-kū, sky just above the horizon; *lit.*, upright Kahiki. Kahiki-ka-papa-nuʻu, the next layer; *lit.*, Kahiki the elevated stratum. Kahikikapapa-lani, high in the sky, almost directly overhead; *lit.*, Kahiki the sky (or god) stratum. Kahiki-kapu-i-Hōlani-ke-kuʻina, the sky directly overhead; *lit.*, sacred Kahiki at Hōlani the meeting place.
2. *(Not cap.)* nvs. Any foreign country, abroad, foreign. (PCP tafiti.)
3. n. A variety of banana, common wild on Maui. Kinds are kahiki hae, kahiki mauki, and kahiki puhi.

kahiko
nvs. Old, ancient, antique, primitive, long ago, beforehand; to age; old person. Wā kahiko, old times. Wahi a kahiko (Kel. 50), said the old people.

kahuna
nvi. Priest, sorcerer, magician, wizard, minister, expert in any profession (whether male or female).

kalo
n. Taro (Colocasia esculenta), a kind of aroid cultivated since ancient times for food, spreading widely from the tropics of the Old World. In Hawaiʻi, taro has been the staple from earliest times to the present,

and here its culture developed greatly, including more than 300 forms. All parts of the plant are eaten, its starchy root principally as poi, and its leaves as lū‘au. It is a perennial herb consisting of a cluster of long-stemmed, heart-shaped leaves rising 30 cm. or more from underground tubers or corms.

kama.‘āina
nvi. Native-born, one born in a place, host; native plant; acquainted, familiar, *Lit.*, land child.

kanaka
nvs. Human being, man, person, individual, party, mankind, population; subject, as of a chief; laborer, servant, helper; attendant or retainer in a family.

kā.nā.wai
nvs. Law, code, rule, statute, act, regulation, ordinance, decree, edict; legal; to obey a law; to be prohibited; to learn from experience.

kāne
1. n. Male, husband, male sweetheart, man; brother-in-law of a woman; male, masculine; to be a husband or brother-in-law of a woman.
2. *(Cap.)* n. The leading of the four great Hawaiian gods.
3. *(Cap.)* n. Name of the 27th night of the lunar month.
4. *(Cap.)* n. Name of a sacred star.

Kapu
nvs. Taboo, prohibition; special privilege or exemption from ordinary taboo; sacredness; prohibited, forbidden; sacred, holy, consecrated; no trespassing, keep out.

keiki
1. nvi. Child, offspring, descendant, progeny, boy, youngster, son, lad, nephew, son of a dear friend; calf, colt, kid, cub; worker; shoot or sucker, as of taro; to have or obtain a child; to be or become a child. Cf. *keiki kāne*. Kāu keiki, your son. Keiki a ka pueo, child of the owl [one whose father is not known]. Keiki hānau o ka ‘āina, a native son, one born on the land.

kī
1. n. Ti, a woody plant (Cordyline terminalis) in the lily family, native to tropical Asia and Australia. It consists of a branched or unbranched, slender, ringed stem, ending in a cluster of narrow-oblong, leaves 30 to 60 cm long, from among which at times rises a large panicle of small, light-colored flowers. The leaves were put to many uses by the Hawaiians, as for house thatch, food wrappers, hula skirts, sandals; the thick, sweet roots were baked for food or distilled for brandy. (Neal 203-4.) Besides green-leaved tis, which rarely fruit, many ornamental varieties are grown in gardens, having leaves wide to narrow, large to small, the colors purple, crimson, scarlet, rust, pink, or green, striped or plain. Red tis may have red flowers and berries. Green ti leaves are still believed to afford protection from spirits and to purify a menstruating woman.

kilo
nvt. Stargazer, reader of omens, seer, astrologer, necromancer; kind of looking glass **(rare)**; to watch closely, spy, examine, look around, observe, forecast. Kilo i`a, Fish spotter.

kino lau
n. Many forms taken by a supernatural body

ko`i.honua
nvi. Genealogical chant; to sing such chants.

kona
nvs. Leeward sides of the Hawaiian Islands; leeward (PPN Tonga.) 2. nvi. A famous leeward wind; to blow, of this wind. Many names of Kona winds follow. See ex., *Kapakū*. 3. n. Name of a star.

kono.hiki
n. Headman of an ahupua‘a land division under the chief; land or fishing rights under control of the konohiki; such rights are sometimes called konohiki rights.

ko‘o.lau
n. Windward sides of the Hawaiian Islands. 2. *(Not cap.)* Short for ko‘oko‘olau. 3. Wind between Ni‘ihau and Kaua‘i. (For. 5:95.)

kope
1. nvt. Rake, shovel (Nah. 4.14), dredge; to rake, scratch; scoop, as of a canoe paddle (For. 5:557). Fig., to dislike, disregard. Moku kope awa, harbor dredge. (PPN tope.)
2. n. Coffee, coffee beans. *Eng.* Kope lā, sun-dried coffee beans. Kope wai, fresh, undried coffee beans in the hull.
3. nvt. Copy, duplicate; to copy or duplicate. *Eng.* Cf. *ponokope*. Ke‘ena kākau kope, copyright office; office where deeds are copied.

kua.hiwi
n. Mountain, high hill.

kua.lono
1. n. Region near the mountaintop, ridge.
2. vt. To overturn, as an unfinished canoe. *Rare*.

kū.kā
nvi. Consultation, discussion; to consult, confer, discuss, deliberate. Cf. *kūkākūkā*.

kukui
n. 1. Candlenut tree (Aleurites moluccana), a large tree in the spurge family bearing nuts containing while, oily kernels which were formerly used for lights; hence the tree is a symbol of enlightenment. The nuts are

still cooked for a relish (‘inamona). The soft wood was used for canoes, and gum from the bark for painting tapa; black dye was obtained from nut coats and from roots, (Nuts were chewed and spat into the sea by men fishing with nets for parrot fish (kākā uhu) in order to calm the sea (FS 38–9): see ex., *pili* 1). Polished nuts are strung in leis; the silvery leaves and small white flowers are strung in leis as representative of Moloka‘i, as designated in 1923 by the Territorial legislature. The kukui was named the

kukui
official emblem for the State of Hawaii in 1959 because of its many uses and its symbolic value. Kukui is one of the plant forms of Kama-pua‘a that comes to help him (FS 215). Called kuikui on Ni‘ihau. (Neal 504–7.) See *lei kukui*. He ali‘i no ka malu kukui, a chief of the candlenut shade [chief of uncertain genealogy].
2. Lamp, light, torch. Fig., guide, leader.

hale ipu.kukui
n. Lighthouse

kula
1.n. Plain, field, open country, pasture. An act of 1884 distinguished dry or kula land from wet or taro land. 2. n. Source; container. 3. n. Basket-like fish trap. *Rare*. 4. nvi. School, academy; to teach school, go to school; to hold school or class sessions. 5. Also gula nvs. Gold; golden. *Eng.*

kulā.iwi
nvs. Native land, homeland; native. Cf. *iwi*, *‘ōiwi*. Ku‘u home kulāiwi, my own homeland.

kule.ana
nvt. Right, privilege, concern, responsibility, title, business, property, estate, portion, jurisdiction, authority, liability, interest, claim, ownership, tenure, affair, province; reason, cause, function, justification; small piece of property, as within an ahupua‘a; blood relative through whom a relationship to less close relatives is traced, as to in-laws.

kupuna
n. 1. Grandparent, ancestor, relative or close friend of the grandparent's generation, grandaunt, granduncle. ho‘o.kupuna To take a person as a grandparent or grandaunt or granduncle because of affection; an adopted grandparent; to act as a grandparent. (PPN tupuna.)
2. Starting point, source; growing.

kūpuna
Plural of kupuna 1. Mai nā kūpuna mai, from the ancestors, traditional. Pili ma nā kūpuna, related through a common ancestor. (PCP tuupuna.)

kumu
n.1. Bottom, base, foundation, basis, title (as to land), main stalk of a tree, trunk, handle, root (in arithmetic); basic; hereditary, fundamental. Kumupali, base foot of a cliff. ‘Ike kumu, basic, fundamental knowledge. Ali‘i kumu, hereditary chief. Alanui kumu, main street. ‘Auikumu, nominative case. Kumu

kāhili, staff of a kāhili. Kumu nalu, source of waves, as where surfing starts. Mai ke kumu ā ka wēlau, from trunk to tip [all, entirely]. (PPN tumu.)

2. Teacher, tutor, manual, primer, model, pattern. Kumu alakaʻi, guide, model, example. Kaʻu kumu, my teacher. Kumu hoʻohālike, pattern, example, model. Kumu hula, hula teacher. Kumu kuʻi, boxing teacher. 3. Beginning, source, origin; starting point of plaiting. hoʻo.kumu To make a beginning, originate, create, commence, establish, inaugurate, initiate, institute, found, start.

kumu
4. Reason, cause, goal, justification, motive, grounds, purpose, object, why. Kumu no ka ʻoki male, grounds for divorce. Kumu ʻole, without reason or cause.

kuʻuna
1. nvs. Slope of a hill; let down, descended. *Fig.*, traditional, hereditary. Maʻi kuʻuna, inherited disease
2. n. Place where a net is set in the sea; to let down a fish net. 3. vs. Relaxed, relieved. Kuʻuna ka naʻau, the heart is relieved.

lā
1. nvs. Sun, sun heat; sunny, solar. See ex., *lolo*, brain. hoʻo.lā To sun, put out in the sunlight. (PPN ʻlaʻaa.)
2. n. Day, date. Kēia lā, today. Lāpule, Sunday. Ia lā aʻe, ia lā aʻe, from day to day. Ka lā i ala hou ai ka Haku, the day the Lord rose; Easter (Protestant). Poʻe Hoʻāno o nā Lā Hope Nei, Latter-Day Saints; *lit.*, saint people of these last days. Lā kākou i kēia lā, we have much sun today. (PEP laa.)
3. n. A sail. (PPN laa.)
4. n. Fin. Kua lā, dorsal fin. Cf. *lālākea*.
5. n. Each of two cross sticks holding corners of the dip net called ʻupena ʻākiʻikiʻi.
6. Common demon. occurring after both nouns and verbs, and as the last part of the demon. kēlā that (far, see table 12 in Gram. 7.2) and pēlā, like that; following directionals it is usually unstressed and written as the concluding part of the directional (aʻela, akula, ihola, maila). It occurs also in the sequence ua (noun) lā, that aforementioned. A var. is ala 4. (Gram. 7.4.) He kanaka kēlā, that's a human. Maikaʻi pēlā, [it's] good that way. Hele maila ʻoia, he came. Ua kanaka lā, that aforementioned person. (PNP laa.)
7. Part. expressing doubt, uncertainty. See Gram. 7.5. Pehea lā! How, I don't know.
8. n. The letter "l". *Eng*.
9. n. Sixth note on the musical scale, la. *Eng.*
10. interj. Common refrain in songs, as in Elbert and Mahoe 90.

lā.ʻau
nvs. Tree, plant, wood, timber, forest, stick, pole, rod, splinter, thicket, club; blow or stroke of a club; strength, rigidness, hardness; male erection; to have formed mature wood, as of a seedling; wooden, woody; stiff, as wood. Kumulāʻau, tree.

lā.ʻau lapa.ʻau
n. Medicine. *Lit.*, curing medicine

lae
1.n. Forehead, brow. Nalulu ka lae, to have a headache. (PPN laʻe.)
2. Cape, headland, point, promontory. (PEP laʻe.)
3. Wisdom; mental or emotional qualities

lawaiʻa
1. nvi. Fisherman; fishing technique; to fish, to catch fish. ʻO ka hī aku ka lawaiʻa nui a ʻUmi-a-Līloa (FS 173), casting for bonito was ʻUmi-a-Līloa's principal means of fishing. (PCP lawaika).
2. *(Cap.)* n. Name of a group of seven stars.

limu
n. A general name for all kinds of plants living under water, both fresh and salt, also algae growing in any damp place in the air, as on the ground, on rocks, and on other plants; also mosses, liverworts, lichens.

loea
nvs. Skill, ingenuity, cleverness; expert, clever, ingenious, adept, deft, technical, skillful, dexterous, handy, skilled; skilled person. ʻIke loea, technical knowledge, knowledge of skills.

loʻi
n. Irrigated terrace, especially for taro, but also for rice; paddy.

lomi.lomi
Redup. of lomi; masseur, masseuse.

lono
1.n. News, report, tidings, remembrance (Kanl. 32.26), rumor (sometimes formerly preceded by ke). Kuʻi ka lono, the news spread. hoʻo.lono To listen, hear, obey; obedient, attentive. Kuʻi ka lono i Pelekane, hoʻolono ke kuini o Palani (song), the news spread to England, the queen of France heard. (PPN rongo.)
2. *(Cap.)* One of the four major gods brought from Kahiki.
3. *(Cap.)* The 28th day of the lunar month. (PEP Longo.)
4. *(Cap.)* Name of a star.

mahalo
nvt. 1. Thanks, gratitude; to thank. Mahalo nui loa, thanks [you] very much. ʻŌlelo mahalo, compliment. Mahalo ā nui, thanks very much. (PPN masalo.)
2. Admiration, praise, esteem, regards, respects; to admire, praise, appreciate.

māhele
Division, piece, portion, department, category, part, land division; to divide, apportion.

mahi ʻai
nvt. Farmer, planter; to farm, cultivate; agricultural. ʻOihana mahi ʻai, agricultural industry, farming.

mahina
1.n. Moon, month; moonlight.
2.n. Crescent-shaped fishhook.

mai.kaʻi
nvs. Good, fine, all right, well; good-looking; handsome, beautiful; goodness, righteousness, benefit, well-being, morality; good looks, good health.

maka.ʻāi.nana
n. Commoner, populace, people in general; citizen, subject. Cf. lunamaka ʻāinana. *Lit.*, people that attend the land.

makani
nvs. Wind, breeze; gas in the stomach, flatulent wind; windy; to blow. Fig. anger, gossip; to show anger. Cf. *ani*. Makani nui, strong wind, gale. Makani ʻoluʻolu, fair wind.

makua
nvs. Parent, any relative of the parents' generation, as uncle, aunt, cousin; progenitor; Catholic father; main stalk of a plant; adult; full-grown, mature, older, senior. *Fig.*, benefactor, provider, anyone who cares for one. Mākua - plural.

māla
n. Garden, plantation, patch, cultivated field, as māla ʻai, māla kalo, māla kō, māla kūlina.

mā.lama
nvt. To take care of, tend, attend, care for, preserve, protect, beware, save, maintain; to keep or observe, as a taboo; to conduct, as a service; to serve, honor, as God; care, preservation, support, fidelity, loyalty; custodian, caretaker, keeper.

malo
1.n. Male's loincloth
2.n. Leaf sheath that protects the young leaves of the breadfruit tree, sometimes called malo ʻulu.

maloʻo
nvs. Dry, dried up, evaporated, juiceless, desiccated; stale, as bread; drought, dryness. hoʻo.maloʻo To dry out.

mana
nvs. Supernatural or divine power, mana, miraculous power; a powerful nation, authority; to give mana to, to make powerful; to have mana, power, authority; authorization, privilege; miraculous, divinely powerful, spiritual; possessed of mana, power.

māna.leo
n. Native speaker. *Lit.*, voice of authority.

mele
nvt. Song, anthem, or chant of any kind; poem, poetry; to sing, chant (preceded by both ke and ka).

mihi
nvt. Repentance, remorse; to repent, apologize, be sorry, contrite; to regret; to confess, as to a priest.

mina.mina
1. nvt. To regret, be sorry, deplore; to grieve for something that is lost; regret, sorrow.

2. To prize greatly, value greatly, especially of something in danger of being lost; to value, place great value on; value, worth.

moku
1. vs. To be cut, severed, amputated, broken in two, as a rope; broken loose, as a stream after heavy rains, or as a bound person; to punctuate. **2. n. District, island, islet, section,** forest, grove, clump, severed portion, fragment, cut, laceration, scene in a play. Cf. *mokupuni*, *momoku*. Moku lehua, lehua forest. 3. n. Ship, schooner, vessel, boat, said to be so called because the first European ships suggested islands. Many types are listed below. 4. n. A stage of pounded poi (such poi sticks together as a mass and can be separated cleanly (moku) from the pounding board). (Kep. 165.)

moʻo
1. n. Lizard, reptile of any kind, dragon, serpent; water spirit
2. n. Succession, series, especially a genealogical line, lineage.
3. n.Story, tradition, legend (less common than moʻolelo).
4. n. Narrow strip of land, smaller than an ʻili. Also moʻo ʻāina.
5. n. Small fragment, as of tapa, not attached to a large piece. Cf. *moʻomoʻo*.
6. n. Narrow path, track; raised surface extending lengthwise between irrigation streamlets.
7. n. Ridge, as of a mountain. Moʻo muku, ridge that is cut off.
8. n. Young, as of pigs, dogs; grandchild. Kuʻu moʻo lei, my beloved grandchild.

moʻokūʻauhau
kik Genealogy. Dic., sp. var. Moʻolelo moʻokūʻauhau. Genealogical story.

moʻo.lelo
n.. Story, tale, myth, history, tradition, literature, legend, journal, log, yarn, fable, essay, chronicle, record, article; minutes, as of a meeting. (From moʻo ʻōlelo, succession of talk; all stories were oral, not written.)

naʻau.ao
nvs. Learned, enlightened, intelligent, wise; learning, knowledge, wisdom, science. *Lit.*, daylight mind.

nā.nā
vt. To look at, observe, see, notice, inspect; to care for, pay attention to, take care of. Cf. *kūnānā*, *nānā ʻole*. Mai nānā i kānā ʻōlelo, don't pay any attention to what he says. He keiki nānā mākua, a son who cares for his parents.

niu
1. n. The coconut (Cocos nucifera), a common palm in tropical islands of the Pacific and warm parts of eastern Asia; coconut meat or oil. Hawaiians used all parts of the tree. (Neal 119–2l.) Coconut water and coconut cream (the white liquid squeezed front ripegrated coconuts) were both called wai niu and wai o ka niu. In For. 5:596 niu ā wali was translated 'milk of the coconut'.
2. vs. Spinning, whirling, dizzy. Cf. *niniu*, *niua*, *niuniu*, *make ulu niu*.

noʻe.au
vs. Clever, skillful, dexterous, wise, artistic, talented, expert, technical. ʻŌlelo noʻeau, wise or entertaining proverb, saying. He wahine noʻeau i ka haku lei hulu, a woman skillful at making feather leis.

noni
n. The Indian mulberry (Morinda citrifolia), a small tree or shrub in the coffee family, a native of Asia, Australia, and islands of the Pacific. Leaves are large, shiny, deep-veined. Many small flowers are borne on round heads, which become pale-yellow unpleasant-tasting fruits. Formerly Hawaiians obtained dyes and medicine from many parts of the tree.

nuku
n. Beak, snout, tip, end; spout, beak of a pitcher; mouth or entrance, as of a harbor, river, or mountain pass or gap.

ʻohana
1. nvs. Family, relative, kin group; related. ʻOhana holoʻokoʻa, ʻohana nui, extended family, clan.
2. vi. To gather for family prayers (short for pule ʻohana).

ʻohe
n. 1. All kinds of bamboo; reed (Mat. 27.48); flute; pipe, hose, tube; bamboo tube for preserving fish.
2. A coarse, jointed, native grass (Isachne distichophylla), to 190 cm high, with stiff, pointed leaves and open flowering panicle.
3. A native bamboo-like plant (Joinvillea ascendens), with stem about 3 m high, 2.5 cm or less in diameter, unbranched; leaf blades 60 to 90 cm by 8 to 13 cm, pointed and plaited; flowering panicle about 30 cm long. (Neal 166.)
4. A native tree (Reynoldsia sandwicesis), an araliad, with leaves about 30 cm long, each leaf with seven to eleven broad leaflets with scalloped edges. (Neal 652.) The wood of this kind of tree growing at Mauna Loa, Molokaʻi, was reputed to be poisonous, was used for making poison images, and is the tree form of Kapo, a goddess. See *kālaipāhoa*, *kauila*. This tree growing elsewhere was not considered poisonous and was used for making stilts, hence it was also called ʻohe kukuluaeʻo or ʻohe-o-kai or ʻohe-ma-kai.
5. A native variety of taro, thriving at altitudes above 450 m; leaf stem light-green, tinged with reddish-brown (perhaps like some variety of bamboo); the corm pink-tinted, making excellent poi. (Whitney 58.) The term may be qualified by the colors ʻeleʻele, kea or keʻokeʻo, ʻulaʻula. Lele nō ka ʻohe i kona lua, the ʻohe leaps into its hole [a legendary reference; each in his own place].
6. Variety of fish (no data).

