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February 16, 2009

Katherine Puana Kealoha, Esq.  
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235 South Beretania Street, Suite 702  
Honolulu, HI 96813

RECEIVED  
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OFFICE OF ENVIRONMENTAL AND QUALITY CONTROL

Subject: Finding of No Significant Impact (FONSI)  
Helicopter Landing Area in Koula Valley, Hanapepe, Kauai  
Tax Map Key (4) 1-8-001:001  
Island Helicopters Kauai, Inc.

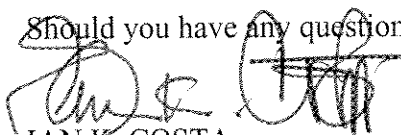
The County of Kauai Planning Department has reviewed the comments received during the 30-day public comment period which began on May 8, 2008. The Kauai Planning Department has reviewed the Draft EA, agency and public comments submitted to the Draft EA, and the Petitioner's responses to the written comments to the Draft EA.

The Department has also reviewed the supplemental comments submitted from the Office of Environmental Quality Control, dated November 20, 2008 that expressed concerns with the preliminary Final EA, particularly in regards to the floral, faunal, and cultural assessments. A Cultural Impact Assessment, an Archeological Survey (as well as comments from the State Historical Preservation Division), documentation on an additional site visit to assess aquatic and floral resources in the subject area, and further analysis of the previously submitted faunal study have been added to the Final EA.

Based on our review, the Department has determined that the proposed project will not have significant environmental effects and hereby issues a FONSI (Findings of No Significant Impact). Please publish this notice in the next available Environmental Notice.

We have enclosed a completed OEQC Publication Form and two (2) paper copies of the Final Environmental Assessment.

Should you have any questions, please contact Ka'aina Hull of my staff at 241-6677.

  
IAN K. COSTA  
Director of Planning

FINAL ENVIRONMENTAL ASSESSMENT

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***HELICOPTER LANDING AREA***

*Koula Valley, Hanapepe, Kauai*

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Prepared for

**Island Helicopters Kauai, Inc.**  
PO Box 831  
Lihue, Kauai 96766

February 2009

## PROJECT PROFILE

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Proposed Action: Helicopter Landing Area  
Koula Valley, Hanapepe, Kauai, Hawaii

Applicant: Island Helicopters Kauai, Inc.  
PO Box 831  
Lihue, Kauai 96766

Approving Agency: Planning Commission of the County of Kauai  
4444 Rice Street, Suite 473  
Lihue, Kauai 96766

Need for Assessment: Section 343-5 (a)(8)(A)  
Propose a helicopter landing area in the  
Agricultural district which may affect the  
Conservation district

Tax Map Key: (4<sup>th</sup>) 1-8-001: por. 01  
Land Area: 11,774.60 acres  
Helicopter Landing Area: Approximately 2,000 square feet

Land Owner: Robinson Family Partners  
PO Box 88  
Makaweli, Kauai 96769

Gay & Robinson, Inc. (Lessee)  
PO Box 88  
Makaweli, Kauai 96769

Existing Use: Open Space

State Land Use Designation: Agricultural  
Kauai General Plan: Open  
Zoning: No Zoning Designation  
Special Management Area: Outside Special Management Area

Anticipated Determination: Finding of No Significant Impact

Contact Person: Walton D.Y. Hong  
Attorney at Law  
3135-A Akahi Street  
Lihue, Kauai 96766

Telephone: 245-4757

**Note:** Revisions to the text of the Draft Environmental Assessment are shown in ***bold italic*** type. Deleted text is [bracketed].

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Island Helicopters Kauai, Inc., a locally owned and Kauai-based helicopter tour operator, proposes to establish a helicopter landing area in Koula Valley near Manawaiopuna Falls at Hanapepe, District of Waimea, County of Kauai, State of Hawai'i. The property bears Tax Map Key 1-8-001: por. 001 encompassing an area of 11,774.6 acres. The proposed landing area will occupy approximately 2,000 square feet of the aforementioned parcel on the floor of Koula Valley. A Location Map and Tax map are shown in Figures 1 and 2.

Koula Valley is owned by Robinson Family Partners who is willing to extend landing rights to Island Helicopters Kauai, Inc. (hereafter the "Applicant") provided they can secure the required permits and approvals for a helicopter landing area.

#### **A. Technical Characteristics**

Applicant operates helicopter tours of Kauai from its place of business at Lihue Airport. Approximately 8 to 16 helicopter tours are flown per day, weather permitting. As part of its tour package, Applicant flies to and above Manawaiopuna Falls where passengers can view and photograph the falls from above. The aircraft does not land and after 1 to 2 minutes, it departs for the continuation of the tour.

Applicant is seeking to have passengers experience Manawaiopuna Falls close up in addition to viewing it from the air. This would be achieved by having a site for its helicopters to land on the floor of Koula Valley. The proposed landing area is an approximately 2,000 square feet area located on top of the mauka bank of Haulili Stream, a tributary to Koula Stream (See Figure 3). ***The center of the helicopter landing area is about 40 feet from Haulili Stream and 150 feet from Koula Stream.*** The improvement plan is to remove or cut back trees (primarily strawberry guava and kukui) and to trim overgrown brush and grass at the landing area. No structures will be constructed or placed thereon. The area is relatively flat and grading is not required as the current condition of the site can accommodate the proposed improvements. Applicant will maintain the landing area as needed.

At the landing area, the helicopter would land and shut down. No more than six passengers can be accommodated on each tour. Passengers would disembark and walk a short distance to Manawaiopuna Falls with the pilot guiding them along an existing but generally unimproved trail. The trail is about 300 feet long and parallels a section of the Koula Ditch. No improvements to the trail are proposed. The irrigation ditch and trail are maintained by the land owner.

Visitors will be able to see and experience the falls close up, take photographs, and after a few minutes walk back to the helicopter, board the aircraft, depart, and continue with the tour. The entire on-ground experience is estimated to take 20 to 25 minutes. Passengers will also be able to see the remnants of the Koula Ditch which was built as the Hanapepe Ditch in 1889 to supply irrigation water to the sugarcane fields on the flat lands at Hanapepe. No swimming will be permitted at the falls and in adjoining streams. Passengers will not be allowed to carry food to the falls. On-site portable toilets, tables, and benches will not be provided for passenger convenience at either the landing area or the falls.

Applicant anticipates that the number of their daily helicopter tours to Manawaiopuna Falls will be significantly reduced if they are allowed to land at Manawaiopuna Falls as each tour will take longer to complete.

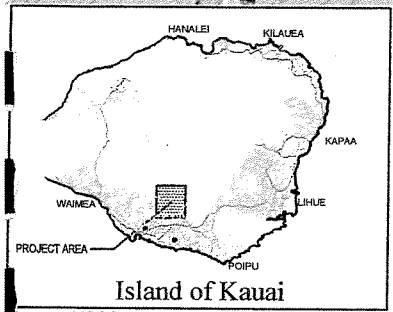
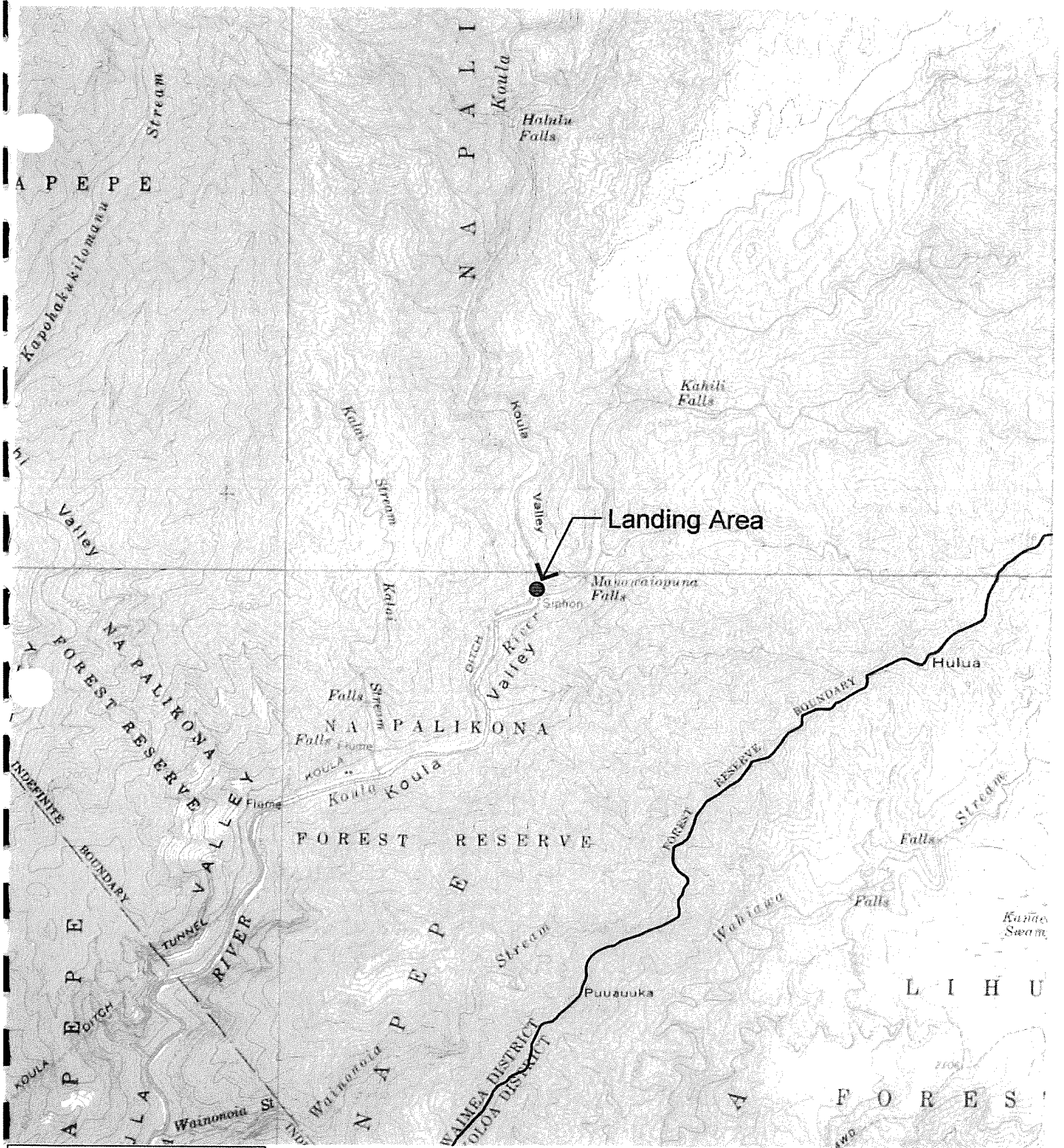
**B. Economic Characteristics**