ʻō.iwi
1. nvs. Native, native son. Cf. *iwi*, bone; kulāiwi. Hui ʻōiwi, society of native sons. ho.ʻō.iwi To pass oneself off as a native son; like a native son. (PCP kooiwi.)
2. nvi. Physique, appearance; to appear. Lamalama ka ʻōiwi, a physique glowing with health. Maikaʻi hoʻi kō ia ala ʻōiwi kino, he certainly has a fine physique.

ola
nvs. Life, health, well-being, living, livelihood, means of support, salvation; alive, living; curable, spared, recovered; healed; to live; to spare, save, heal, grant life, survive, thrive.

ʻō.lelo
nvt. Language, speech, word, quotation, statement, utterance, term, tidings; to speak, say, state, talk, mention, quote, converse, tell; oral, verbatim, verbal, motion.

oli
nvt. Chant that was not danced to, especially with prolonged phrases chanted in one breath, often with a trill (ʻiʻi) at the end of each phrase; to chant thus.

ʻō.lohe
1. vs. Bare, naked, barren; hairless, as a dog; bald; destitute, needy. Ka lua ʻōlohe o ke ālialia, the barren pit of the salt marsh. ho.ʻō.lohe Caus/sim.
2. nvs. Skilled, especially in lua fighting, so called perhaps because the beards of lua fighters were plucked and their bodies greased; bones of hairless men were desired for fish hooks because such men were thought stronger; also said of hula experts; skilled fighter.

ʻō.pae
n. General name for shrimp. For some persons, ʻōpae were ʻaumakua.

ʻō.pio
nvs. Youth, juvenile; youngster; young, junior.

paea.ea
nvi. 1. To fish with a light pole affshore; polefishing. 2. nvi. A chant of supplication; to chant thus, perhaps so called as a means of "fishing" for something. (PH 149.)

pā.ea.ea
1. vs. Smooth, calm, as the sea. 2. n. A variety of fish mentioned as having sharp protuberances (Malo 46). 3. vt. To signal with the arms. *Rare*.

pali
nvs., nvi. Cliff, precipice, steep hill or slope suitable for olonā or wauke; full of cliffs; to be a cliff. *Fig.*, an obstacle, difficulty; haughty or disdainful.

Pele
1. nvs. Lava flow, volcano, eruption; volcanic (named for the volcano goddess, Pele.
2. vs. Soft, swollen, fat; pounded or kneaded soft, as poi or dough.
3. n. Choice Kauaʻi tapa (FS 252–3), scented with maile and kūpaoa, said to be gray and dyed with charcoal made of burned sugar cane mixed with coconut water (preceded by ke). Pele ʻiliahi (GP 8), pele tapa scented with sandalwood and associated with Kahana, Kauaʻi.
4. vs. A term qualifying koʻi (adze), similar to kūpele.

pili
nvi. To cling, stick, adhere, touch, join, adjoin, cleave to, associate with, be with, be close or adjacent; clinging, sticking; close relationship, relative; thing belonging to.

pō.haku
nvs. Rock, stone, mineral, tablet; sinker; thunder; rocky, stony.

poke
nvt. To slice, cut crosswise into pieces, as fish or wood; to press out, as the core of a boil (Kam. 64:105) or the meat of an ʻopihi shell; section, slice, piece.

pono
nvs. Goodness, uprightness, morality, moral qualities, correct or proper procedure, excellence, well-being, prosperity, welfare, benefit, behalf, equity, sake, true condition or nature, duty; moral, fitting, proper, righteous, right, upright, just, virtuous, fair, beneficial, successful, in perfect order, accurate, correct, eased, relieved; should, ought, must, necessary.

pōpō ʻauhuhu
Term used in the traditional fishing method of hola. Same as `auhuhu. **pō.pō** 1. nvt. Ball, round mass, wad; cluster, bunch, as of flowers; to shape or wad up into a ball or bundle; baskets of ʻieʻie vine as used by nehu fishermen to collect nehu (For. 6:481). Cf. *kinipōpō*, *Pōpō-kapa*, *Pōpōua*. hoʻo.pō.pō To shape or wad into a ball. (PCP poopoo.)

pule
nvt. Prayer, magic spell, incantation, blessing, grace, church service, church; to pray, worship, say grace, ask a blessing, cast a spell.

puna
1. n. Spring (of water). Cf. *pūnāwai*. 2. n. Coral, lime, plaster, mortar, whitewash, calcium; coral container, as for dye, coral rubber. 3. n. Section between joints or nodes, as of bamboo or sugar cane. 4. n. Cuttlebone, as of octopus. 5. Short for kupuna as a term of address. 6. Short for punalua. hoʻo.puna Same as hoʻopunalua. 7. vi. To paddle with the hands, as to start a surfboard on its way to catch a wave. *Rare*. 8. n. Spoon (preceded by ke).

Puna is also land term given to a large district generally located on the eastern side of various Hawaiian Islands. Oftentimes, the district is abundant with fresh water springs and resources including vast rivers, streams and tributaries. On Kaua`i, the Puna district formerly included lands from the northside of Hā`upu Mountain all the way to the south border of the ahupua`a of Anahola.

ʻuala, ʻuwala
n. The sweet potato (Ipomoea batatas), a perennial, wide-spreading vine, with heart-shaped, angled, or lobed leaves and pinkish-lavender flowers. The tuberous roots are a valuable food, and they vary greatly in many ways, as in color and shape.

waʻa
1.n. Canoe, rough-hewn canoe, canoemen, paddlers; a chant in praise of a chief's canoe.
2.n. Trench, furrow, receptacle. *Fig.*, a woman. (PCP waka-.)
3. Moving masses of liquid lava, so called because of similarity to a moving canoe. *Rare*.

waʻa
4. Same as more common waʻawaʻa.

wahi
n. Place, location, position, site, setting.

wahine
nvs. Woman, lady, wife; sister-in-law, female cousin-in-law of a man; queen in a deck of cards; womanliness, female, femininity; feminine; Mrs.; to have or obtain a wahine; to become a woman, as an adolescent. In some chants, as those about Pele, the word wahine has a connotation of goddess.

Wākea or ā.kea
1. nvs. Broad, wide, spacious, open, unobstructed, public, at large; full, as a skirt; breadth, width. *Fig.*, liberal. Piliwaiwai ākea, open gambling. Ākea ka noʻonoʻo, broad-minded. Hōʻike ākea, a public report; to lay before the public. Ke hoʻolaha ʻia aku nei ma ke ākea, there is being widely advertised hereby. hoʻā.kea To widen, broaden, extend, enlarge, make public; broadening, expansion; extension; to escape *(rare)*.
2. *(Cap.)* n. Var. of Wākea

wahi pana
n. Legendary place.

wai
1. nvs. Water, liquid or liquor of any kind other than sea water (see ex., *koni*), juice, sap, honey; liquids discharged from the body, as blood, semen; color, dye, pattern; to flow, like water, fluid.
2. **(Cap.)** n. Place names beginning with Wai-, river, stream. Ka Wai Hālau O Wailua, a poetic name for Wailua, Kaua`i. Wai-lua, Wai-`ale`ale, Wai-koko, Wai-pā, Wai-mea, etc.
3. (Also spelled ai.) interr. pronoun; Who, whom, whose, what (animate antecedents).(Gram. 8.5.) ʻO wai! Who? ʻO wai kou inoa? What is your name? ʻO wai ia? Who is he? (angrily) Who does he think he is? Kō wai, kā wai? Whose? No wai? For or in honor of whom? Na wai? By whom?

wai.ū n. Milk; a wet nurse; breast. *Lit.*, breast liquid. Kau ka waiū, breasts filled with milk. Keiki waiū, nursing child. Hoʻokau i ka waiū, to perform ceremonies to make the breasts fill with milk. Lele ka waiū, breast milk has ceased to flow. Hoʻolele i ka waiū, to perform ceremonies to make the breast cease flowing. Kawaiūmakua is a pu`u that is part of the Kalalea mountain range that measures 1,670 feet high.

wauke
n. The paper mulberry (Broussonetia papyrifera), a small tree or shrub, from eastern Asia, known throughout the Pacific for its usefulness. It belongs to the fig or mulberry family. The bark was made into tough tapa used for clothing, bed clothes; it lasted longer than māmaki tapa.

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G. NOISE REPORT

ACOUSTIC STUDY FOR THE ANAHOLA SOLAR PROJECT ANAHOLA, KAUAI

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DECEMBER 2012

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CHAPTER I. SUMMARY

The future noise levels associated with the proposed Anahola Solar Project on Kauai were evaluated for their potential impacts on noise sensitive receptors in the project environs. Future noise levels and potential impacts associated with the activities at the project site were evaluated.

Along Kuhio Highway, which is expected to service the project traffic, traffic noise levels at the closest noise sensitive receptors to the north are not expected to change significantly. Due to the relatively low volumes of project traffic (20 vehicles per hour or less) when compared to the high volumes of non-project traffic (879 to 1,067 vehicles per hour) on Kuhio Highway, traffic noise level increases should be less then 0.1 dB and will be difficult to measure. Traffic noise level increases associated with the Anahola Solar Project should not result in adverse traffic noise impacts.

Noise from on site activities at the Anahola Solar facility should not result in adverse noise impacts at the closest noise sensitive receptors located approximately 770 feet north of the project site. During the daytime hours, the background noise levels at the closest noise sensitive receptor will be higher than the noise levels from the normal daily activities at the proposed facility. Visits to the facility by noisier vehicles delivering and removing electrical equipment and poles may be audible, but are not expected to be characteristic of the normal daily activities at the proposed facility. Therefore, adverse noise impacts are not expected during daytime operations.

During the quieter nighttime hours, beeper type back-up alarms will probably be audible at the closest noise sensitive receptors. This is due to the lower background noise levels, more favorable atmospheric propagation conditions during darkness, and the concentration of beeper type back-up alarm signal energy within a narrow band of high frequencies. Because nighttime deployment of work crews from the new facility may be required during emergency repairs, the replacement of the beeper type back-up alarms with broadband noise, self-adjusting, back-up alarms is recommended. These broadband back-up alarms should be inaudible at the closest noise sensitive receptors.

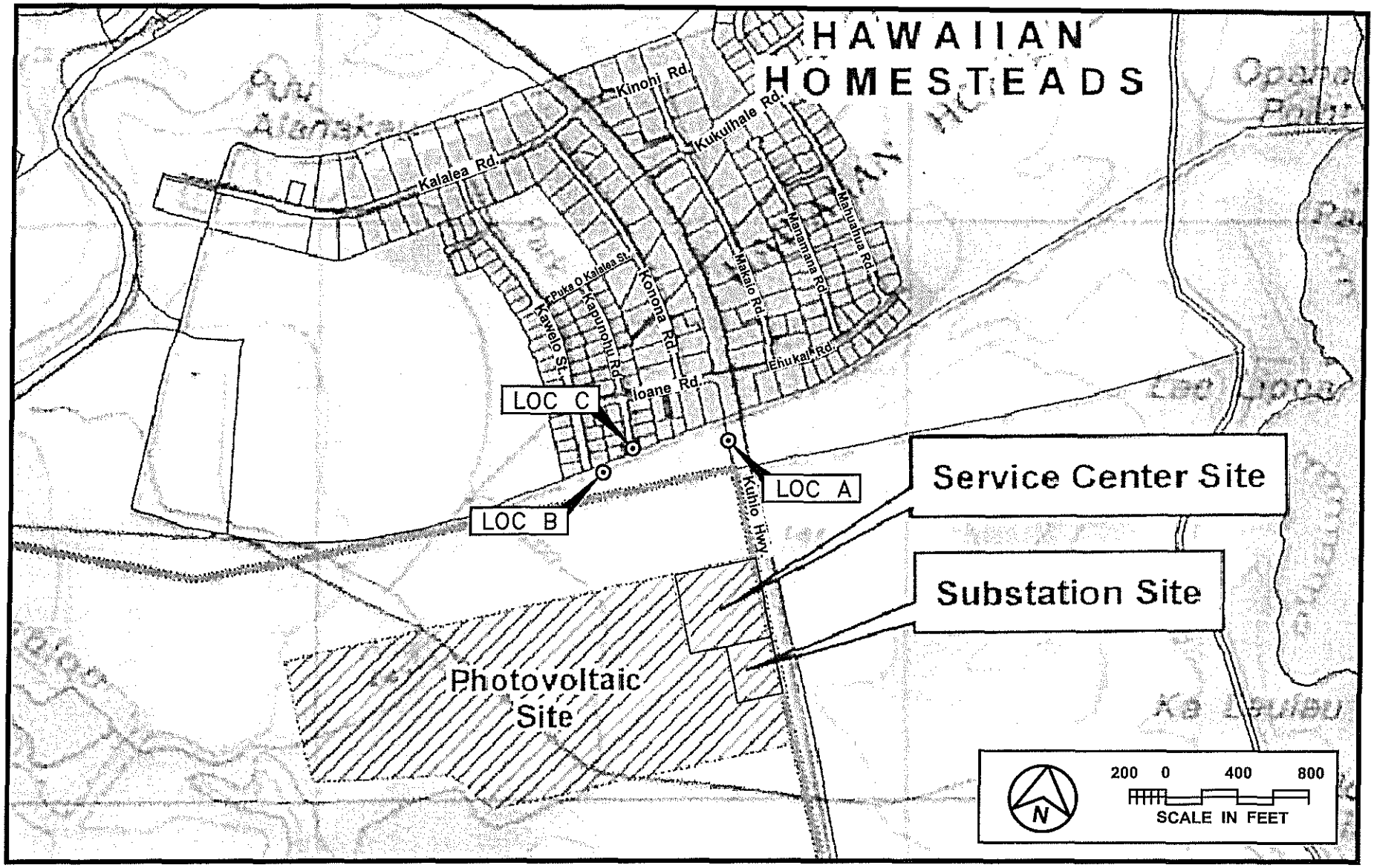
Construction activities on the project site will probably be audible at residences north of the project site. Construction noise levels are expected to be in the "Moderate Exposure, Acceptable" category due to the relatively large buffer distances (at least 770 feet) from the project site to the closest residences. The implementation of State DOH (Department of Health) construction noise permit procedures is recommended and will require that noisy construction activities do not occur during the nighttime, Sundays, and holidays. Adverse impacts from construction noise are not expected to be in the "public health and welfare" category due to the temporary nature of the work and due to the administrative controls available for its regulation. Instead, these impacts will probably be limited to the temporary degradation of the quality of the acoustic environment in the immediate vicinity of the construction work sites.

CHAPTER II. PURPOSE

The primary objective of this study was to describe the future noise levels and potential noise impacts associated with the proposed Anahola Solar Project on Kauai. The location of the proposed Anahola Solar Project facility is shown in Figure 1. The facility will consist of a photovoltaic (PV) panel array, substation, and Service Center.

Roadway traffic noise levels and impacts associated with the Anahola Solar Project were to be determined along the primary access roadway (Kuhio Highway) which is expected to service the project's traffic. A specific objective was to determine future traffic noise levels associated with the project traffic, and the potential noise impacts associated with project traffic. Recommendations for minimizing traffic noise impacts were to be provided as required.

Assessments of possible noise impacts from on-site activities and as well as from short term construction noise at the proposed location for the Anahola Solar Project were also included in the noise study objectives. Recommendations for minimizing these noise impacts were to be provided as required.



PROJECT LOCATION MAP AND NOISE MEASUREMENT LOCATIONS

FIGURE 1

CHAPTER III. NOISE DESCRIPTORS AND THEIR RELATIONSHIP TO LAND USE COMPATIBILITY

The noise descriptor currently used by federal agencies to assess environmental noise is the Day-Night Average Sound Level (DNL or Ldn). This descriptor incorporates a 24-hour average of instantaneous A-Weighted sound levels as read on a standard Sound Level Meter. The maximum A-Weighted sound level occurring while a noise source such as a heavy truck or aircraft is moving past a listener (i.e., the maximum sound level from a "single event") is referred to as the "Lmax value". The mathematical product (or integral) of the instantaneous sound level times the duration of the event is known as the "Sound Exposure Level", or Lse, which is analogous to the energy of the time-varying sound levels associated with a single event.

The DNL values represent the average noise during a typical day of the year. DNL exposure levels of 55 or less are typical of quiet rural or suburban areas. DNL exposure levels of 55 to 65 are typical of urbanized areas with medium to high levels of activity and street traffic. DNL exposure levels above 65 are representative of densely developed urban areas and areas fronting high volume roadways.

By definition, the minimum averaging period for the DNL descriptor is 24 hours. Additionally, sound levels which occur during the nighttime hours of 10:00 PM to 7:00 AM are increased by 10 decibels (dB) prior to computing the 24-hour average by the DNL descriptor. Because of the averaging used, DNL values in urbanized areas typically range between 50 and 75 DNL. In comparison, the typical range of intermittent noise events may have maximum Sound Level Meter readings between 75 and 105 dBA. A more complete list of noise descriptors is provided in Appendix B to this report. In Appendix B, the Ldn descriptor symbol is used in place of the DNL descriptor symbol.

Table 1, extracted from Reference 1, categorizes the various DNL levels of outdoor noise exposure with severity classifications. Table 2, also extracted from Reference 1, presents the general effects of noise on people in residential use situations. Figure 2, extracted from Reference 2, presents suggested land use compatibility guidelines for residential and nonresidential land uses. A general consensus among federal agencies has developed whereby residential housing development is considered acceptable in areas where exterior noise does not exceed 65 DNL. This value of 65 DNL is used as a federal regulatory threshold for determining the necessity for special noise abatement measures when applications for federal funding assistance are made.

As a general rule, noise levels of 55 DNL or less occur in rural areas, or in areas which are removed from high volume roadways. In urbanized areas which are shielded from high volume streets, DNL levels generally range from 55 to 65 DNL, and are

TABLE 1

EXTERIOR NOISE EXPOSURE CLASSIFICATION (RESIDENTIAL LAND USE)

NOISE EXPOSURE CLASS	DAY–NIGHT SOUND LEVEL	EQUIVALENT SOUND LEVEL	FEDERAL (1) STANDARD
Minimal Exposure	Not Exceeding 55 DNL	Not Exceeding 55 Leq	Unconditionally Acceptable
Moderate Exposure	Above 55 DNL But Not Above 65 DNL	Above 55 Leq But Not Above 65 Leq	Acceptable(2)
Significant Exposure	Above 65 DNL But Not Above 75 DNL	Above 65 Leq But Not Above 75 Leq	Normally Unacceptable
Severe Exposure	Above 75 DNL	Above 75 Leq	Unacceptable

Notes: (1) Federal Housing Administration, Veterans Administration, Department of Defense, and Department of Transportation.

(2) FHWA uses the Leq instead of the Ldn descriptor. For planning purposes, both are equivalent if: (a) heavy trucks do not exceed 10 percent of total traffic flow in vehicles per 24 hours, and (b) traffic between 10:00 PM and 7:00 AM does not exceed 15 percent of average daily traffic flow in vehicles per 24 hours. The noise mitigation threshold used by FHWA for residences is 67 Leq.