The initial cost of tree cutting and grass trimming is estimated at less than \$500.00. Applicant will maintain the landing area as needed. Maintenance costs, primarily grass trimming, are estimated at \$500 annually. Grass trimmings will be collected, bagged, and transported to Applicant's place of business for disposal.

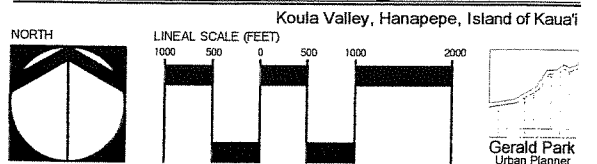
The landing area is part of a larger lot owned by Robinson Family Partners. The owners and lessees Gay & Robinson, Inc. are willing to grant exclusive landing right to use the land as a landing area to Applicant subject to receiving all necessary permits and approvals. The granting of exclusive rights will assure that other helicopter companies will not be allowed to undertake similar activities in the project area.

**C. Social Characteristics**

Koula Valley is uninhabited in the vicinity of the landing area. The Valley is privately owned and closed to public access and public recreational use.

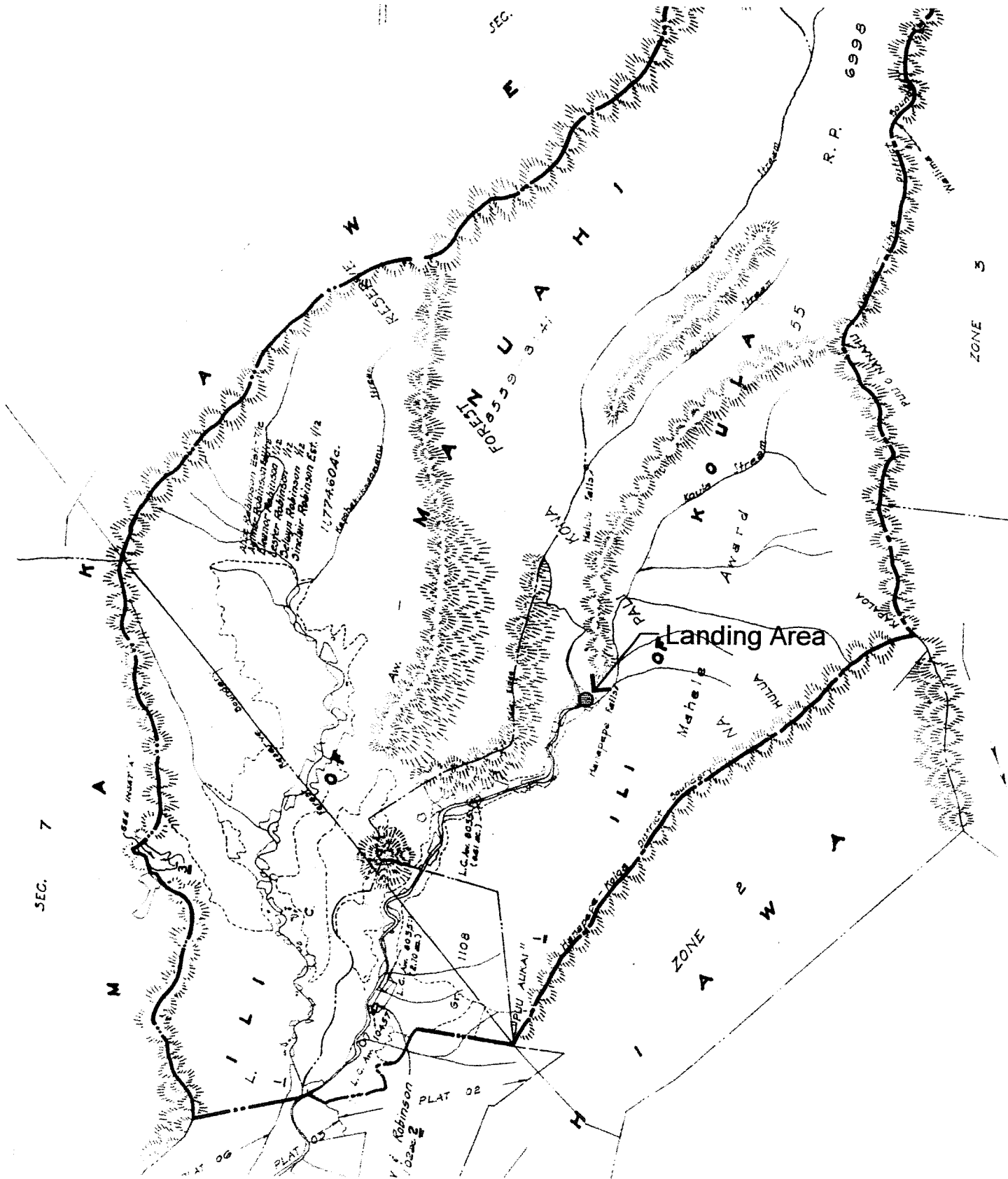


**Figure 1**  
**Location Map**  
**Helicopter Landing Area**



Source: USGS, Waialeale (K-7) & Koloa (K-8) Quadrangles



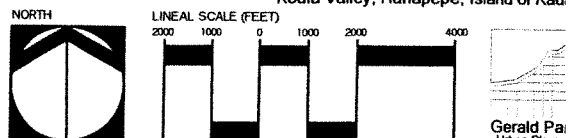


TAXATION MAPS BUREAU		
TERRITORY OF HAWAII		
<b>TAX MAP</b>		
FOURTH DIVISION		
ZONE	SEC.	PLAT
1	8	01
CONTAINING		PARCELS

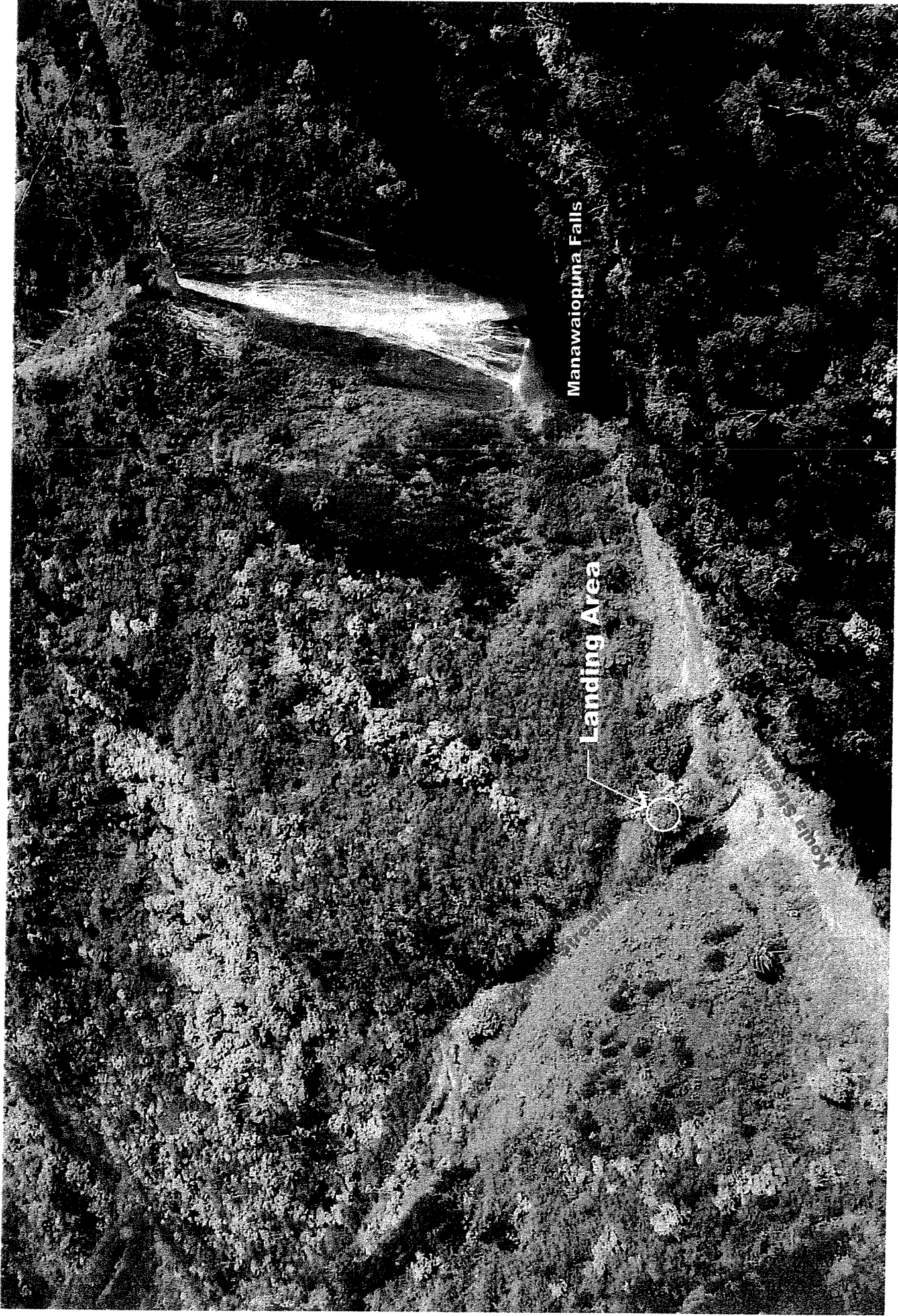
Source: County of Kauai

Figure 2  
Tax Map  
Helicopter Landing Area

Koula Valley, Hanapepe, Island of Kauai



Gerald Pa  
Urban Plan  
March 2006



Source: Client Photograph

**Figure 3**  
**Landing Area Map**  
**Helicopter Landing Area**  
Koula Valley, Hanapepe, Island of Kauai



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### A. Existing Use and Improvements

The landing site is located on top of the *mauka* bank adjacent to and overlooking Haulili Stream, a tributary to Koula Stream, on the floor of Koula Valley. The tributary is about 100 to 120 yards to the south of Manawaiopuna Falls.

The landing site is relatively flat and covered with low grass and shrubs. Strawberry guava grows along the top of the river bank and branching extends over the stream and into the landing area. Kukui and one mango tree grows along the upland edge(s) of the proposed landing area (See Photographs 1 and 2). A concrete headwall or abutment about 12 to 15 feet long and 8 feet high buttresses the river bank at the landing area (See Photograph 3). An abutment of similar dimensions is located directly across on the opposite bank.

The top of a concrete slab (approximately 4' W X 15' L) is visible at the landing area. The slab extends between an irrigation flume to the north towards Haulili Stream on the south, a distance of about 20 feet. The slab is the top of an irrigation siphon (or its concrete jacket) crossing under Haulili Stream and in the approximate center of the landing area.