TABLE 2

EFFECTS OF NOISE ON PEOPLE
(Residential Land Uses Only)

EFFECTS[1] / DAY-NIGHT AVERAGE SOUND LEVEL IN DECIBELS	Hearing Loss	Speech Interference		Annoyance[2]	Average Community Reaction[4]	General Community Attitude Towards Area
		Indoor	Outdoor			
	Qualitative Description	%Sentence Intelligibility	Distance in Meters for 95% Sentence Intelligibility	% of Population Highly Annoyed[3]		
75 and above	May Begin to Occur	98%	0.5	37%	Very Severe	Noise is likely to be the most important of all adverse aspects of the community environment.
70	Will Not Likely Occur	99%	0.9	25%	Severe	Noise is one of the most important adverse aspects of the community environment.
65	Will Not Occur	100%	1.5	15%	Significant	Noise is one of the important adverse aspects of the community environment.
60	Will Not Occur	100%	2.0	9%	Moderate to Slight	Noise may be considered an adverse aspect of the community environment.
55 and below	Will Not Occur	100%	3.5	4%		Noise considered no more important than various other environmental factors.

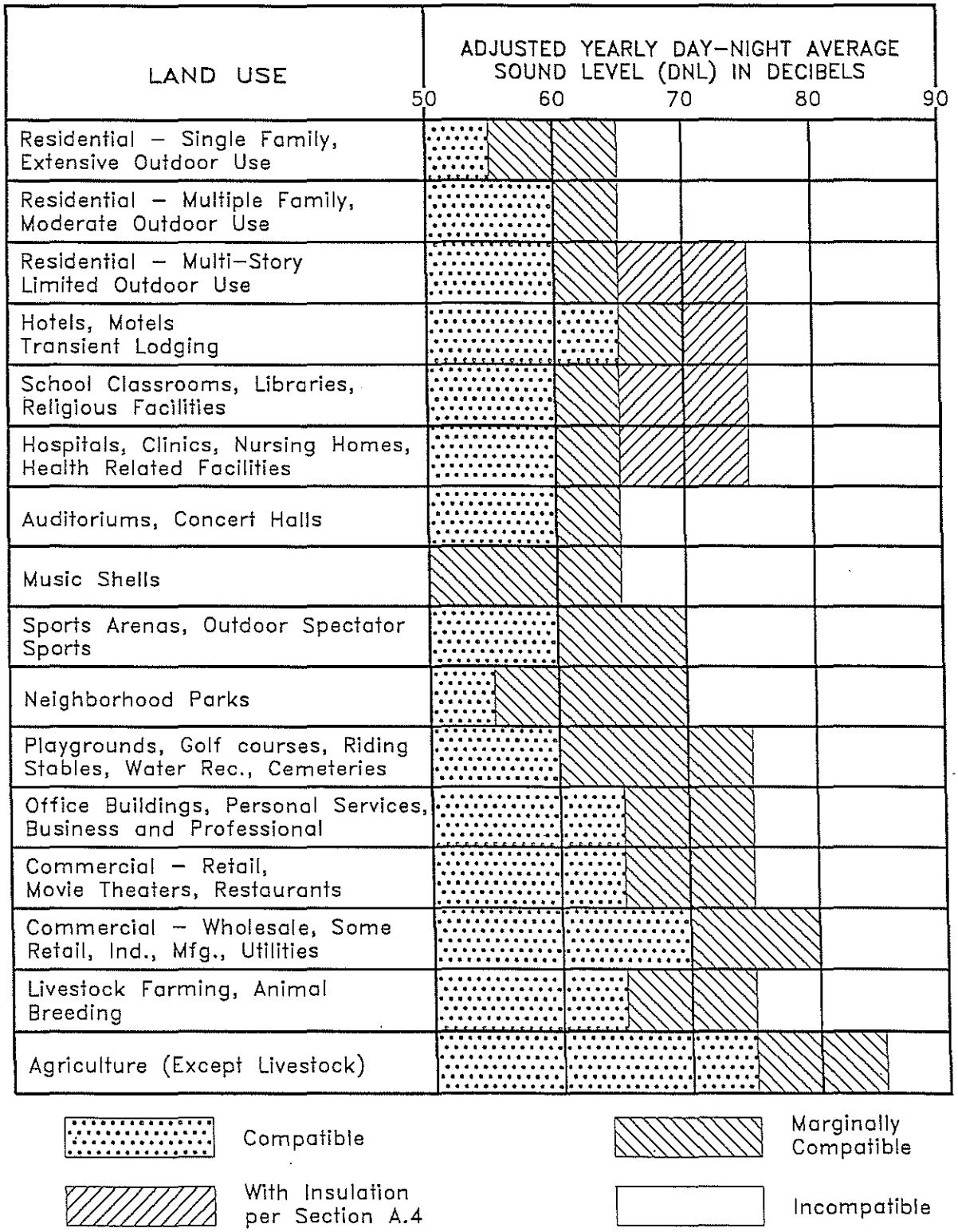
1. "Speech Interference" data are drawn from the following tables in EPA's "Levels Document": Table 3, Fig. D-1, Fig. D-2, Fig. D-3. All other data from National Academy of Science 1977 report "Guidelines for Preparing Environmental Impact Statements on Noise, Report of Working Group 69 on Evaluation of Environmental Impact of Noise."

2. Depends on attitudes and other factors.

3. The percentages of people reporting annoyance to lesser extents are higher in each case. An unknown small percentage of people will report being "highly annoyed" even in the quietest surroundings. One reason is the difficulty all people have in integrating annoyance over a very long time.

4. Attitudes or other non-acoustic factors can modify this. Noise at low levels can still be an important problem, particularly when it intrudes into a quiet environment.

NOTE: Research implicates noise as a factor producing stress-related health effects such as heart disease, high-blood pressure and stroke, ulcers and other digestive disorders. The relationships between noise and these effects, however, have not as yet been quantified.



LAND USE COMPATIBILITY WITH YEARLY AVERAGE DAY–NIGHT AVERAGE SOUND LEVEL (DNL) AT A SITE FOR BUILDINGS AS COMMONLY CONSTRUCTED.
(Source: American National Standards Institute S12.9–1998/Part 5)

FIGURE 2

usually controlled by motor vehicle traffic noise. Residences which front major roadways can be exposed to levels of 65 DNL. Due to noise shielding effects from intervening structures, interior lots are usually exposed to 3 to 10 DNL lower noise levels than the front lots which are not shielded from the traffic noise.

For the purposes of determining an acceptable level of exterior noise for residences, federal agencies have determined that an exterior noise level of 65 DNL or lower is considered acceptable. These federal agencies include the Federal Aviation Administration (FAA), Department of Defense (DOD); Federal Housing Administration, Housing and Urban Development (FHA/HUD), and Veterans Administration (VA). This standard is applied nationally (see Reference 3).

For office, commercial, industrial, and other non-noise sensitive land uses, exterior noise levels as high as 70 to 75 DNL are generally considered acceptable. Exceptions to this occur when naturally ventilated office and other commercial establishments are exposed to exterior levels which exceed 65 DNL. The State Department of Health (DOH) regulates the noise levels from fixed machinery by imposing maximum allowable sound levels at the property boundaries for various zoning categories (see Reference 4). Because of the Agricultural Zoning of the project site, the allowable noise levels from fixed machinery at or beyond the project site boundaries is 70 dBA during the daytime and nighttime periods. The noise levels of portable or movable equipment (such as trucks, front end loaders, fork lifts, etc.) are not subject to the 70 dBA limit under DOH noise regulations.

Due to the relatively large (770+ feet) buffer distances between the proposed Anahola Solar Project site and the closest noise sensitive receptors to the north, regulation of the noise levels during construction of the Anahola Solar facility is not as critical as it would be within an urban area. Construction noise levels are regulated by the State DOH using a curfew system (Reference 4) whereby noisy construction activities are not normally permitted during the nighttime periods, on Sundays, and on holidays. Construction activities (which could typically exceed the limits established for fixed machinery) are normally allowed during the normal daytime work hours on weekdays and on Saturdays using a system involving the issuance of construction noise permits.

CHAPTER IV. GENERAL STUDY METHODOLOGY

General. Computer noise modeling was used to describe the noise levels associated with Anahola Solar Project activities at the closest noise sensitive receptors to the north. The noisiest activities are expected to occur during sitework and construction activities prior to commissioning of the facility. The existing Kapaa Baseyard operations of the Kauai Island Utility Cooperative (KIUC) are planned to be relocated to the Service Center Site where shown in Figure 1. These operations are expected to be the noisiest activities on the Anahola Solar Project site following commissioning of the facility. The noise levels of a KIUC Line Truck (with boom and bucket) were measured at the KIUC Kapaa Baseyard facility, and were used to form a basis for modeling the noise levels of the noisy equipment expected to be most frequently used at the Service Center Site. The noise from these equipment and operations at the proposed facility and from motor vehicles traveling along the primary access road to the proposed facility were evaluated. Risks of adverse noise impacts from future baseyard operations at the Service Center Site, traffic, and short term construction noise were determined, and possible noise mitigation measures were provided as applicable.

Traffic Noise Measurements. Traffic noise measurements were obtained at Location A along Kuhio Highway (see Figure 1) on November 23, 2012 to validate the traffic noise model, and to describe background ambient noise levels during low and high volume traffic conditions. The U.S. Federal Highway Administration Traffic Noise Model (TNM) Version 2.5 (Reference 5) was used to calculate existing and future traffic noise levels, with the traffic noise measurements used to validate the reasonableness of the traffic noise predictions provided by the TNM. The results of these traffic noise measurements and their comparison with TNM predictions are shown in Table 3.

Because background noise levels at the noise sensitive receptor locations closest to the project site are controlled by traffic along Kuhio Highway, the average background noise levels at these receptor locations tend to be lowest during the nighttime and early morning hours. Background ambient noise measurements were obtained at Locations B and C (see Figure 1) between 9:50 and 11:59 am on November 23, 2012 and between 6:16 and 9:00 pm on November 23, 2012. These background noise measurements are summarized in Table 4, and were used to compare against the predicted noise levels from on-site activities at the project site.

Noise During On-Site Activities. Measurements of sound levels associated with Line Truck operations were performed on November 23, 2012. Line Trucks would typically be deployed from the proposed Service Center Site in conjunction with service calls associated with maintenance and repair of off-site KIUC facilities. The proper operation of the Line Trucks will typically be verified prior to leaving the Service Center. The sound levels recorded of a Line Truck at 50 feet distance are shown in Figure 3. The various operating modes of the Line Truck are also shown in the figure. Based on the measurements of the Line Truck at the KIUC Kapaa Baseyard, noise level

TABLE 3

TRAFFIC AND BACKGROUND NOISE MEASUREMENT RESULTS

LOCATION	Time of Day (HRS)	Ave. Speed (MPH)	Hourly Traffic Volume AUTO	M.TRUCK	H.TRUCK	Measured Leq (dB)	Predicted Leq (dB)
A. 50 FT from the center-line of Kuhio Hwy. (11/23/12)	0753 TO 0853	52	706	13	11	68.7	68.7
A. 50 FT from the center-line of Kuhio Hwy. (11/23/12)	1601 TO 1701	55	1,080	7	2	70.8	70.8
B. At South End of Kawelo St. (11/23/12)	0951 TO 1051	N/A	N/A	N/A	N/A	43.0	N/A
C. At South End of Kapunohu Rd. (11/23/12)	1059 TO 1159	N/A	N/A	N/A	N/A	46.5	N/A
C. At South End of Kapunohu Rd. (11/23/12)	1816 TO 1916	N/A	N/A	N/A	N/A	47.1	N/A
B. At South End of Kawelo St. (11/23/12)	1924 TO 2024	N/A	N/A	N/A	N/A	41.7	N/A
C. At South End of Kapunohu Rd. (11/23/12)	2028 TO 2100	N/A	N/A	N/A	N/A	45.8	N/A

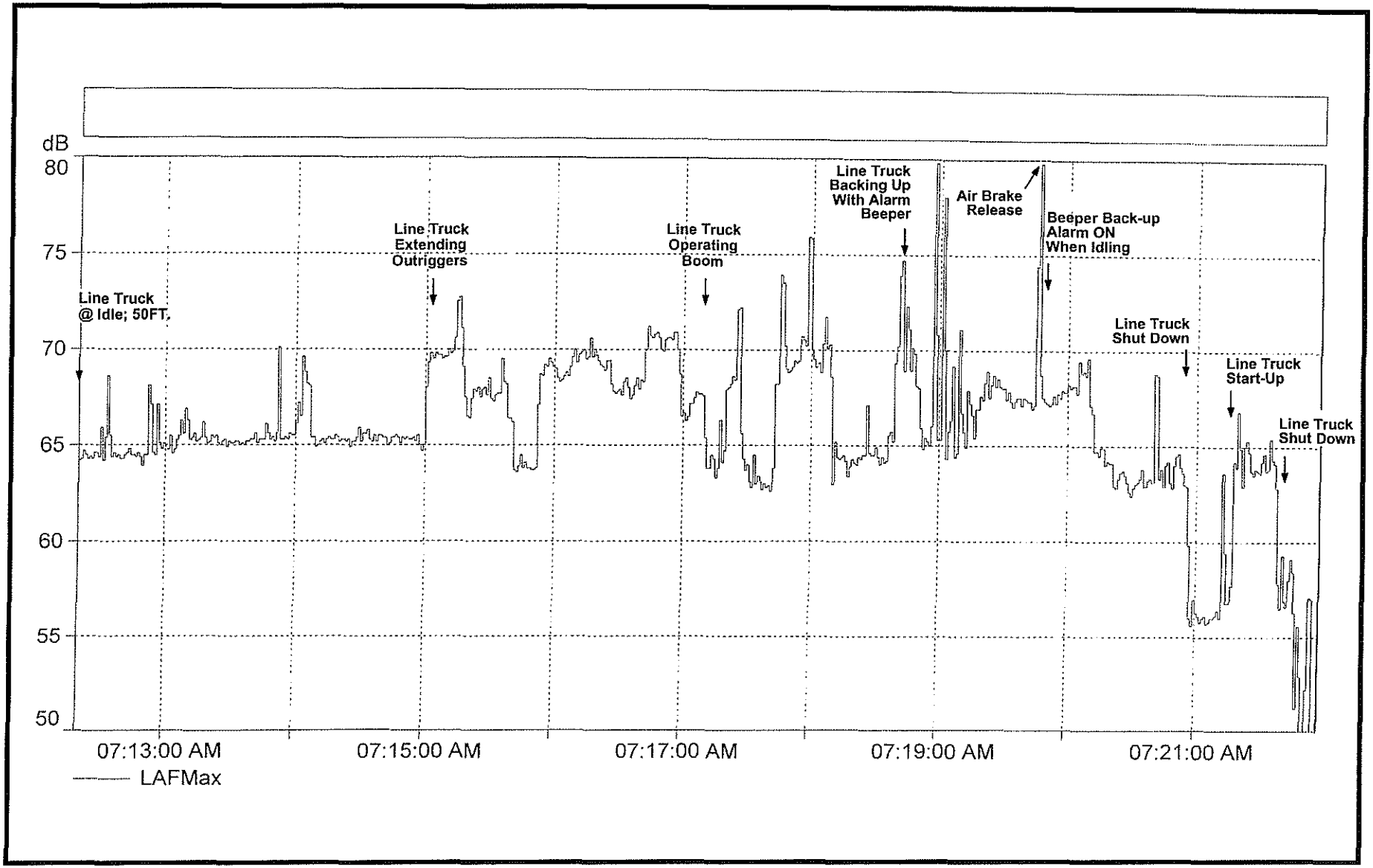
TABLE 4. MEASURED BACKGROUND NOISE LEVELS AT LOCATIONS B AND C

LOCATION: ANAHOLA RESIDENTIAL SUBDIVISION
DATE: November 23, 2012

Start Time	End Time	MAXL	LEQ	MINL	L99	L95	L90	L50	L10	L5	L1	Event Description
09:51 AM	10:51 AM	55.3	43.0	32.7	34.9	37.1	38.2	41.7	45.9	47.1	49.4	At Location B
10:59 AM	11:59 AM	62.6	46.5	31.8	35.9	39.4	40.6	45.4	49.4	50.6	53.0	At Location C
6:16 PM	7:16 PM	63.1	47.1	39.3	41.2	42.1	42.6	46.0	49.8	50.9	53.4	At Location C
7:24 PM	8:24 PM	54.4	41.7	33.0	34.7	35.7	36.6	40.0	43.4	44.4	47.6	At Location B
8:28 PM	9:00 PM	56.3	45.8	37.5	39.0	40.0	40.5	42.3	44.9	48.0	56.0	At Location C

Notes:

a. Leq = Average A-Weighted Sound Level (in dBA)
b. Lmax = Maximum A-Weighted Sound Level (in dBA)
c. Lmin = Minimum A-Weighted Sound Level (in dBA)
d. L10 = A-Weighted Sound Level (in dBA) which was exceeded 10 percent of the time.
e. L90 = A-Weighted Sound Level (in dBA) which was exceeded 90 percent of the time.
f. Lxx = A-Weighted Sound Level (in dBA) which was exceeded xx percent of the time.



MEASURED SOUND LEVELS OF LINE AT 50 FEET DISTANCE AT KIUC KAPAA BASEYARD

FIGURE 3

predictions were made at the closest noise sensitive receptors to the proposed Service Center facility. The noise modeling was performed using inverse square law for hemispherical spreading of a sound from a source at or near the ground, with inclusion of molecular absorption and anomalous excess attenuation effects. The modeling equation used to predict sound levels at any given distance from an on-site noise source was:

$$L_p = L_w - 20 \times \text{Log}\,(d) - [d \times a(f)] / 100 - 8,$$

where:

L_p = Sound pressure level in decibels (re $2x10^{-5}$ Pa) at distance d (in meters),
L_w = Sound power level of noise source in decibels (re picowatt), and
a(f) = Molecular absorption plus anomalous excess attenuation in decibels per 100 meters. For the 9 standard Octave Bands from 31.5 Hz to 8,000 Hz, the a(f) values used were 0.1, 0.16, 0.27, 0.39, 0.66, 1.08, 1.9, 3.47, and 5.2.

Traffic Noise Level Predictions. Traffic on Kuhio HIghway is the primary background noise source in the vicinity of the Anahola Solar Project. KIUC estimates that once they are operational, the three components of the Anahola Solar Project (i.e., PV arrays, substation, and base yard/service center) will generate no more than 20 new vehicles-trips per hour at any location on Kuhio Highway, and in most instances, it will be considerably less. Using this information, the increase in traffic noise levels along Kuhio Highway associated with the addition of 20 vehicles per hour was estimated using the TNM Version 2.5. For existing and future traffic along Kuhio Highway in the vicinity of the project site, it was assumed that the average noise levels, or Leq(h), during the pm peak traffic hour were approximately equal to the 24-hour DNL along Kuhio Highway. This relationship between the peak hour Leq(h) and the 24-hour DNL is typical for rural areas with relatively low volumes of traffic during the nighttime period.

Construction Noise. Evaluations of potential construction noise impacts at noise sensitive properties closest to the proposed Anahola Solar Project site were also provided. Risks of adverse noise impacts from construction activities at the project site were evaluated, and mitigation measures were recommended as required.