From the landing area, the trail crosses a section of a lined flume and parallels an irrigation ditch to the falls, a walking distance of about 300 lineal feet. The trail to the falls is narrow in some sections (2' to 3') and wider in others (10' to 12'). The width is narrow where vegetation is the tallest and wide where vegetation is less than one foot in height (See Photograph 4). The trail is on a tapering finger of land between the irrigation ditch and Koula Stream. The taper is about 50 to 60 wide near the irrigation flume and about 10 feet wide at the plunge pool.

Manawaiopuna Falls cascades down a near vertical face estimated to be between 325 to 360 feet in height (Figure 5). Tumbling water collects in a plunge pool at the base of the falls. The depth of the pool is not known. A low, cement rubble masonry (crm) dam or weir (about 3-4 foot in height) extends across the stream (See Photograph 6). Pooling water flows over the dam into Koula Stream. A concrete helipad was built on top of the dam for the movie "Jurassic Park" and has since been destroyed by Hurricane Iniki.

On the west side of the plunge pool, water is diverted into an unlined irrigation ditch (Koula Ditch) and makes its way to a flume near the landing area. At the flume, the flow branches toward Koula Stream or enters the irrigation siphon. The hiking trail parallels the irrigation ditch from the flume to the falls.

The property owner does not allow helicopter tour operators to land at or near the base of the falls and the property is closed to the public. An unimproved dirt road leads to the falls from Hanapepe through Hanapepe and Koula Valleys with numerous stream crossings. The road crosses private property and access is not allowed to the public except by permission of the owner.

The owner currently uses the property for grazing horses and cattle.



Photograph 1.



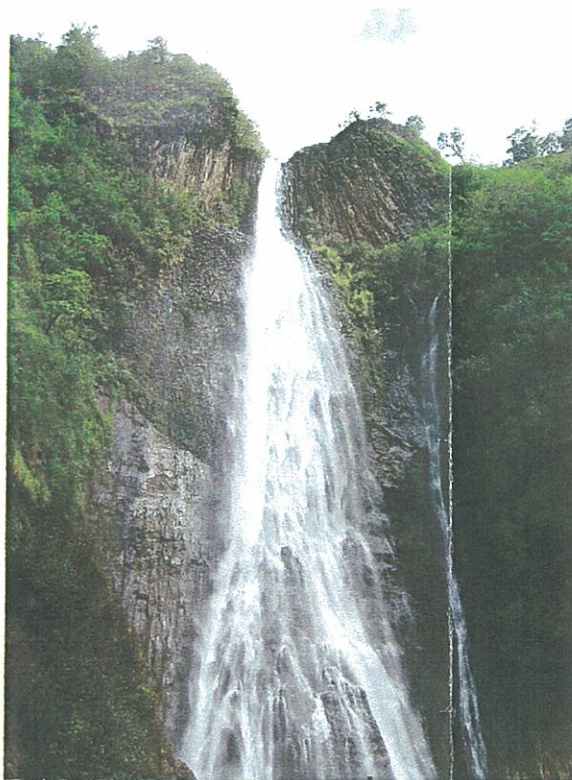
Photograph 2.