CHAPTER V. EXISTING NOISE LEVELS

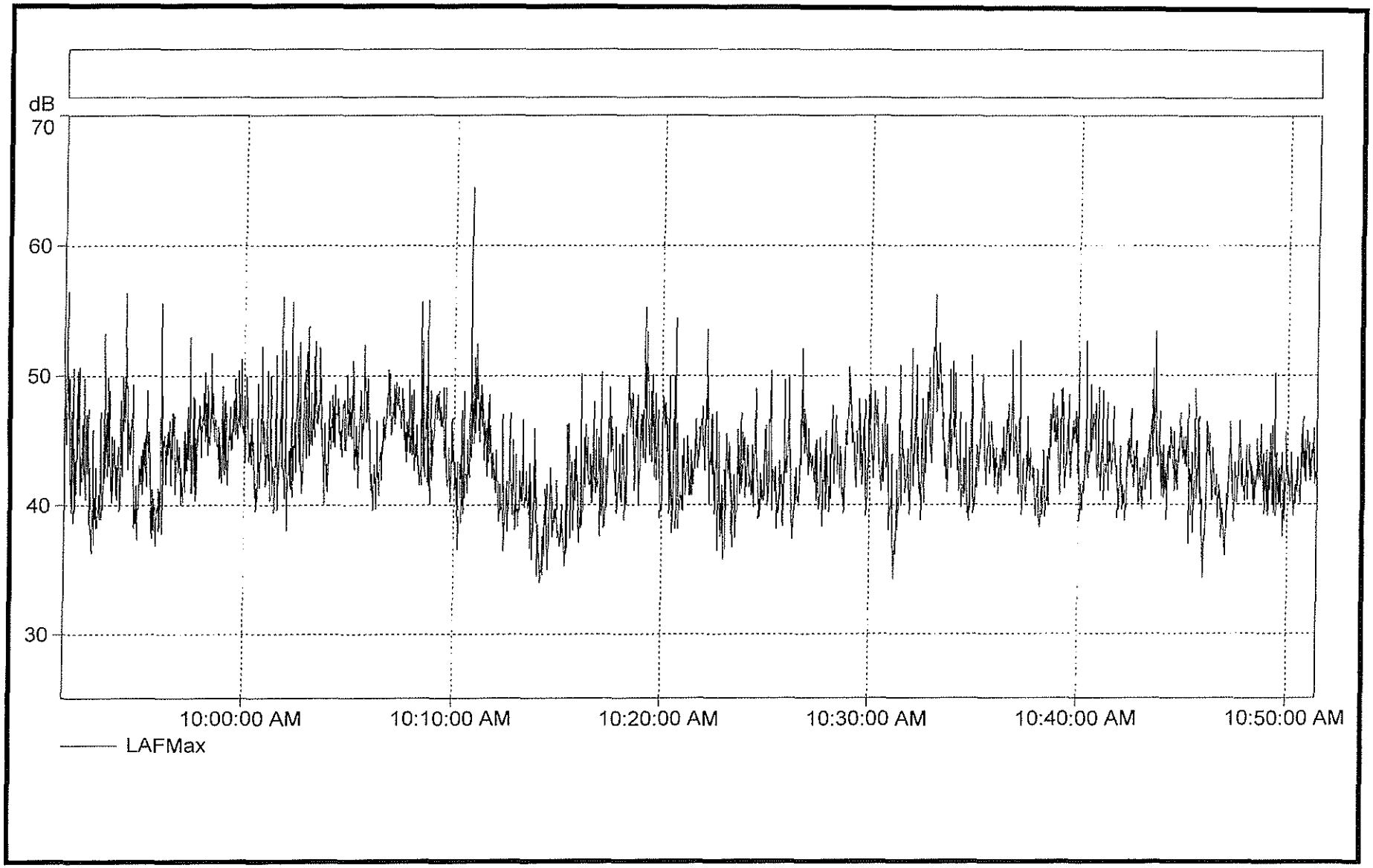
Traffic on Kuhio Highway controls the background noise levels at noise sensitive receptors closest to the proposed Anahola Solar facility. Existing peak hour traffic noise levels along Kuhio Highway are estimated to range from 69 to 71 Leq(h) at 50 foot distance from the centerline.

Existing background ambient noise levels at the makai (east) boundary of the proposed Anahola Solar site are relatively high at 69 to 71 Leq(h), or DNL, because the project site abuts the Kuhio Highway Right-of-Way. Kuhio Highway is also adjacent to the first row of existing residences within the Hawaiian Homes Anahola Subdivision north of the project. For this reason, and particularly during the normal working hours, background ambient noise levels at the closest noise sensitive receptors which front Kuhio Highway are relatively high, and will tend to mask the noise emissions from the proposed Anahola Solar facility.

Existing traffic (and background) noise levels decline with increasing distance from Kuhio Highway; from 65 Leq(h) at 90 feet from the highway centerline; to 58 Leq(h) at 200 feet from the highway centerline; to 49 Leq(h) at 500 feet from the highway centerline; and to 42 Leq(h) at 1,000 feet from the highway centerline. The measured background noise levels shown in Tables 3 and 4 are consistent with these estimates of existing background noise levels associated with traffic on Kuhio Highway.

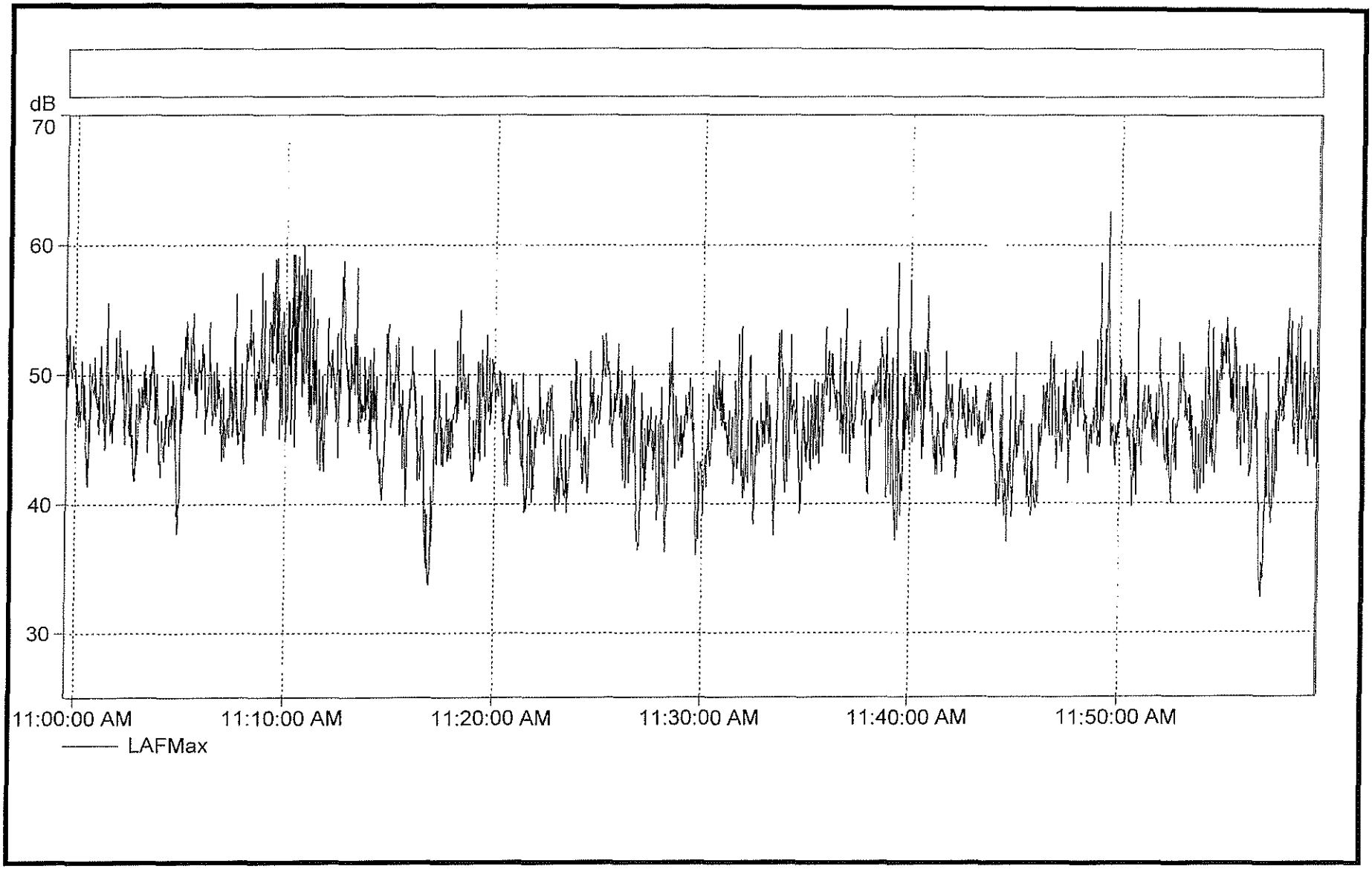
At the larger distances (in excess of 500 feet) from Kuhio Highway, other background noise sources (barking dogs, foliage moving in the wind, birds, distant surf, local motor vehicle traffic, and human activities) begin to control the background noise levels. At these locations, background noise levels are well below the 65 DNL FHA/HUD noise standard, and typically below the "Minimal Exposure, Unconditionally Acceptable" level shown in Table 1.

Figures 4 through 8 are strip charts of the measured background noise levels at Locations B and C. The large impulsive noise levels shown in Figures 7 and 8 were caused by distant barking dogs. The large triangular noise event recorded at Location C in Figure 8 at 8:57 PM was caused by a local motor vehicle. The quieter periods of these measured data were used to compare measured background noise levels at the Anahola Subdivision homes with predicted noise levels from on-site project noise sources located at the proposed Service Center Site.



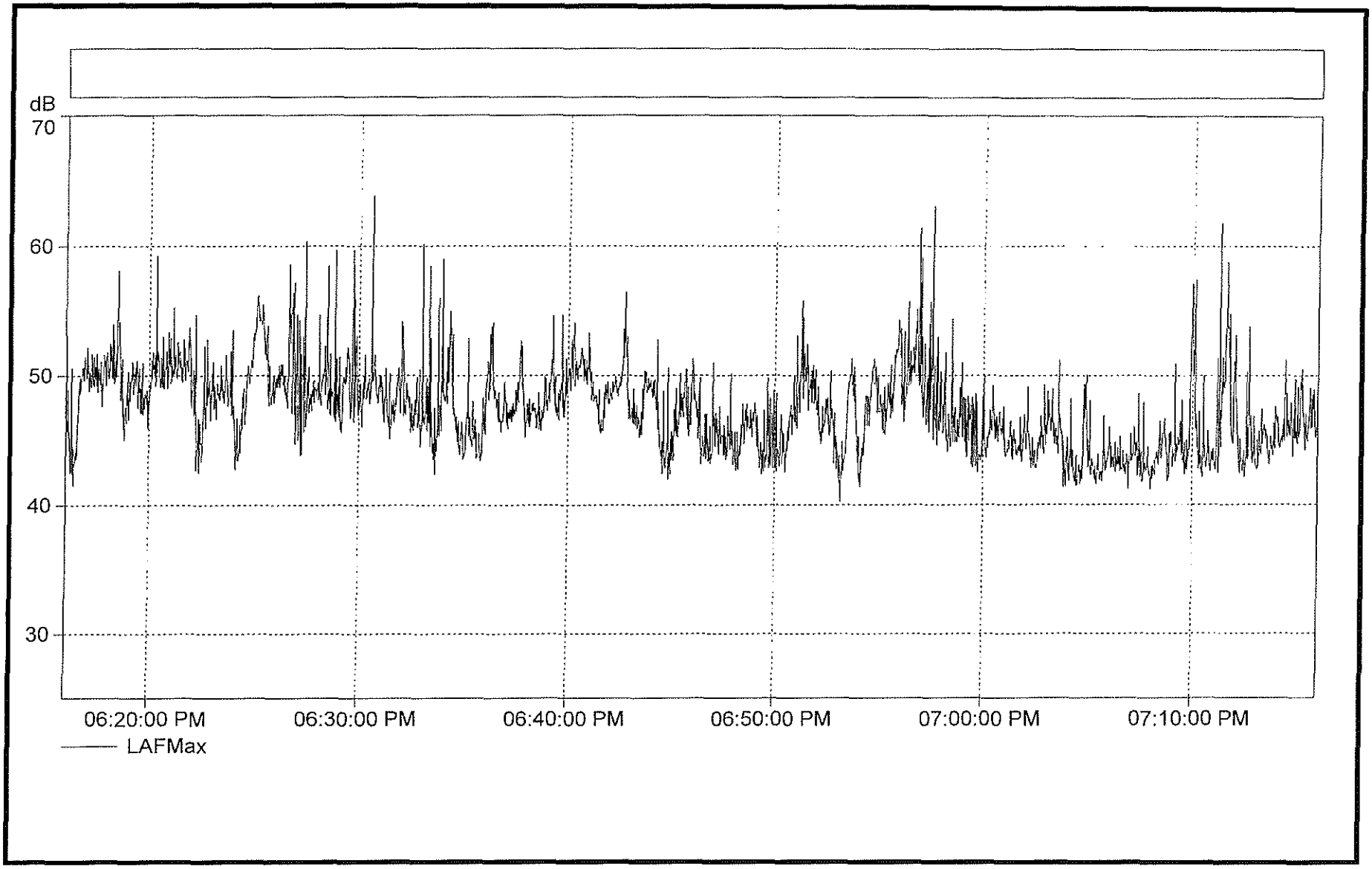
TIME HISTORY OF A-WEIGHTED SOUND LEVELS VS. TIME AT LOCATION B (9:51 AM TO 10:51 AM)

FIGURE 4



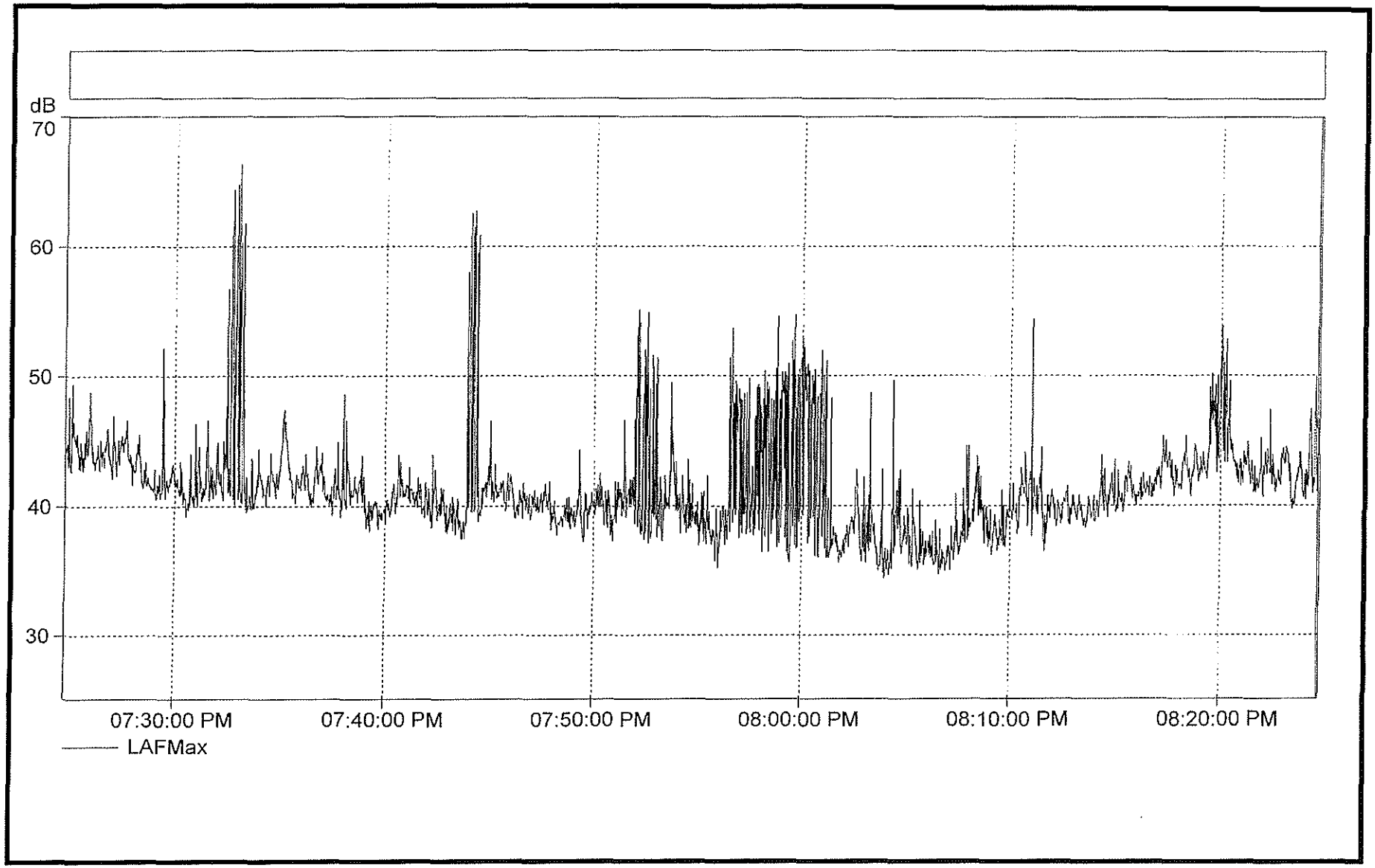
TIME HISTORY OF A-WEIGHTED SOUND LEVELS VS. TIME AT LOCATION C (10:59 AM TO 11:59 AM)

FIGURE 5



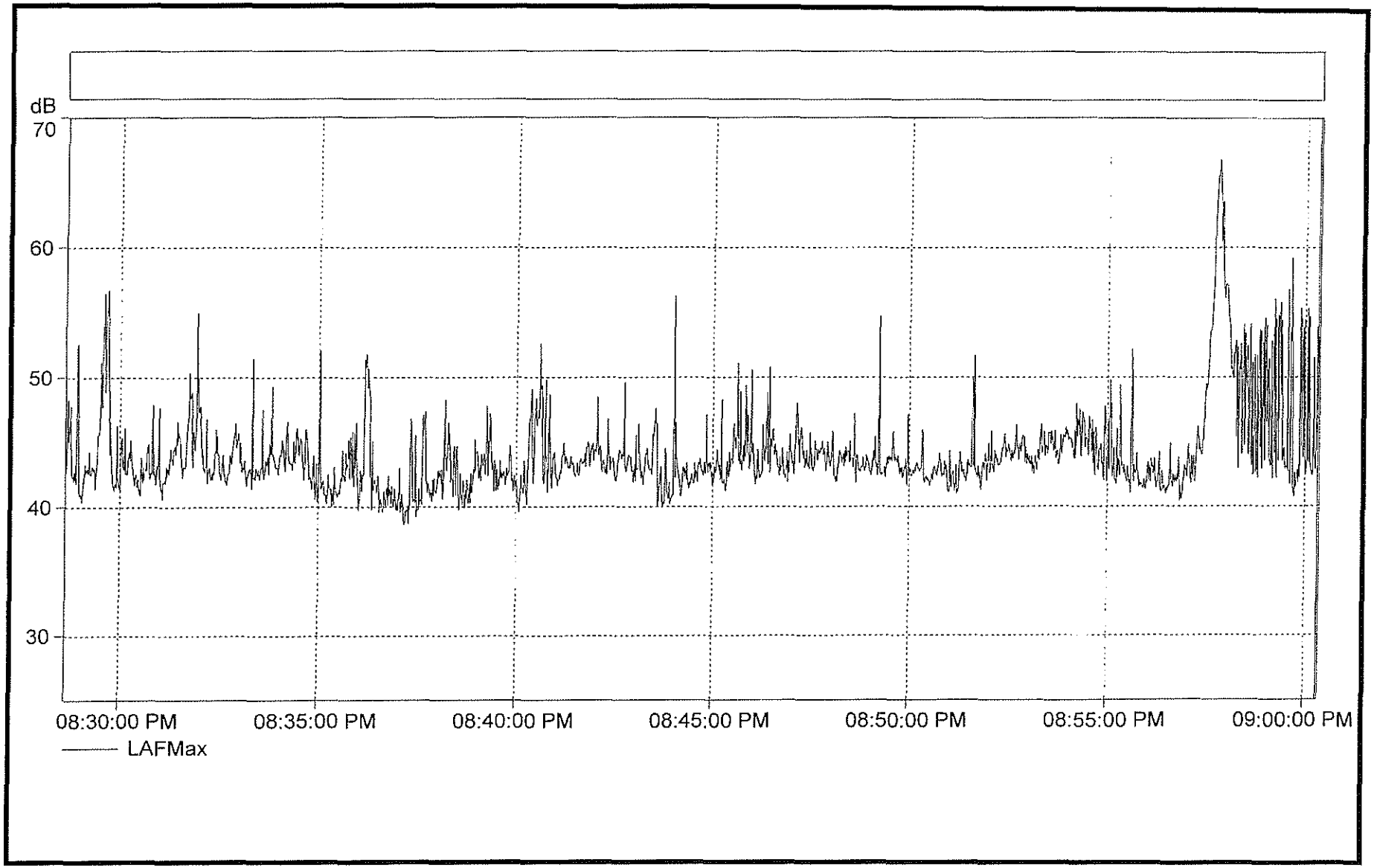
TIME HISTORY OF A-WEIGHTED SOUND LEVELS VS. TIME AT LOCATION C (6:16 PM TO 7:16 PM)

FIGURE 6



TIME HISTORY OF A-WEIGHTED SOUND LEVELS VS. TIME AT LOCATION B (7:24 PM TO 8:24 PM)

FIGURE 7



TIME HISTORY OF A-WEIGHTED SOUND LEVELS VS. TIME AT LOCATION C (8:28 PM TO 9:00 PM)

FIGURE 8

CHAPTER VI. FUTURE NOISE ENVIRONMENT

Motor Vehicle Traffic Noise. With or without the proposed Anahola Solar Project, future traffic noise levels along Kuhio Highway are expected to be similar to existing traffic noise levels. The non-project, peak hour traffic volumes on Kuhio Highway at the Hawaiian Homes Subdivision at Ioana Road will probably range from approximately 900 to 1,100 vehicles per hour based on information contained in Reference 6. The addition of 20 project vehicles per hour to these baseline traffic volumes will increase total traffic noise levels by less than 0.1 dB, which is not significant, and which will be very difficult to measure. Therefore, with or without the proposed Anahola Solar Project, future traffic noise levels along the Kuhio Highway (and at the closest noise sensitive receptors to the new Anahola Solar facility) should not increase significantly.