Photograph 3.



Photograph 4.



Photograph 5.



Photograph 6.

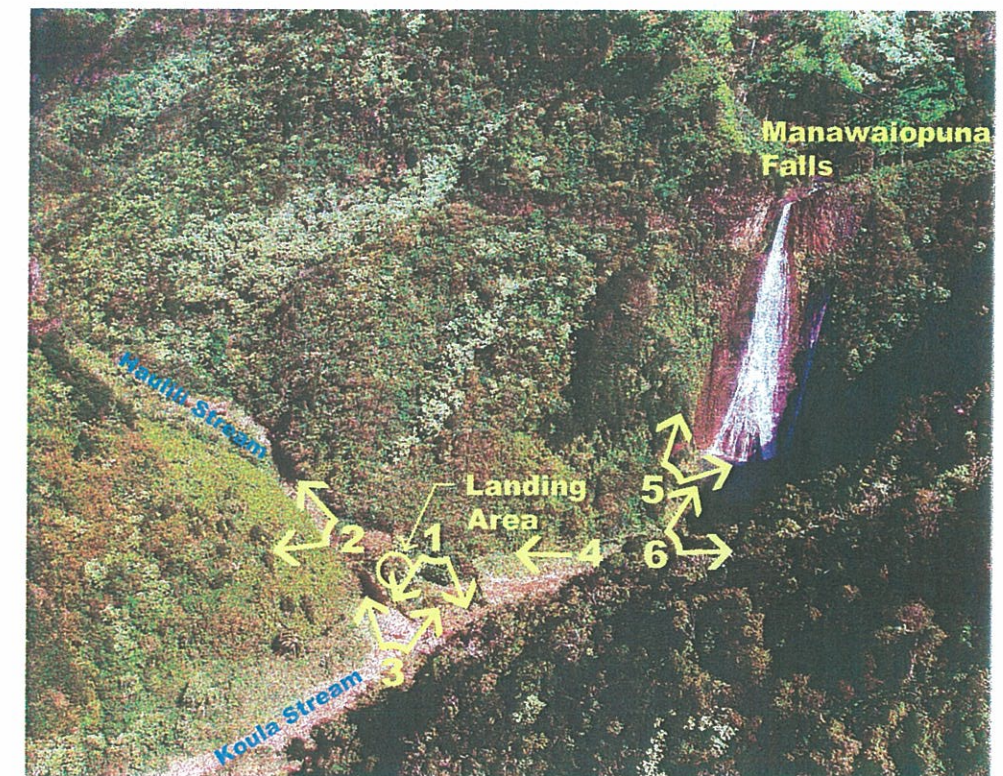


Photo Key Map

Photograph 1. Eastern Edge of Landing Area.

Photograph 2. Western Edge of Landing Area.

Photograph 3. Concrete Abutment on South Side of Landing Area.

Photograph 4. View of Trail Looking South.

Photograph 5. Manawaiopuna Falls. Note Geologic Rock Formation.

Photograph 6. Dam Across Plunge Pool.

## Site Photographs Helicopter Landing Area

Koula Valley, Hanapepe, Island of Kaua'i

## B. Environmental Conditions

The island of Kauai was formed from a single great shield volcano, deeply eroded, and partly veneered with much later volcanics. At the top of the shield was a caldera 10 to 12 miles across---the largest in the Hawaiian Islands. Lavas erupted in the caldera gradually filled it, except on the higher northwestern side, and eventually spilled over its low southern rim into the graben (the Makaweli graben on the southern flank of the shield), down which they flowed into the sea (McDonald and Abbot, 1970). McDonald's geologic map of Kauai depicts the **geology** of the project area as being formed of rocks of the Waimea Canyon Volcanic series and the portion of them that built the main mass of the shield outside the caldera are called the Napali formation. At Manawaiopuna Falls, the valley sides appear to consist of a dense basalt rock base with a vertically stratified layer of rock on top (See Photograph 5). Although the geological formations have not been identified in this assessment, it appears that the lower layer is of the Waimea Canyon Volcanic Series and the upper layer the Napali formation.

Ground **elevation** on the valley floor at the landing area is approximately 600 to 620 feet above mean sea level. The sides of Koula Valley rise steeply on both sides of the walking trail to the base of Manawaiopuna Falls to an estimated height of just under 1,000 feet above mean sea level at the top of the falls.

The Soil Conservation Soil Map (1972) identifies one **soil type**---rough mountainous land (rRT) for the area. This soil is found in mountainous areas on all islands. It is characterized as very steep land broken by numerous intermittent drainage channels. The land surface is dominated by deep V-shaped valleys that have extremely steep side slopes and narrow ridges between the valleys. In most places the local relief exceeds 500 feet.

Because of its mountainous and remote location, this area of Koula Valley is not shown on **flood** insurance rate maps; thus there is no flood hazard designation.

Jeffrey Pantaleo Consultants, LLC, archaeological consultants, conducted an **archaeological assessment** of the landing area and trail to Manawaiopuna Falls (2005). The survey findings are summarized thusly: "No significant surface cultural remains were encountered in the project area. The results of the current investigation produced no evidence for sedentary cultural activities during the prehistoric and early historic periods in the subject project area. The project area had undergone extensive ground disturbances from construction and maintenance of the Koula Ditch."

It was further indicated that the proposed landing area "is located on a previously cleared area for an access road probably associated with construction of the Koula Ditch (Ibid)".

***A copy of Pantaleo's study is attached hereto as Exhibit "A". The study was accepted by the State Historic Preservation Division of the Department of Land and Natural Resources, as shown by the letter at the end of Exhibit "A".***

A **cultural** impact assessment was prepared in conjunction with the archaeological assessment. The assessment (Orr, 2005) summarizes the occurrence of cultural activities and resources in the project area in the context of western history of historical events in Hawaii, genealogies and pre-historic events, and through interviews with knowledgeable informants. Sections from the assessment are summarized below.

Mo'olelo, oli, mele. Legends, chants, and songs are associated with Koula, Hanapepe, and /or Kona, Kauai.

Wahi pana. Storied places described by genealogies, *mo'olelo, oli,* and *mele* for Koula, Hanapepe and/or Kona Kauai are presented.

Heiau. No known *heiau* are associated with the project area.

Ancient Land and Water Resources and Use. The Kona or Waimea district, of which the project area was a part, was considered the largest settlement on Kauai during the ancient period. Wetland taro cultivation was took place in most of the valleys that were associated with fresh flowing water. While the immediate project area has no evidence of ancient cultivation or habitation, there was known cultivation in areas south of the project area.

Historic Land and Water Resources and Use. The devastating sandalwood era was winding down, but not before heavily modifying the landscape by denuding the upper forest and *kula* lands. According to the testimonies, much of the *kula* lands were converted to pasture; this was followed by mono-crop agricultural practices---the cultivation of sugar cane, which also radically modified the natural landscape with infrastructural roads, bridges, ditches, tunnels, plowing and rock crushing. This was the land history of many places in the Kona or Waimea district, and vicinity of the project lands.

Cultural Resources. Other than *kukui* nuts and ferns adjacent to the project area, there are no cultural resources located in the projects lands in the vicinity of Manawaiopuna Falls. However, there are cultural resources in the lower gulches/valleys, which [are] quite a ways south of the project area.

Cultural Practices. It is not known if people of West Kauai specifically use the *kukui* nuts from trees in Ko'ula area. However, the practice of gathering *kukui* nuts continues today for making the condiment *inamona*, for medicinal purposes, for lei, and for *kukui* nut oil, which has several uses including *lomilomi* (Hawaiian massage). Because the project area is not readily accessible it is unlikely that resources in the immediate area would be utilized by cultural practitioners---there are many areas much more accessible.

Hunting feral pigs is a cultural practice that continues today, both for sustenance and sport. This practice is allowed by the owners to employees but not in the vicinity of the project site.

Historic Resources. With the exception of a ditch and berm, which is periodically maintained by the land owner, there are no historic resources in the proposed Manawaiopuna Falls project area. The remnants of the *Jurassic Park* movie are not old enough to be considered historic in the usual sense, although it may be considered "significant" by some movie buffs.

***A copy of the Cultural Impact Study/Assessment, Manawaiopuna Falls, by Orr, is attached hereto as Exhibit "B".***

**Studies of the fauna and flora in the area of and adjacent to the proposed land site were done by Philip L. Bruner (Faunal Field Survey Of A Proposed Helicopter Landing Site At Koula Villey Near Manawaiopuna Falls, Kauai, April 3, 2006) and by John L. Ford and Tiffany Thair of SWCA Environmental Consultants dated July 31, 2008, are attached hereto as Exhibits "C" and "D" respectively. The results of these studies follow.**