Baseyard Operations At Service Center. Predictions of the noise levels associated with KIUC Baseyard operations at the proposed Service Center were based on the measured noise levels at the KIUC Kapaa Baseyard, and other data collected during loading and unloading operations of tractor/trailer trucks. Spherical spreading plus molecular absorption and excess ground attenuation were used to calculate the sound levels at Locations B and C (see Figure 1), with the noise sources located mauka of the proposed Service Center Building.

Tables 5 and 6 present the predicted noise levels of the various baseyard operations at Locations B and C, respectively. Noise sources other than the KIUC Line Trucks, such as delivery tractor/trailer trucks with their noisier forklifts, were included in the tables, since these vehicles may intermittently visit the baseyard. The lower range of the predicted noise levels are more likely to occur during the daytime period (due to upward refraction of the sound rays from the sources and/or excess ground attenuation effects), while the higher noise levels are more likely to occur during the nighttime or overcast periods (due to the negligible excess ground attenuation effects). In addition to these sound propagation effects, the background ambient noise levels at the receptor locations are typically lower during the nighttime and early morning periods, so the risks of the baseyard noise sources being audible at the noise sensitive receptor locations are greater during the nighttime and early morning periods than during the normal daytime working periods.

Figures 9 through 12 depict the approximate relationships of the KIUC Line Truck noise levels measured on November 23. 2012 to the quieter measured background noise levels at Locations B and C. The actual time histories of the Line Truck noise levels may be lower than those shown in Figures 9 through 12 due to the frequency dependent sound attenuation effects and the high frequency characteristics of some of the LIne Truck noise sources (such as the back-up alarms and air brake release noise).

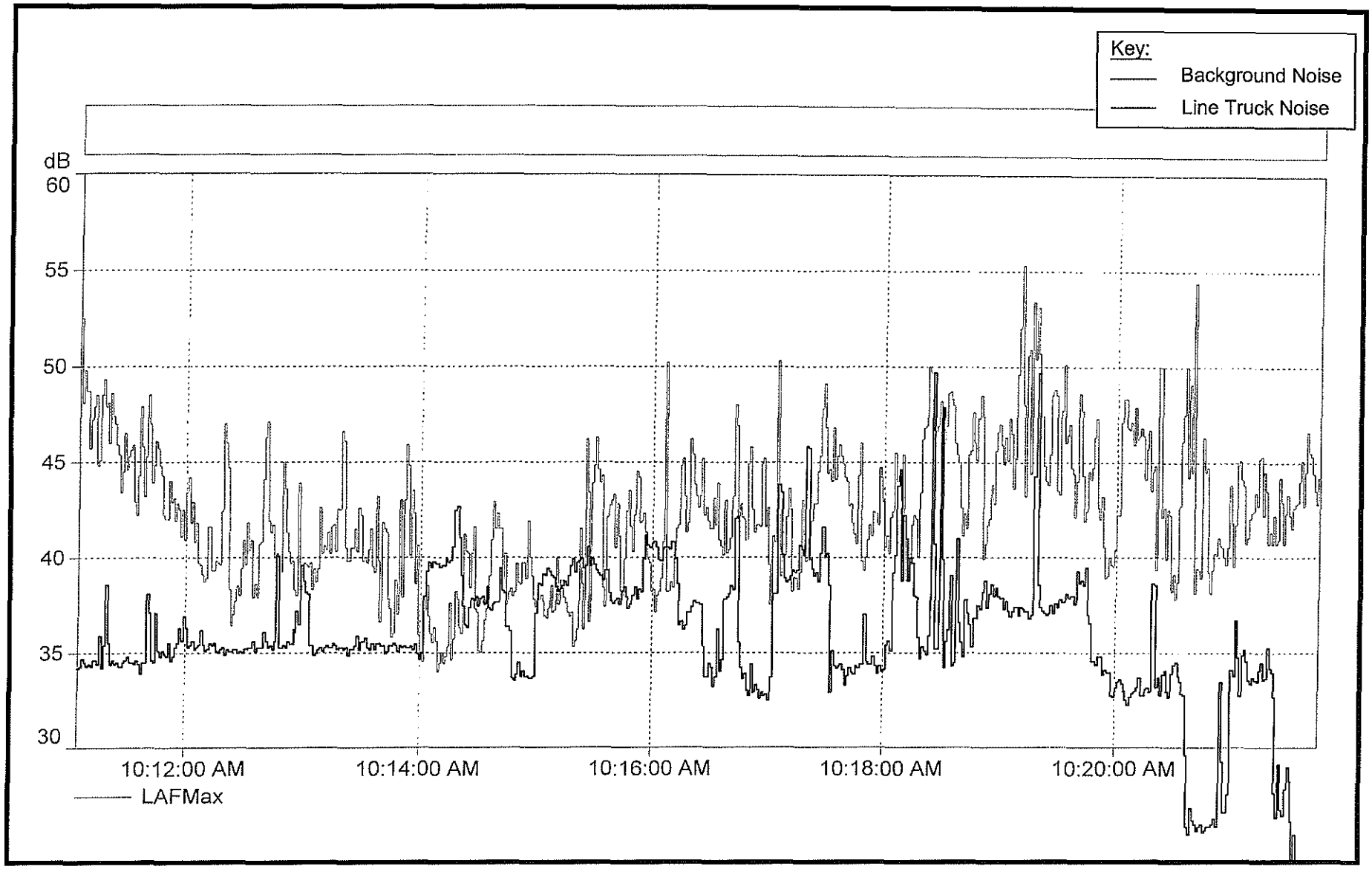
Background ambient noise levels at Locations B and C during the quieter periods were typically between 35 and 40 dBA. Based on the results shown in Tables 5 and 6,

TABLE 5
SUMMARY OF NOISE LEVELS FROM BASEYARD SOURCES AT LOCATION B

NOISE SOURCE	SOUND LEVEL AT 50 FEET (dBA)	DISTANCE (FEET) TO LOCATION B	PREDICTED NOISE LEVEL @ RECEPTOR	------- SOURCE AUDIBLE? ------- DAYTIME	NIGHTTIME
Steady Noise from Line Truck Idling	64.8	1,028	31 to 36 dBA	No	No
Average Noise from Operating Line Truck	67.8	1,028	36 to 40 dBA	No	No
Line Truck Beeper Type Back-Up Alarm	69.0	1,028	35 to 40 dBA	Yes	Yes
Line Truck Broadband Back-Up Alarm	68.6	1,028	34 to 39 dBA	No	No
Line Truck Air Brake Release	80.4	1,028	39 to 45 dBA	No	Possible
Banging Noise During Loading/Unloading	89.5	1,028	57 to 61 dBA	Yes	Yes
Noisy Tractor/Trailer Truck	85.2	1,028	53 to 57 dBA	Yes	Yes
Noisy Forklift	76.9	1,028	43 to 47 dBA	Possible	Yes
Tractor/Trailer Truck Back-Up Alarm	87.5	1,028	53 to 58 dBA	Yes	Yes

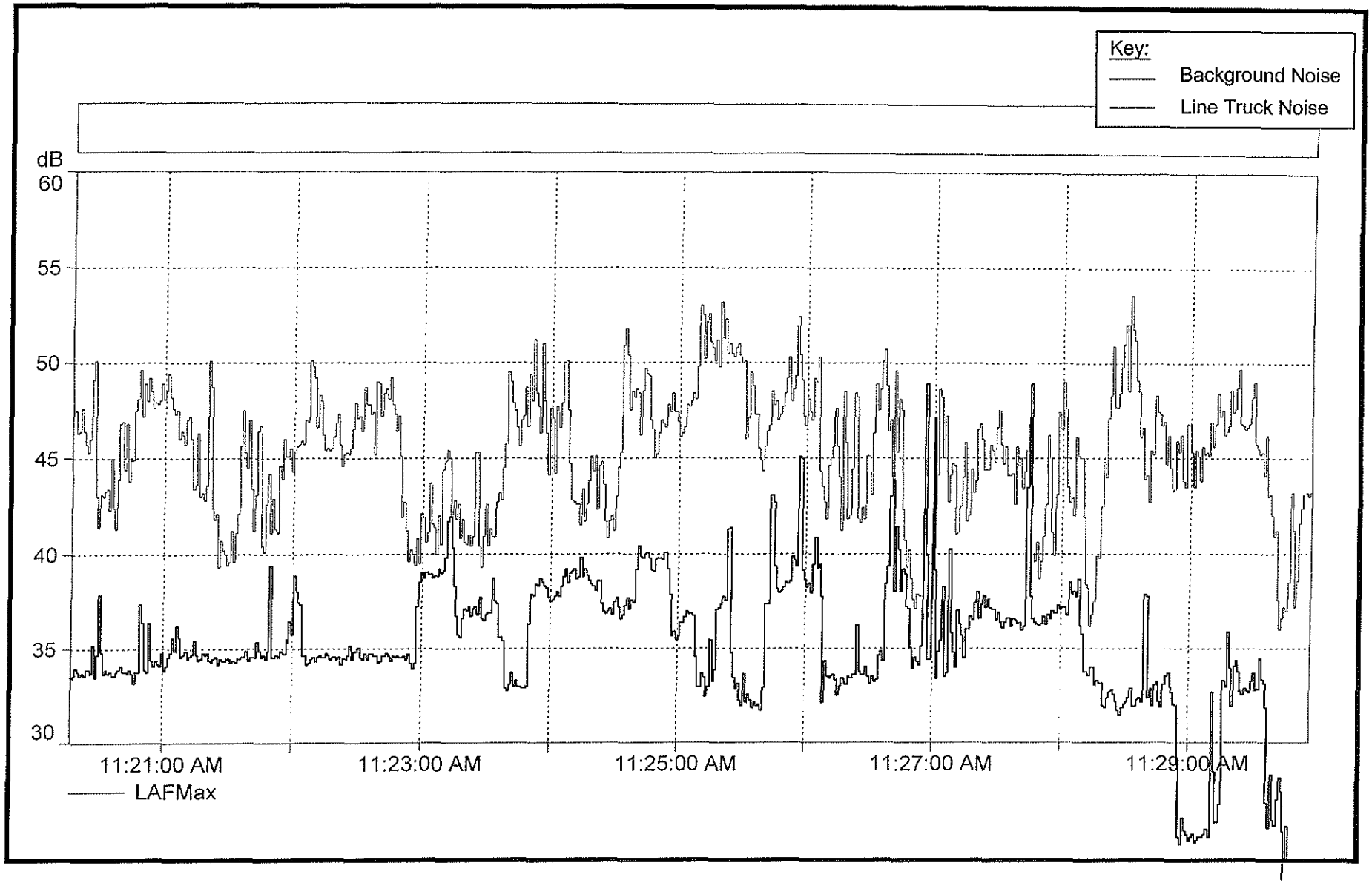
TABLE 6
SUMMARY OF NOISE LEVELS FROM BASEYARD SOURCES AT LOCATION C

NOISE SOURCE	SOUND LEVEL AT 50 FEET (dBA)	DISTANCE (FEET) TO LOCATION C	PREDICTED NOISE LEVEL @ RECEPTOR	SOURCE AUDIBLE? DAYTIME	SOURCE AUDIBLE? NIGHTTIME
Steady Noise from Line Truck Idling	64.8	1,052	31 to 35 dBA	No	No
Average Noise from Operating Line Truck	67.8	1,052	36 to 39 dBA	No	No
Line Truck Beeper Type Back-Up Alarm	69.0	1,052	34 to 39 dBA	Yes	Yes
Line Truck Broadband Back-Up Alarm	68.6	1,052	33 to 38 dBA	No	No
Line Truck Air Brake Release	80.4	1,052	39 to 45 dBA	No	Possible
Banging Noise During Loading/Unloading	89.5	1,052	56 to 60 dBA	Yes	Yes
Noisy Tractor/Trailer Truck	85.2	1,052	52 to 56 dBA	Yes	Yes
Noisy Forklift	76.9	1,052	43 to 47 dBA	Possible	Yes
Tractor/Trailer Truck Back-Up Alarm	87.5	1,052	52 to 58 dBA	Yes	Yes



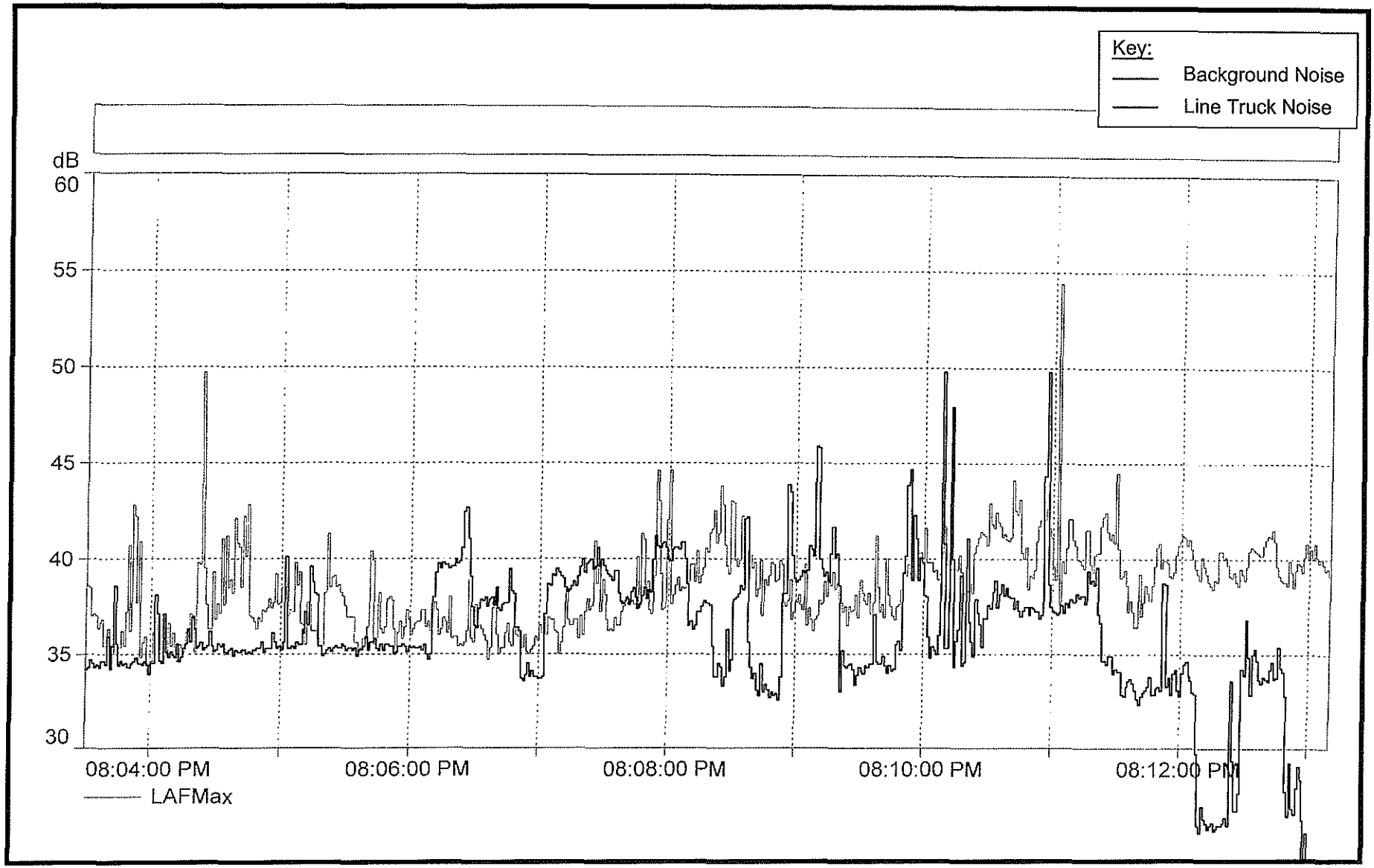
PREDICTED LINE TRUCK NOISE LEVELS SUPERIMPOSED ON MEASURED MORNING BACKGROUND NOISE LEVELS AT LOCATION B

FIGURE 9



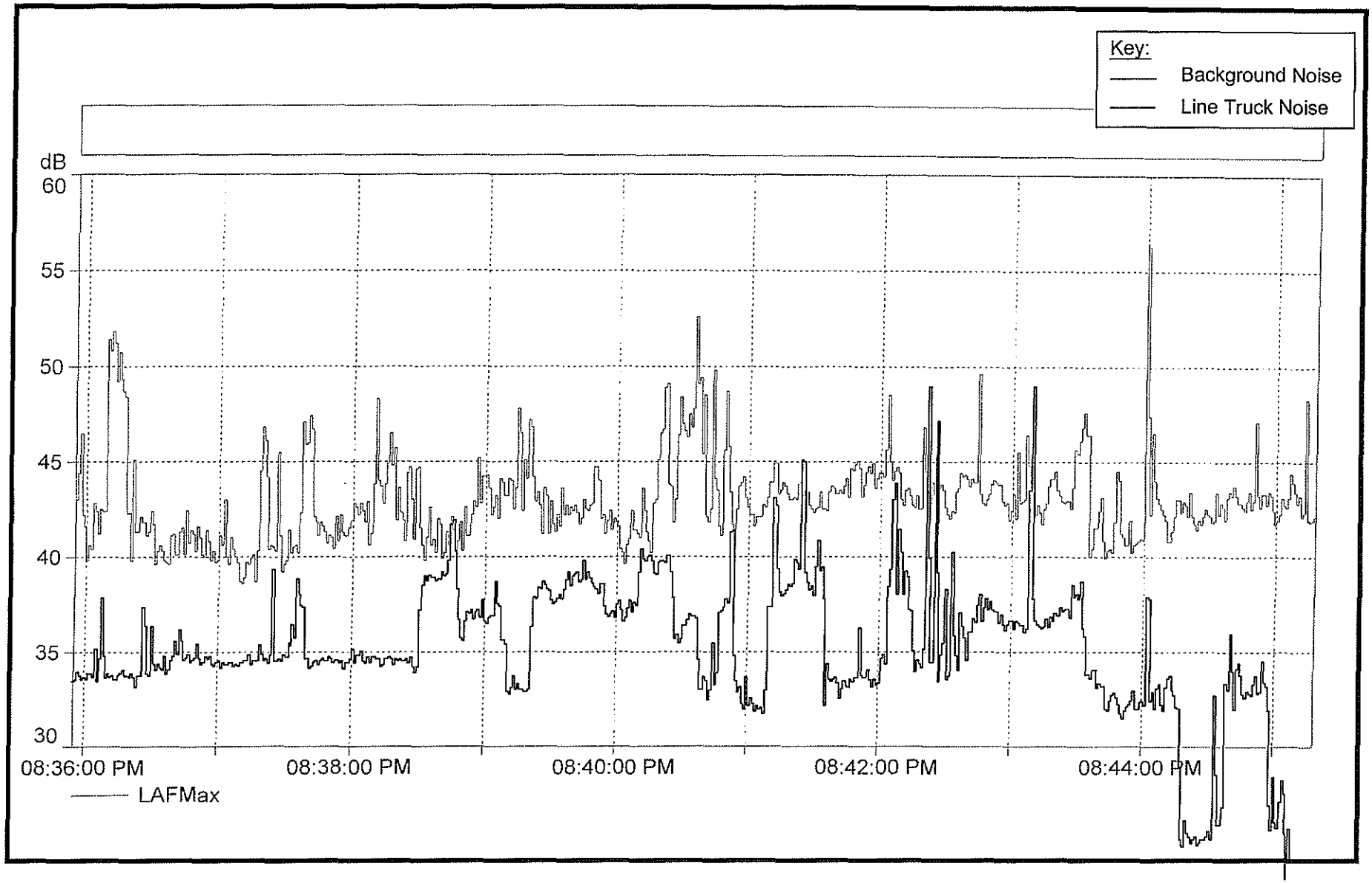
PREDICTED LINE TRUCK NOISE LEVELS SUPERIMPOSED ON MEASURED MORNING BACKGROUND NOISE LEVELS AT LOCATION C

FIGURE 10



PREDICTED LINE TRUCK NOISE LEVELS SUPERIMPOSED ON MEASURED EVENING BACKGROUND NOISE LEVELS AT LOCATION B

FIGURE 11



PREDICTED LINE TRUCK NOISE LEVELS SUPERIMPOSED ON MEASURED EVENING BACKGROUND NOISE LEVELS AT LOCATION C

FIGURE 12

and Figures 9 through 12, the relatively quiet KIUC Line Trucks should be able to operate on a regular basis during the daytime or nighttime periods with low risk of causing noise complaints at the closest Anahola residential subdivision, as long as their beeper type back-up alarms are replace with broadband noise back-up alarms. Visits to the KIUC Baseyard by the louder tractor trailer vehicles and loading/unloading equipment should not occur on frequent or regular basis, and should occur during normal business hours.

Exceedances of the 55 DNL or 65 DNL noise impact thresholds should not occur at the closest residences with or without the replacement of the Line Truck's back-up alarms. Risks of adverse noise impacts from the proposed KIUC Service Center and baseyard operations are considered to be very low.

CHAPTER VII. POTENTIAL NOISE IMPACTS ASSOCIATED WITH THE PROPOSED PROJECT AND POSSIBLE MITIGATION MEASURES

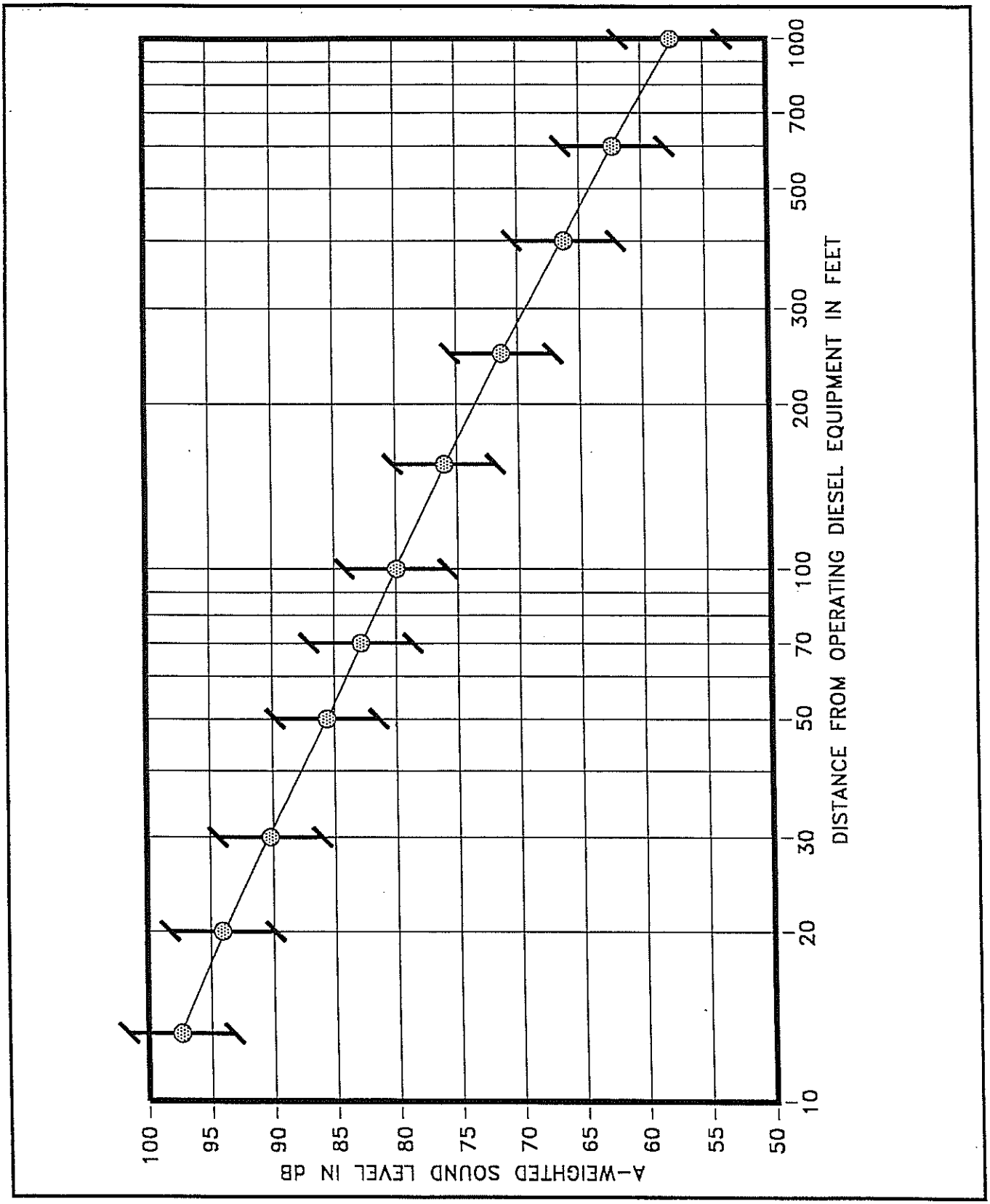
Traffic Noise Impacts. The increases in noise levels attributable to the Anahola Solar Project traffic are predicted to be difficult to perceive and should not be significant along Kuhio Highway, which would service the Anahola Solar facility. Because of the very small increases in traffic noise levels associated with this project, risks of potential noise impacts from project traffic are considered to be very low at existing noise sensitive receptors along Kuhio Highway. For these reasons, existing noise sensitive buildings in the project area should not require sound attenuation measures as a result of increased traffic noise associated with the proposed project.

Noise Impacts Associated with Baseyard Operations. The noise levels from baseyard operations at the proposed KIUC Service Center should be comparable or less than existing background noise levels at the closest noise sensitive receptors north of the project site. During the normal daytime working hours, the noise from routine baseyard operations (with the exception of back-up alarms) should not be audible at these noise sensitive receptors. The periods when audible back-up alarms occur, as well as the periods when noisier vehicles visit the baseyard, could result in higher than normal background noise levels at the closest noise sensitive receptors. However, their expected noise levels are not considered to be excessive for residences.

Nighttime activities at the proposed baseyard will probably occur due to the deployment of material and personnel during emergency trouble calls. For this reason, it is recommended that KIUC use the quietist possible equipment, and replace the beeper type back-up alarms with broadband noise back-up alarms. The broadband noise back-up alarms (with the same sound level as the beeper alarms of 69 dBA at 50 feet), should be inaudible at the closest noise sensitive receptors.

Construction Noise Impacts. Construction noise levels are anticipated to range between 32 to 65 dBA at the closest residences during the entire project construction period. Typical levels of noise from construction activity (excluding pile driving activity) are shown in Figure 13. The noise levels of the vibratory pile drivers (which are planned during installation of the metal posts for the PV panel supports) are expected to be approximately 5 dBA higher than the upper limits shown in Figure 13.

Tables 7 through 12 present the results of calculations of the predicted noise levels at Locations B and C resulting from construction activities at various locations on the project site. The assumed locations of the construction activities associated with each of the tables are shown in Figure 14. The construction activities are expected to be noisier and more continuous than those associated with post construction activities at the KIUC Service Center. The louder construction equipment (pile driver, earth moving equipment, and back-up alarms) are also expected to be audible at all locations on the project site.



ANTICIPATED RANGE OF CONSTRUCTION NOISE LEVELS VS. DISTANCE

FIGURE 13

TABLE 7
SUMMARY OF NOISE LEVELS AT LOCATIONS B AND C DURING CONSTRUCTION ACTIVITIES AT NORTHEAST SECTION OF PROJECT SITE

NOISE SOURCE	SOUND LEVEL AT 50 FEET (dBA)	DISTANCE (FEET) TO LOCATIONS B & C	PREDICTED NOISE LEVEL @ RECEPTOR
Vibratory Pile Driver	94.2	893 & 878	59 to 64 dBA
Grading / Earthwork	88.9	893 & 878	57 to 61 dBA
Front End Loader / Backhoe	84.9	893 & 878	53 to 57 dBA
Crane	79.5	893 & 878	49 to 52 dBA
Dump Truck	88.3	893 & 878	56 to 60 dBA
Noisy Forklift	76.9	893 & 878	45 to 49 dBA
Loud Beeper Back-Up Alarm	91.0	893 & 878	59 to 64 dBA

TABLE 8
SUMMARY OF NOISE LEVELS AT LOCATIONS B AND C DURING CONSTRUCTION ACTIVITIES AT CENTER OF NORTH BOUNDARY OF PROJECT SITE

NOISE SOURCE	SOUND LEVEL AT 50 FEET (dBA)	DISTANCE (FEET) TO LOCATIONS B & C	PREDICTED NOISE LEVEL @ RECEPTOR
Vibratory Pile Driver	94.2	794 & 988	57 to 65 dBA
Grading / Earthwork	88.9	794 & 988	55 to 62 dBA
Front End Loader / Backhoe	84.9	794 & 988	51 to 58 dBA
Crane	79.5	794 & 988	47 to 53 dBA
Dump Truck	88.3	794 & 988	54 to 61 dBA
Noisy Forklift	76.9	794 & 988	44 to 50 dBA
Loud Beeper Back-Up Alarm	91.0	794 & 988	57 to 65 dBA

TABLE 9
SUMMARY OF NOISE LEVELS AT LOCATIONS B AND C DURING CONSTRUCTION ACTIVITIES NEAR MAUKA SIDE OF PROJECT SITE

NOISE SOURCE	SOUND LEVEL AT 50 FEET (dBA)	DISTANCE (FEET) TO LOCATIONS B & C	PREDICTED NOISE LEVEL @ RECEPTOR
Vibratory Pile Driver	94.2	1,768 & 1,982	43 to 54 dBA
Grading / Earthwork	88.9	1,768 & 1,982	43 to 52 dBA
Front End Loader / Backhoe	84.9	1,768 & 1,982	40 to 48 dBA
Crane	79.5	1,768 & 1,982	36 to 44 dBA
Dump Truck	88.3	1,768 & 1,982	42 to 51 dBA
Noisy Forklift	76.9	1,768 & 1,982	32 to 41 dBA
Loud Beeper Back-Up Alarm	91.0	1,768 & 1,982	43 to 55 dBA

TABLE 10
SUMMARY OF NOISE LEVELS AT LOCATIONS B AND C DURING CONSTRUCTION ACTIVITIES NEAR CENTER OF PROJECT SITE

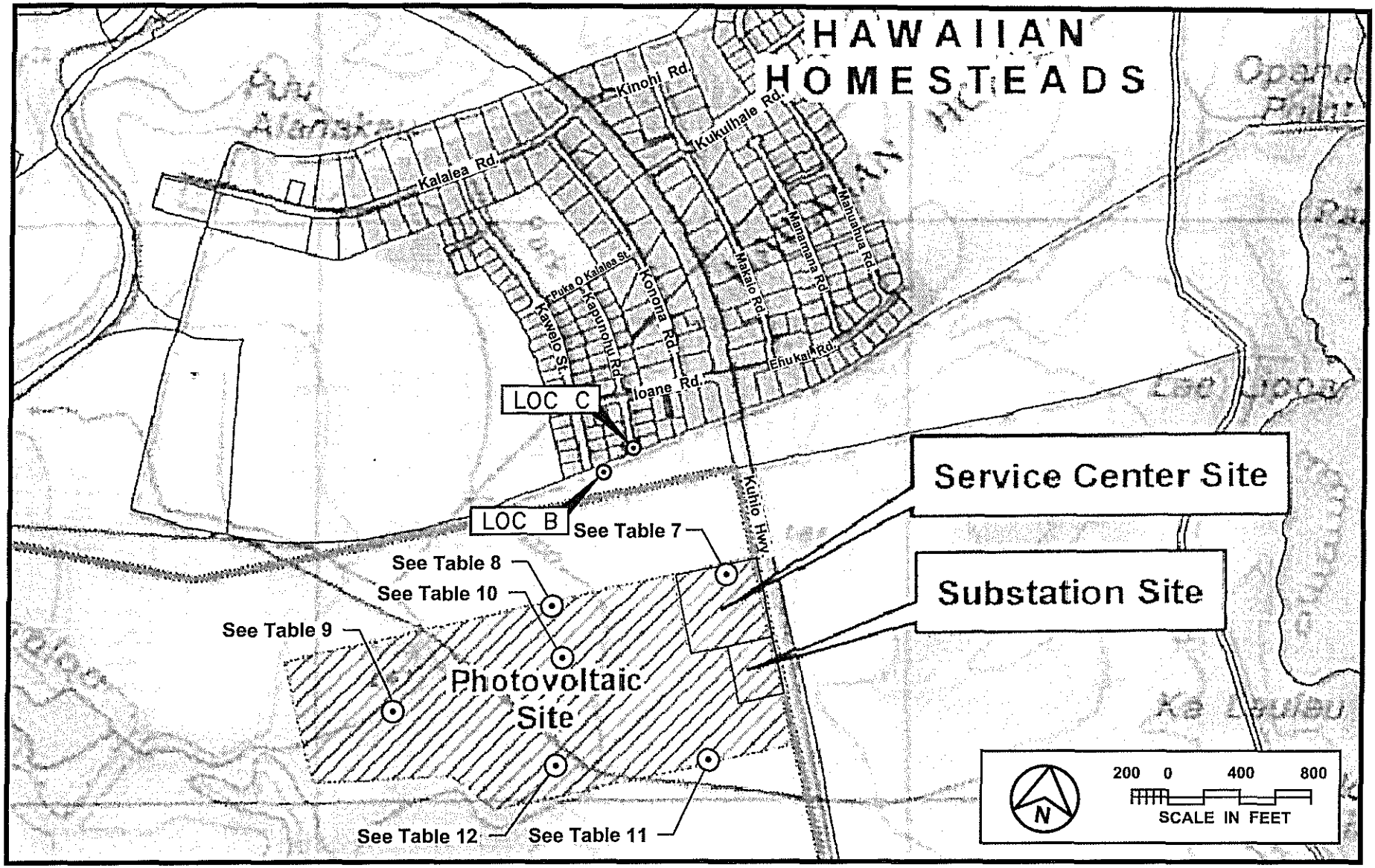
NOISE SOURCE	SOUND LEVEL AT 50 FEET (dBA)	DISTANCE (FEET) TO LOCATIONS B & C	PREDICTED NOISE LEVEL @ RECEPTOR
Vibratory Pile Driver	94.2	1,059 & 1,235	53 to 61 dBA
Grading / Earthwork	88.9	1,059 & 1,235	52 to 59 dBA
Front End Loader / Backhoe	84.9	1,059 & 1,235	48 to 55 dBA
Crane	79.5	1,059 & 1,235	44 to 50 dBA
Dump Truck	88.3	1,059 & 1,235	51 to 58 dBA
Noisy Forklift	76.9	1,059 & 1,235	40 to 47 dBA
Loud Beeper Back-Up Alarm	91.0	1,059 & 1,235	53 to 61 dBA

TABLE 11
SUMMARY OF NOISE LEVELS AT LOCATIONS B AND C DURING CONSTRUCTION ACTIVITIES NEAR SOUTHEAST SECTION OF PROJECT SITE

NOISE SOURCE	SOUND LEVEL AT 50 FEET (dBA)	DISTANCE (FEET) TO LOCATIONS B & C	PREDICTED NOISE LEVEL @ RECEPTOR
Vibratory Pile Driver	94.2	1,723 & 1,806	45 to 54 dBA
Grading / Earthwork	88.9	1,723 & 1,806	46 to 53 dBA
Front End Loader / Backhoe	84.9	1,723 & 1,806	41 to 49 dBA
Crane	79.5	1,723 & 1,806	38 to 45 dBA
Dump Truck	88.3	1,723 & 1,806	44 to 52 dBA
Noisy Forklift	76.9	1,723 & 1,806	33 to 41 dBA
Loud Beeper Back-Up Alarm	91.0	1,723 & 1,806	45 to 55 dBA

TABLE 12
SUMMARY OF NOISE LEVELS AT LOCATIONS B AND C DURING CONSTRUCTION ACTIVITIES NEAR CENTER OF SOUTH BOUNDARY OF PROJECT SITE

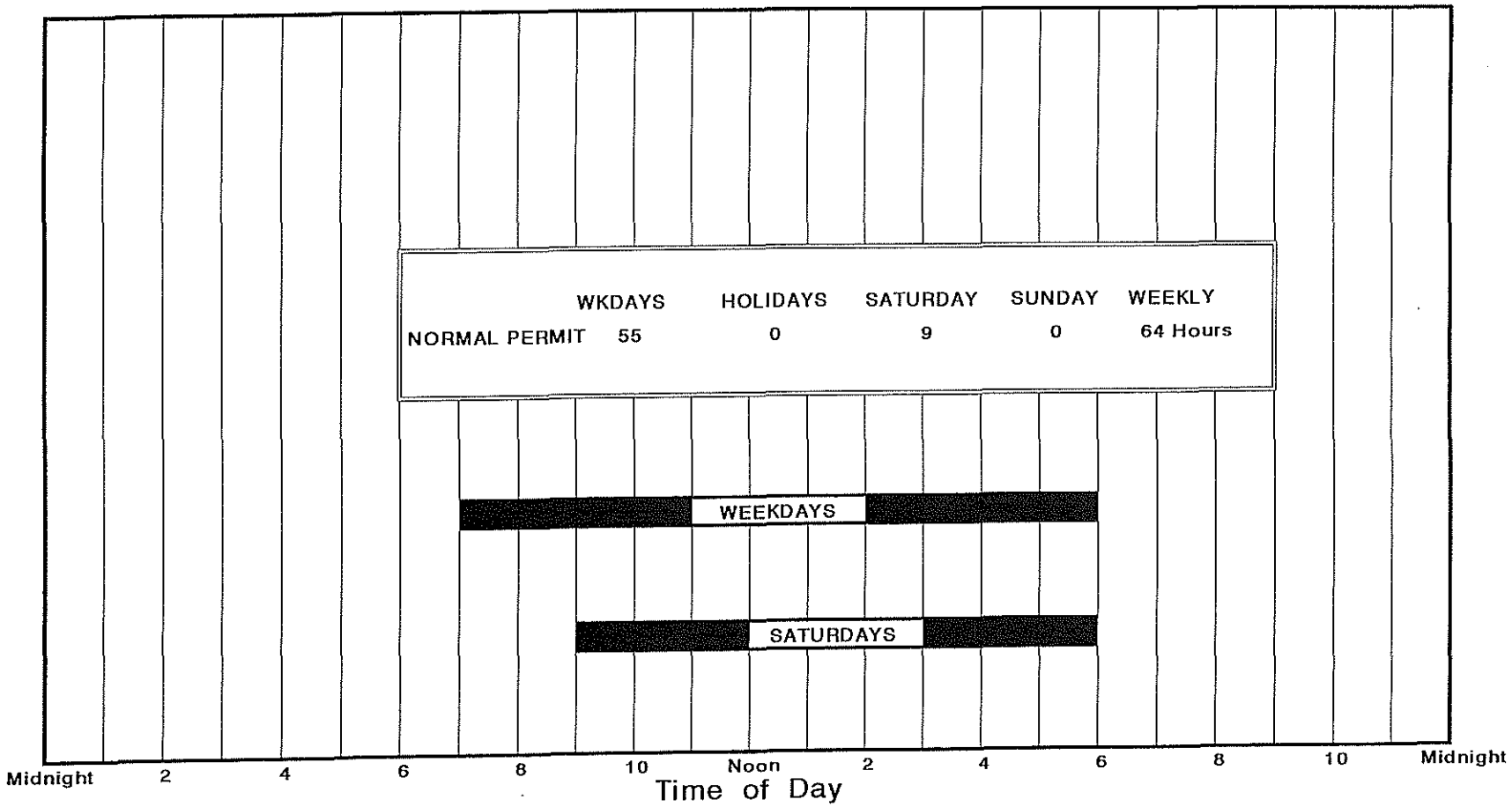
NOISE SOURCE	SOUND LEVEL AT 50 FEET (dBA)	DISTANCE (FEET) TO LOCATIONS B & C	PREDICTED NOISE LEVEL @ RECEPTOR
Vibratory Pile Driver	94.2	1,663 & 1,830	45 to 55 dBA
Grading / Earthwork	88.9	1,663 & 1,830	45 to 53 dBA
Front End Loader / Backhoe	84.9	1,663 & 1,830	41 to 49 dBA
Crane	79.5	1,663 & 1,830	38 to 45 dBA
Dump Truck	88.3	1,663 & 1,830	44 to 52 dBA
Noisy Forklift	76.9	1,663 & 1,830	33 to 41 dBA
Loud Beeper Back-Up Alarm	91.0	1,663 & 1,830	45 to 55 dBA



LOCATIONS ON THE PROJECT SITE WHERE CONSTRUCTION ACTIVITIES WERE ASSUMED WHEN DEVELOPING TABLES 7 THROUGH 12

FIGURE 14

The average noise level associated with construction activities at Locations B and C will probably exceed 55 DNL, but be less than 65 DNL during a work day. The implementation of State DOH construction noise permit procedures (see Reference 4) will require that noisy construction activities do not occur during the nighttime, Sundays, and holidays (see Figure 15). These permit procedures, which are routinely applied to noisy construction activities, are intended to minimize adverse noise impacts at residences. Because construction noise is expected to be audible at the closest residences, and may annoy some residences, the implementation of DOH permit procedures for construction noise is recommended for this project.



AVAILABLE WORK HOURS UNDER DOH PERMIT PROCEDURES FOR CONSTRUCTION NOISE

FIGURE 15

APPENDIX A. REFERENCES

(1) "Guidelines for Considering Noise in Land Use Planning and Control;" Federal Interagency Committee on Urban Noise; June 1980.

(2) American National Standard, "Sound Level Descriptors for Determination of Compatible Land Use," ANSI S12.9-1998/ Part 5; Acoustical Society of America.

(3) "Environmental Criteria and Standards, Noise Abatement and Control, 24 CFR, Part 51, Subpart B;" U.S. Department of Housing and Urban Development; July 12, 1979.

(4) "Title 11, Administrative Rules, Chapter 46, Community Noise Control;" Hawaii State Department of Health; September 23, 1996.

(5) "FHWA Highway Traffic Noise Model User's Guide;" FHWA-PD-96-009, Federal Highway Administration; Washington, D.C.; January 1998 and Version 2.5 Upgrade (April 14, 2004).

(6) Personal communication from Planning Solutions, Inc.; December 6, 2012.

APPENDIX B

EXCERPTS FROM EPA'S ACOUSTIC TERMINOLOGY GUIDE

Descriptor Symbol Usage

The recommended symbols for the commonly used acoustic descriptors based on A-weighting are contained in Table I. As most acoustic criteria and standards used by EPA are derived from the A-weighted sound level, almost all descriptor symbol usage guidance is contained in Table I.

Since acoustic nomenclature includes weighting networks other than "A" and measurements other than pressure, an expansion of Table I was developed (Table II). The group adopted the ANSI descriptor-symbol scheme which is structured into three stages. The first stage indicates that the descriptor is a level (i.e., based upon the logarithm of a ratio), the second stage indicates the type of quantity (power, pressure, or sound exposure), and the third stage indicates the weighting network (A, B, C, D, E.....). If no weighting network is specified, "A" weighting is understood. Exceptions are the A-weighted sound level and the A-weighted peak sound level which require that the "A" be specified. For convenience in those situations in which an A-weighted descriptor is being compared to that of another weighting, the alternative column in Table II permits the inclusion of the "A". For example, a report on blast noise might wish to contrast the LCdn with the LAdn.

Although not included in the tables, it is also recommended that "Lpn" and "LepN" be used as symbols for perceived noise levels and effective perceived noise levels, respectively.

It is recommended that in their initial use within a report, such terms be written in full, rather than abbreviated. An example of preferred usage is as follows:

The A-weighted sound level (LA) was measured before and after the installation of acoustical treatment. The measured LA values were 85 and 75 dB respectively.

Descriptor Nomenclature

With regard to energy averaging over time, the term "average" should be discouraged in favor of the term "equivalent". Hence, Leq, is designated the "equivalent sound level". For Ld, Ln, and Ldn, "equivalent" need not be stated since the concept of day, night, or day-night averaging is by definition understood. Therefore, the designations are "day sound level", "night sound level", and "day-night sound level", respectively.

The peak sound level is the logarithmic ratio of peak sound pressure to a reference pressure and not the maximum root mean square pressure. While the latter is the maximum sound pressure level, it is often incorrectly labelled peak. In that sound level meters have "peak" settings, this distinction is most important.

"Background ambient" should be used in lieu of "background", "ambient", "residual", or "indigenous" to describe the level characteristics of the general background noise due to the contribution of many unidentifiable noise sources near and far.

With regard to units, it is recommended that the unit decibel (abbreviated dB) be used without modification. Hence, DBA, PNdB, and EPNdB are not to be used. Examples of this preferred usage are: the Perceived Noise Level (Lpn was found to be 75 dB. Lpn = 75 dB). This decision was based upon the recommendation of the National Bureau of Standards, and the policies of ANSI and the Acoustical Society of America, all of which disallow any modification of bel except for prefixes indicating its multiples or submultiples (e.g., deci).

Noise Impact

In discussing noise impact, it is recommended that "Level Weighted Population" (LWP) replace "Equivalent Noise Impact" (ENI). The term "Relative Change of Impact" (RCI) shall be used for comparing the relative differences in LWP between two alternatives.

Further, when appropriate, "Noise Impact Index" (NII) and "Population Weighed Loss of Hearing" (PHL) shall be used consistent with CHABA Working Group 69 Report Guidelines for Preparing Environmental Impact Statements (1977).

TABLE I

A-WEIGHTED RECOMMENDED DESCRIPTOR LIST

	TERM	SYMBOL
1.	A-Weighted Sound Level	L_A
2.	A-Weighted Sound Power Level	L_{WA}
3.	Maximum A-Weighted Sound Level	L_{max}
4.	Peak A-Weighted Sound Level	L_{Apk}
5.	Level Exceeded x% of the Time	L_x
6.	Equivalent Sound Level	L_{eq}
7.	Equivalent Sound Level over Time (T) (1)	$L_{eq(T)}$
8.	Day Sound Level	L_d
9.	Night Sound Level	L_n
10.	Day-Night Sound Level	L_{dn}
11.	Yearly Day-Night Sound Level	$L_{dn(Y)}$
12.	Sound Exposure Level	L_{SE}

(1) Unless otherwise specified, time is in hours (e.g. the hourly equivalent level is $L_{eq(1)}$). Time may be specified in non-quantitative terms (e.g., could be specified a $L_{eq(WASH)}$ to mean the washing cycle noise for a washing machine).

SOURCE: EPA ACOUSTIC TERMINOLOGY GUIDE, BNA 8-14-78,

TABLE II

RECOMMENDED DESCRIPTOR LIST

	TERM	A-WEIGHTING	ALTERNATIVE[1] A-WEIGHTING	OTHER[2] WEIGHTING	UNWEIGHTED
1.	Sound (Pressure)[3] Level	L_A	L_{pA}	L_B, L_{pB}	L_p
2.	Sound Power Level	L_{WA}		L_{WB}	L_W
3.	Max. Sound Level	L_{max}	L_{Amax}	L_{Bmax}	L_{pmax}
4.	Peak Sound (Pressure) Level	L_{Apk}		L_{Bpk}	L_{pk}
5.	Level Exceeded x% of the Time	L_x	L_{Ax}	L_{Bx}	L_{px}
6.	Equivalent Sound Level	L_{eq}	L_{Aeq}	L_{Beq}	L_{peq}
7.	Equivalent Sound Level Over Time(T) [4]	$L_{eq(T)}$	$L_{Aeq(T)}$	$L_{Beq(T)}$	$L_{peq(T)}$
8.	Day Sound Level	L_d	L_{Ad}	L_{Bd}	L_{pd}
9.	Night Sound Level	L_n	L_{An}	L_{Bn}	L_{pn}
10.	Day-Night Sound Level	L_{dn}	L_{Adn}	L_{Bdn}	L_{pdn}
11.	Yearly Day-Night Sound Level	$L_{dn(Y)}$	$L_{Adn(Y)}$	$L_{Bdn(Y)}$	$L_{pdn(Y)}$
12.	Sound Exposure Level	L_S	L_{SA}	L_{SB}	L_{Sp}
13.	Energy Average Value Over (Non-Time Domain) Set of Observations	$L_{eq(e)}$	$L_{Aeq(e)}$	$L_{Beq(e)}$	$L_{peq(e)}$
14.	Level Exceeded x% of the Total Set of (Non-Time Domain) Observations	$L_{x(e)}$	$L_{Ax(e)}$	$L_{Bx(e)}$	$L_{px(e)}$
15.	Average L_x Value	L_x	L_{Ax}	L_{Bx}	L_{px}

(1) "Alternative" symbols may be used to assure clarity or consistency.

(2) Only B-weighting shown. Applies also to C,D,E,.....weighting.

(3) The term "pressure" is used only for the unweighted level.

(4) Unless otherwise specified, time is in hours (e.g., the hourly equivalent level is Leq(1). Time may be specified in non-quantitative terms (e.g., could be specified as Leq(WASH) to mean the washing cycle noise for a washing machine.

H. 2005 KIUC SERVICE CENTER STUDY

Kaua`i Island Utility Cooperative

Your Touchstone Energy® Cooperative

KIUC Service Centers Study

Current Service Center locations

West side
•Eleele

East side
•Kapaa

Divide Island geographically into Two districts for study

Objectives

- Determine appropriate number and location of service centers and staffing
- Use 15 year time horizon
- Consider customer growth patterns
- Determine geographical and load centers to best serve members
- Determine trouble call areas and response time

Geographical Centers of Both Districts

- Road mileage to determine center of both east and west side
- Dividing line in Lihue utilized to separate districts

Geographical center
West side

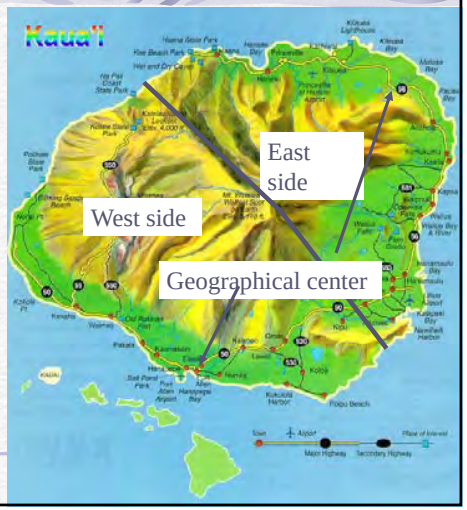
Port Allen To	Miles
Mana	17
Kokee	24
Kapaia	18
Koloa	13.5
Poipu	16.5
Lihue	16

Geographical center of west side is aprox. Port Allen

Geographical centers

East side center
•Maloaa

West side center
•Eleele



Geographical center East side

Kapaa to	Miles
Lihue	8
Kealia	2
Anahola	5
Kilauea	15
Princeville	20
Hanalei	22
Wainiha Powerhouse	28
End of road	29

Geographical center is apox. Moloaa

Geographical Center of Island

Kapaia is aprox. Geographical center of Island

Kapaia To	Miles	Kapaia To	Miles
Mana	35	End of rd north	38
Kokee	42	Wainiha	36
Koloa	13.5	Hanalei	30
Poipu	16.5	Princeville	28
Lihue	1	Kilauea	22
Kapaa	8	Moloaa	17
Kealia	10	Anahola	13

Load Center East and West Districts

- Determined load center of each district
- Considered Lihue as a dividing point between districts
- Used date peak as load model

Geographical center of Island
•Kapaia

Load Centers East Side
•Around Lydgate

Sub	Breaker #	MW			
East side				North of kapaa	9.98
Princeville	4121	0.81		Kapaa/ wailua	10
	4122	2.34			
	4123	0.88		Lihue	18.22
	4124	3.19			
				Load center east side	
Wainiha	4002	0.45		Lydgate	
Kapaa	3411	1.71			
	3412	2.21			
	3413	1.6			
	3414	1.03			
	3415	0.72			
Lydate	3211	1.11			
	3212	0.45			
	3213	2.17			
	3214	2.2			
Lihue	3123	2.75			
	3124	2.14			
	3125	2.57			
	3121	4.57			
	3122	2.95			
	3126	0.01			
Kapaia	3313	1.72			
	3314	0.4			

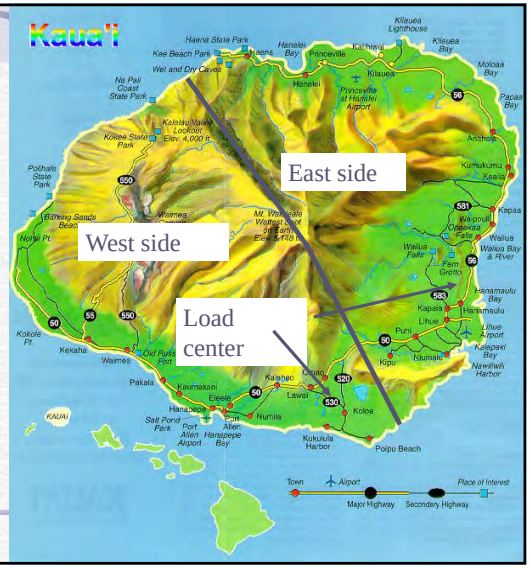
West side Load center

- Between Lawai and Koloa

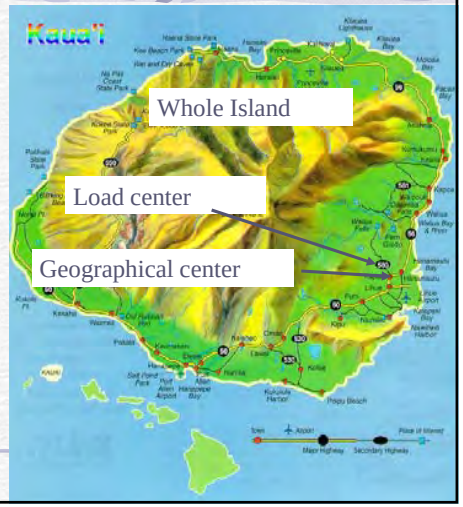
West side					
Koloa	2311	1.25		Koloa Poipu	9.86
	2312	2.26			
	2313	4.3		Lawai, Kalaheo	2.75
	2314	1.14			
				Pt allen, Hanapepe	1.71
Lawai	2131	0			
	2132	0.64		Hanapepe west	5.34
	2133	0.27			
	2134	1.29		west side	
				Load center between	
Kaumakani	1432	0.25		Lawai and Poipu	
Kekaha	1322	0.85			
	1323	1.99			
	1324	0.02			
	1325	0.68			
Port Allen	5001	1.46			
	5002	1.17			
Mana	1231	0.84			
	1232	0.22			
	1233	0.49			

Island load center is in Kapaia area

Sub	Breaker #	MW			
East side					
Princeville	4121	0.81		North of kapaa	9.98
	4122	2.34		Kapaa/ wailua	10
	4123	0.88		Lihue	18.22
	4124	3.19			
				Load center east side	
Wainiha	4002	0.45		Lydgate	
Kapaa	3411	1.71			
	3412	2.21			
	3413	1.6			
	3414	1.03			
	3415	0.72			
Lydate	3211	1.11		load center of whole island	
	3212	0.45		Lihue	
	3213	2.17			
	3214	2.2			
Lihue	3123	2.75			
	3124	2.14			
	3125	2.57			
	3121	4.57			
	3122	2.95			
	3126	0.01			
Kapaia	3313	1.72			
	3314	0.4			
West side					
Koloa	2311	1.25		Koloa Poipu	9.86
	2312	2.26			
	2313	4.3		Lawai, Kalaheo	2.75
	2314	1.14			
				Pt allen, Hanapepe	1.71
Lawai	2131	0			
	2132	0.64		Hanapepe west	5.34
	2133	0.27			
	2134	1.29		west side	
				Load center between	
Kaumakani	1432	0.25		Lawai and Poipu	
Kekaha	1322	0.85			
	1323	1.99			
	1324	0.02			



Kapaia is the approximate Load & geographical center for the island



Geographic and Load Study Conclusions

- Geographical centers for existing districts are Moloaa east and Eleele west and island center is Kapaia
- Load centers for east district is around Lydgate & west district is between Lawai and Koloa & island load center is around Kapaia

West side trouble call breakdown					West side percent of T/C's			39.10%
	Number					Number		
	Of TC's	% of Total	Town			Of TC's	% of Total	Town
	562	8.10%	Kalaheo			254	3.66%	Kekaha
	334	4.82%	Lawai			179	2.58%	Waimea
	156	2.25%	Omao			18	0.26%	Pakala
Total T/C	1052	15.17%				43	0.62%	Mana
						45	0.65%	Kaumakani
						15	0.22%	Makaweli
	Number					5	0.07%	PMRF
	Of TC's	% of Total	Town			156	2.25%	Kokee
	313	4.51%	Koloa		Total T/C	715	10.31%	
	281	4.05%	Poipu					
Total T/C	594	8.56%						
	Number							
	Of TC's	% of Total	Town					
	6	0.09%	Port Allen					
	207	2.98%	Hanapepe					
	121	1.75%	Eleele					
	10	0.14%	Numila					
	7	0.10%	Mt. Kahili					
Total T/C	351	5.06%						

Trouble Call Study

- Considered east and west districts
- Included trouble call reports from 1997 to 2005
- Used report to breakdown number of calls for a given area

East side trouble call breakdown					East side percent of T/C's			60.90%
	Anahola north					Wailua area		
	Number					Number		
	Of TC's	% of Total	Town			Of TC's	% of Total	Town
	248	3.58%	Anahola			645	9.30%	Wailua
	43	0.62%	Moloaa			63	0.91%	Waipouli
	303	4.37%	Kilauea			13	0.19%	Lydgate
	122	1.76%	Haena			6	0.09%	Nukolii
	74	1.07%	Wainiha		Total T/C	727	10.48%	
	49	0.71%	Anini					
	210	3.03%	Princeville					
	33	0.48%	Kalihiwai			Lihue Area		
	166	2.39%	Hanalei			Number		
Total T/C	1248	17.99%				Of TC's	% of Total	Town
						690	9.95%	Lihue
						190	2.74%	Hanamaulu
	Kapaa area					128	1.85%	Puhi
	Number					13	0.19%	Kapaia
	Of TC's	% of Total	Town			9	0.13%	Niumalu
	1043	15.04%	Kapaa			35	0.51%	Nawiliwili
	2	0.03%	Kawaihau			16	0.23%	Kipu
	81	1.17%	Kapahi		Total T/C	1081	15.59%	
	42	0.61%	Kealia					
Total T/C	1168	16.84%						

Trouble Call Study Conclusion

- East 61% of all trouble calls
- West 39% of all trouble calls
- A service center in Kapaia could handle trouble calls from from Wailua to Poipu/Koala area
- It would balance out the trouble calls between service centers. Eleele 31%, Kapaia 35%,and the North shore service center 34%

East side trouble call breakdown with Kapaia					East side percent of T/C's			34.83%
	Anahola north					Kapaa area		
	Number					Number		
	Of TC's	% of Total	Town			Of TC's	% of Total	Town
	248	3.58%	Anahola			1043	15.04%	Kapaa
	43	0.62%	Moloaa			2	0.03%	Kawaihau
	303	4.37%	Kilauea			81	1.17%	Kapahi
	122	1.76%	Haena			42	0.61%	Kealia
	74	1.07%	Wainiha		Total T/C	1168	16.84%	
	49	0.71%	Anini					
	210	3.03%	Princeville					
	33	0.48%	Kalihiwai					
	166	2.39%	Hanalei					
Total T/C	1248	17.99%						

Proposed Kapaia service center trouble call breakdown						Kapaia % of T/C's		34.63%
	Wailua area					Number		
	Number					Of TC's	% of Total	Town
	Of TC's	% of Total	Town			313	4.51%	Koloa
	645	9.30%	Wailua			281	4.05%	Poipu
	63	0.91%	Waipouli		Total T/C	594	8.56%	
	13	0.19%	Lydgate					
	6	0.09%	Nukolii					
Total T/C	727	10.48%						
	Lihue Area							
	Number							
	Of TC's	% of Total	Town					
	690	9.95%	Lihue					
	190	2.74%	Hanamaulu					
	128	1.85%	Puhi					
	13	0.19%	Kapaia					
	9	0.13%	Niumalu					
	35	0.51%	Nawiliwili					
	16	0.23%	Kipu					

West side trouble call breakdown with Kapaia					West side percent of T/C's			30.54%
	Number					Number		
	Of TC's	% of Total	Town			Of TC's	% of Total	Town
	562	8.10%	Kalaheo			254	3.66%	Kekaha
	334	4.82%	Lawai			179	2.58%	Waimea
	156	2.25%	Omao			18	0.26%	Pakala
Total T/C	1052	15.17%				43	0.62%	Mana
						45	0.65%	Kaumakani
						15	0.22%	Makaweli
	Number					5	0.07%	PMRF
	Of TC's	% of Total	Town			156	2.25%	Kokee
	6	0.09%	Port Allen		Total T/C	715	10.31%	
	207	2.98%	Hanapepe					
	121	1.75%	Eleele					
	10	0.14%	Numila					
	7	0.10%	Mt. Kahili					
Total T/C	351	5.06%						

KIUC Service center Options exploring top 3

Option 2 Move Kapaa to Kapaia

Pros

- Already own the land
- Located at center of island
- Allows for some growth in the future

Option 1 Do nothing

Pros

1. Least expensive option

Cons

1. Kapaa traffic results in long response times to Lihue our largest loads
2. Getting in and out of Kapaa is getting harder because of traffic
3. Plans to rebuild Kapaa Substation into GIS sub
4. Eventually we will outgrow Kapaa
5. Bike path is going to be built around the substation

Option 2 Move Kapaa to Kapaia

Cons

- Make response time to our north shore customers longer
- Less productive time for our crews when working north because of afternoon Kapaa traffic
- 2nd most expensive option

Option 3 Build Kapaia yard

Move Kapaa service center further north

Pros

- Reduces response time for our members
- Reduces the amount of wasted time sitting in traffic
- Improves services for our north shore and Lihue customers
- Increases the ability to share equipment between service centers
- Able to respond better to island growth
- Will be able to perform more of our own work without out sourcing to contractors
- Resources more evenly distributed and better able to respond during natural disaster

Land Study of Available Commercial Property

- There are no Commercial Properties at or greater than 2 acres located in the Kapaa – Lihue districts listed at this time.
- Grove farm will rent out 2 acres or more located at the old Lihue Plantation Hanamaulu repair shop on a long term lease for approx. $6000.00 per month.
- Mike Lauretta DNLR land agent states that there is no Commercial State land available at this time.
- Noel Akamu of Hawaiian Home Lands, lands division. Noel states that HHL is willing to negotiate a long term lease on Hawaiian Home Lands located in Anahola next to Kuhio Hwy. At the old Iniki temporary dump site for 2 plus acres pending approval of KIUC's application. Lease would be below market value and be approved for Commercial use.
- There is another parcel located at the old Meadow Gold Dairy, which is now owned by Jeff Lindler and is zoned Ag.

Option 3 Build Kapaia Service Center Move Kapaa Service Center Further North

Cons

- Most expensive option
- Need to outfit another yard
- Need to hire more personnel

Recommendations for optimization of service centers

- Complete build out of Kapaia service center as originally planned
- Build new service center at Anahola on Hawaiian homes land
- Relocate Kapaa to Anahola

Kapaia Service Center

- Relocate system shop to center of island for better substation coverage
- Add 2 planners in Kapaia for Lihue engineering
- Relocate vehicle maintenance to Kapaia for a more centralized dept.
- Move warehouse for E&O to Kapaia to better serve both sides of the island

Kapaia Construction Costs

- Administrative building
  10,500 sq. ft *$150 sq. ft = $1,575,000
- Production equipment building
  4750 sq ft * $100 sq ft = $475,000
- Vehicle mantenance bulding
  3250 sq ft * $100 sq ft = $325,000
- Shop building
  11,000 sq ft * $100 sq ft = $1,100,000

Kapaia Service Center

- Purchase large bucket, line truck, service truck and crew pickup for Kapaia
- Staff service center with 1 lineman from Kapaa, 1 lineman from Eleele, vacant troubleshooter slot from Kapaa, 2 apprentices spots, and 2 new lineman
-

Kapaia Construction Costs

- Warehouse
  15,000 sq ft * 60 sq ft = $ 1,100,000
- Vehicle refueling area
  $240,000 per Senter petroleum
- Vehicle/ parts wash area
  $7,400 for 50' x 60' slab
- Covered parking
  13,500sq ft x $30 sq ft = $405,000
- Paved driveway
  57,580 sq ft = $100,000 per Hawaiian Paving

Kapaia Construction Costs Totals

$1,575,000+$800,000+$1,100,000+$900,000+$240,000+$7407+$405,000+$100,000= $5,127,407 total cost estimate pending final designs and using 1999 monies

Anahola Service Center Construction Cost Totals

$1,000,000 + $600,000+ $240,000+ $405,000+$60,000=$2,305,000 est. Pending final designs and using 1999 monies

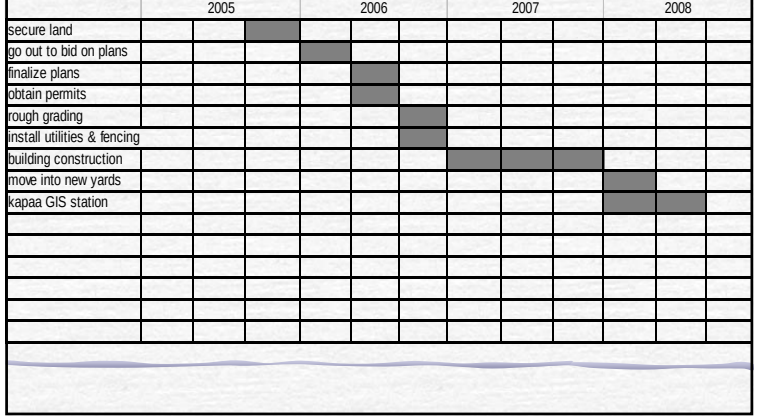
Anahola Service Center Construction Costs

- Office building
  4000 sq ft x $150 sq ft = $600,000
- Shop building/ warehouse
  10,000 sq ft x $100 sq ft = $1,000,000
- Vehicle refeuling area
  $240,000
- Covered Parking and storage
  13,500 sq ft x 30 sq ft = $405,000
- Paved parking area
  $60,000

Totals Both Service Centers

- Kapaia estimated build cost $5,127,407
- Anahola estimated build costs $2,305,000
- Total both yard build out $7,432,407

Service center construction schedule



2005 E&O Vacancy & Staffing

- Assigned to look at current staffing and look at future needs
- Used possibility of third service center
- Used results of current coop survey

Kaua`i Island Utility Cooperative

Your Touchstone Energy® Cooperative

2005 E&O Vacancy & Staffing

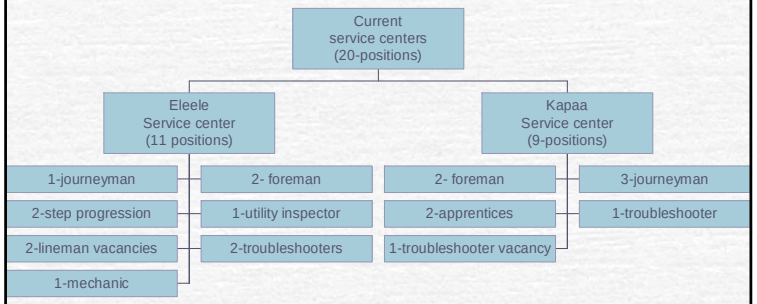
Current Staffing

- Eastside
  - 2-foreman
  - 3-journeymen
  - 2-apprentice
  - 1-troubleshooter
  - 1-vacant troubleshooter

  9 positions total
- West side
  - 2- foreman
  - 1-journeyman
  - 2-lineman in step progression
  - 2- lineman vacancies
  - 2 –troubleshooters
  - 1-utility inspector

  10 positions total

Current Staffing



Current Employees in Apprentice Or Step Progression Program

a.Curran Chang: Hours completed, (4) lessons to complete
b.Tim Medeiros: Step (7), (2) exams to re-take,
(18) lessons to complete
c.Fred Laborte: Step (3), (70) lessons to complete
d. Tim Brantner Apprentice

Current vacancies as of 6/30/05:

a. Primary Trouble man – Kapaa Service Center
b. Journeyman Linemen – Eleele Service Center
c. Helper AQ – Eleele Service Center

Retirement Eligibility:

2005:
1. Eric Kajiwara
2. Jerry Tittle
3. Cliff Sato

2006:
1. Ralph Villabrille

2007:
1. Clyde Chang

2008:
1. Hippo Princena

2009:
1. Bernard Naea NBU
2. Bill Workman

2011:
1. Chris Acoba

2012:
1. Tim Medeiros

2013:
1. Pat Malama
2. Soni Tupou NBU

Coop Survey

- Sent a survey to other coops to get a feeling of where we stand in comparison
- Received 16 responses

Coop Survey

- Do you pay a premium for a person to take a truck home or standby for a trouble calls?
- How many weeks is a person on call to take trouble calls?
- How do you handle the hours of service rules when your guys work long hours?
- Coop size
- Number of people in construction dept

Coop Survey

2005 trouble call and hours of service survey

- What are your normal business hours?
- Do you have any of your line crews on shift work?
- How do you handle after hour trouble calls? (Ex: does trouble shooter take a truck home or line man standby or just call out whoever answers phone)

Coop Survey Results

Coop Survey

Company	Utility Name	Trouble calls	Pay for Standby	Construction size
11500	Big Country Elec.	Two linemen on call some take	4 hrs of 1.5 per week	33 employees
12,400	Empire Electric	1 man standby	yes	12 lineman
16,500	Kosciusko REMC	1 man on call take truck home	Yes $120 per week	22 employees
160,000	Middle Tennessee	3 districts 5 men per district	Yes	n/a
17500	Central Rural Elec	2 men a night rotated daily	Yes 1 hour reg pay for no callouts	18
18,00	Buckeye REC	4 men on standby 2 buckets 2	yes $125 per weekend and $45 per holiday	20 lineman
18000	Indian Elec. Coop	1 standby crew	2 hrs per week standby	21 lineman
20,000	Linn County Rec	3 lineman on standby	2 hrs of pay at 1.5 rate	25 lineman
26000	Southeastern Indiana	no truck taken home	yes	32
29,600	Boone Elec. Coop	Standby crew	yes 12 hrs reg pay for sat and Sunday	28
32,000	N/A	4 lineman on call each week	yes $200 per week standby	20 lineman
34,000 ,	Adams Columbia	troubleshooter takes home	Yes 14 hrs per week	30 lineman
4000	Prairie Energy Coop	1 man per week Tues - Tues	Yes 2% of base pay no truck home	13 lineman
42,300	Appalachian Elec	2 lineman on call no truck at	16 hrs of pay Fri. to Fri.	25 lineman
76000	Carroll Elec. Coop	2 people rotate	1.5 hrs reg pay on weekdays and 3 hrs on	62 total
92,000	Rappahannock Elec.	Two linemen on call takes	Yes 2 hrs reg weekdays 4 hrs pay weekend	60 lineman

Coop's With Comparable Size

Coop	Size	Linecrew	
Linn County Rec	20,000 members	25.00	
N/A	32,000 members	20.00	
Indiana REMC	26000 members	32.00	
Boone Elec. Coop	29,600 members	28.00	
Adams Columbia Elec coop	34,000 , members	30.00	average linecrew size
		135.00	27

Workforce Development

Number needed to hire to achieve 29 positions in dept by 2008 = 8 lineman 1 mechanic

Number realistically expected to retire by 2008

2 lineman, 1 mechanic

Average age of current workforce= 45.24

New hires/replacements

2006

4 Linemen,

1Auto Mechanic Assistant

2007:

4 linemen

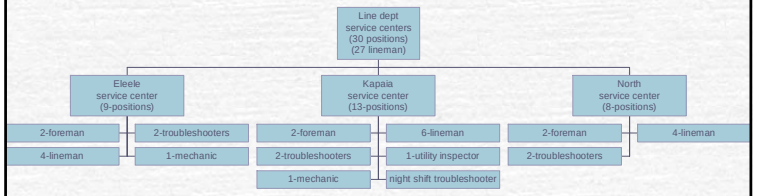
1 Mechanic

2008:

2 linemen

1 Utility Inspector

Proposed Staffing



Lineman College Option

Due to staffing shortages and the minimum amount of candidates needed, it is not feasible to open a lineman college on Kauai at this time. Instead, it would be feasible to interview, select and send candidates to a Mainland Lineman College, and after successfully completing program, hire them as Apprentice Linemen here on Kauai.

Staffing Conclusions

- Identified need to add to line dept whether we open Kapaia service center or not
- Need to address problems with getting and maintaining new lineman
- Need to maintain a balance between hiring apprentices and journeyman

Trouble Call Study

- Done to improve on the way we handle trouble calls
- Try to reduce # of calls
- Find alternatives to the way we are doing it now
- Provide better service for our customers

Trouble Call Study

2005

Trouble Call Response

• Westside – (1) Trouble shooters (6) Line personnel (7) weeks primary
b. Eastside – (1) Troubleshooter (6) Line personnel (7) weeks primary
c. With expanding to (3) service centers in mind, (2) more troubleshooters will be added to further enhance coverage of districts

Options

Do Away With Troubleshooter Position

- Leave existing men in positions and have all lineman rotate in when needed
- When existing position become vacant abandon position and hire lineman
- Each lineman would have 6 weeks troubleshooting a year with current staffing

Do Nothing

- Continue operating with troubleshooters
- Problem retaining existing trouble shooters
- 2 positions open right now no applicants to fill the jobs
- Have lost 4 troubleshooters in the last 2 years

Do Away With Troubleshooter Position

- Have lineman only take truck home when primary troubleshooter
- Convert vacant troubleshooter spots to lineman vacancies
- Redo lineman job description to include all lineman are responsible for after hours trouble calls
- Implement standby pay for taking truck home and standby

Coop Survey Standby Costs

Standby costs per week
4 hrs of 1.5 per week = $191 per week
$120 dollars per week
1 hour reg pay for no callouts= up to $223.51 per week
$125 per weekend and $45 per holiday
2 hrs per week standby =$ 63.86 per week
2 hrs of pay at 1.5 rate=$95.79 per week
12 hrs reg pay for sat and Sunday =$383 per week
$200 per week standby
14 hrs per week=$447.02 per week
2% of base pay no truck home=$26 per week per man
16 hrs of pay Fri. To Fri = $510.88 per week
1.5 hrs reg pay on weekdays and 3 hrs on=$431.47 per week
2 hrs reg weekdays 4 hrs pay weekend=$574.54 per week

- $260.85 average cost per week

Time of Trouble Calls

- Majority of calls come in from 7:00 am to 9:00 pm
- Shift until 11:30 pm would give lineman time to handle most of the calls before shift is over
- Lineman would be available for streetlight surveys and after hours reconnects and trouble calls
- Would work with 3 service center option

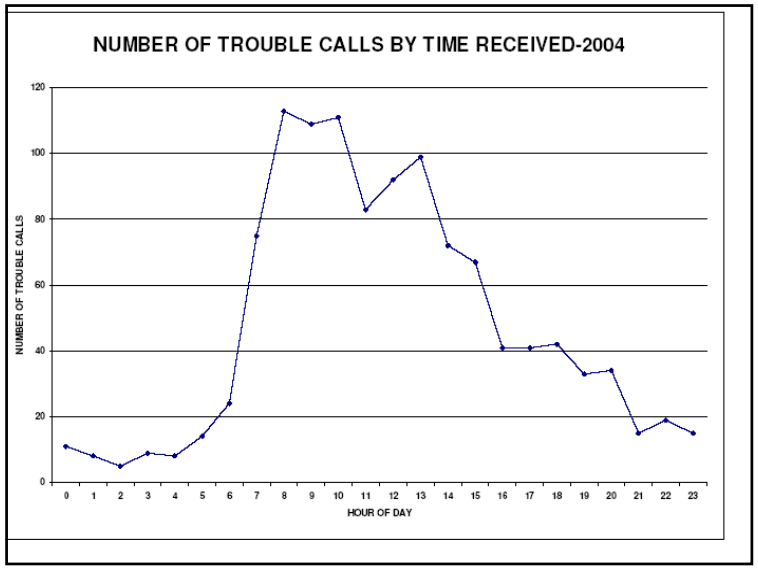
Options for Standby Pay

- Pay a flat fee per night (ex:40 per day = $280 a week)
- Pay 1 hr of pay per day at prevailing rate($33.84 for 1 hr or $372 per week using trouble shooter pay) problem is that different classifications get different rates.

KIUC TC BY HOUR RECEIVED

HOUR OF DAY # CALLS RECIEVED
Data from 1997 to 2004

0 -53	9:00a.m.- 632	6:00p.m. - 254
1:00a.m.- 53	10:00a.m.- 667	7:00p.m. - 208
2:00a.m. -45	11:00a.m.- 496	8:00p.m. - 197
3:00a.m.- 59	12:00a.m.- 493	9:00p.m. - 137
4:00a.m.- 47	1:00p.m. -429	10:00p.m. - 91
5:00a.m.- 74	2:00p.m.- 426	11:00p.m.-66
6:00a.m.- 164	3:00p.m.-385	
7:00a.m. -371	4:00p.m.-289	
8:00a.m. -681	5:00p.m.- 229	



Suggestions to Relieve After Hours Calls

- Implement lineman on shift work from 3:00pm to 11:30pm reporting to Kapaia
- Shift would cover most of the calls received after normal hours
- Calls on weekends and between midnight and 7:00 am would be handled by lineman on standby

Time Of Calls

- In 2004 we received 79 calls from midnight to 7:am
- Averages out to be about 7 calls per month island wide
- Should expect to see about 4 calls per month east side and 3 calls per month west side
- Trouble shooters can expect 1 to 2 calls per week from 11:30pm to 7:00 am