Upland **flora** consists of a mixture of [hau, guava, kukui, mountain apple, coconut, mango, strawberry guava and assorted grasses (Bruner, 2006; Orr, 2005). Ohia-lehua is present along the stream and the valley sides. No rare or special trees occur on the subject property. No species listed as protected, threatened or endangered (DLNR, 1998; Federal Register, 1999, 2002) was observed.] **overstory vegetation such as hau thickets (*Hibiscus tilliaceus*), kukui (*Aleurites moluccana*), 'Ohia (*Metrosideros polymorpha*), guava (*Psidium guajava*), mango (*Mangifera indica*), and mountain apple (*Syzygium malaccense*). The understory vegetation contained sedges, partridge pea (*Chamaecrista nictans*), sensitive plant (*Mimosa pudica*), Jamaica vervain (*Stachytarpheta jamaicensis*), *Pluchea* sp., ginger (*Alpinia* sp.), California grass (*Brachiaria mutica*), pualele (*Emilia fosbergii*), and young koa haole (*Leucaena leucocephala*). The adjacent hillsides contained uluhe (*Dicranopteris* sp.) and various ferns. Also present in the area were coconuts and assorted grasses.**

**No rare or special trees, and no species listed as protected, threatened or endangered species (DLNR, 1998; Federal Register, 1999, 2002), such as *Schiedea spergulina* var. *ieiopoda*, *Solanum sandwicense*, *Lipochaeta micrantha* var. *micrantha* (USFWS 1995) were observed or occurred on the subject site, although they may be historically documented in the Hanapepe Valley.**

No **native forest birds** were observed during a faunal survey of the landing area. Given the location of the property, and available habitats, few native forest birds would be expected. Apapane (*Himatione sanguinea*) and Kauai Amakihi (*Hemignathus kauaiensis*) may on occasion forage in the Ohia'a-lehua and flowering Mountain Apple trees (Bruner, 2006). The pueo or Hawaiian owl (*Asio flammeus sanwicensis*) forages in a wide variety of habitats, including river valleys.

No **native water birds, seabirds, or migratory shorebirds** were encountered (Ibid). Three alien (Introduced) species were observed: Japanese white-eye (*Zosterops japonicus*), Hwamei (Chinese Thrush or Melodius Laughing Thrush) (*Garrulax camorus*), and a White-rumped Shama (*Copsychus malabaricus*).

The endangered Hawaiian Hoary Bat is fairly common on Kauai; **however, none were observed during the faunal study of the subject area. The Hawaiian Hoary Bat roost in trees, and feed at night. In order to prevent potential impacts to Hawaiian Hoary Bats that may feed in the area, prohibiting helicopters from flying in the area at dusk and at night is suggested. The proposed removal of trees required for the helicopter to land, and the limited effect of the rotors' downwash landing into the wind, would not result in significant disturbance to bats that may roost in the area.**

The only evidence of **feral mammal** activity was tracks and rooted up areas left by pigs (*Sus scrofa*). Rats (*Rattus spp.*), mice (*Mus musculus*), and cats (*Felis catus*) also occur in the valley.

*Aquatic fauna such as the Hawaiian goby fish (Awaous guamensis or 'o'pu nakea), the non-native introduced Tahitian prawns (Macrobrachium lar), swordtails (Xiphophorus helleri), guppies (Poecilia reticulata), Marine toads (Bufo marinus) and their aquatic pollywogs were observed at the project site. Aquatic invertebrates observed at the site include the native dragonfly (Pantala flavescens), the endemic scarlet Kauai damselfly (Megalagrion vagabundum), the introduced caddisfly (Cheumatopsyche pettiti), and the introduced flatworm (Degesia sp.).*

*The Island of Kauai is estimated to contain 12 species of Hawaiian damselflies in the genus Megalagrion. Most of these species are considered common and none are listed as Threatened or Endangered. A single species of the Hawaiian picture wing flies, the endangered Drosophila musaphila, is known to occur in the mesic forests of Kauai, but has been seen at only four sites, all of which are greater than 1,900 feet above sea level. This species is not known to inhabit the Hanapepe Valley in the vicinity of the proposed landing site, and no impact is anticipated as a result of the proposed activity.*

*The threatened Newcomb's snail (Erinna newcombi) was collected in 1840 in Hanapepe Valley, and species is restricted today to the streams and springs located in the mid-elevation mountainous interior of Kauai. The Hanapepe watershed is not included in the designated critical habitat for Newcomb's snail, and there is no reason to believe that it will be affected by the proposed activity.*

Due to its remote location and undisturbed condition, **noise** in the vicinity of the landing area is predominantly sounds of nature related to birds, wildlife, the wind and rustling trees, and flowing water from Koula Stream. At the landing area, the sound of falling water from Manawaiopuna Falls is audible in the distance. At the falls, the falls itself "masks" out other ambient noise sources. Noise can also be heard from helicopters flying overhead on their aerial viewing of the falls.

No sources of **air pollution** are known to exist or operate in Koula Valley near the landing area. Air quality, thus, is considered to be very good. **Helicopter landings and take-offs will result in emissions from turbine engine exhausts. The impacts of these exhausts upon the adjacent stream will likely be minimal due to the sweeping winds in the area. Fugitive dust and debris will also be minimal, and miniscule in comparison to the normal bed load of sediments carried by the river with its natural turbidity.**

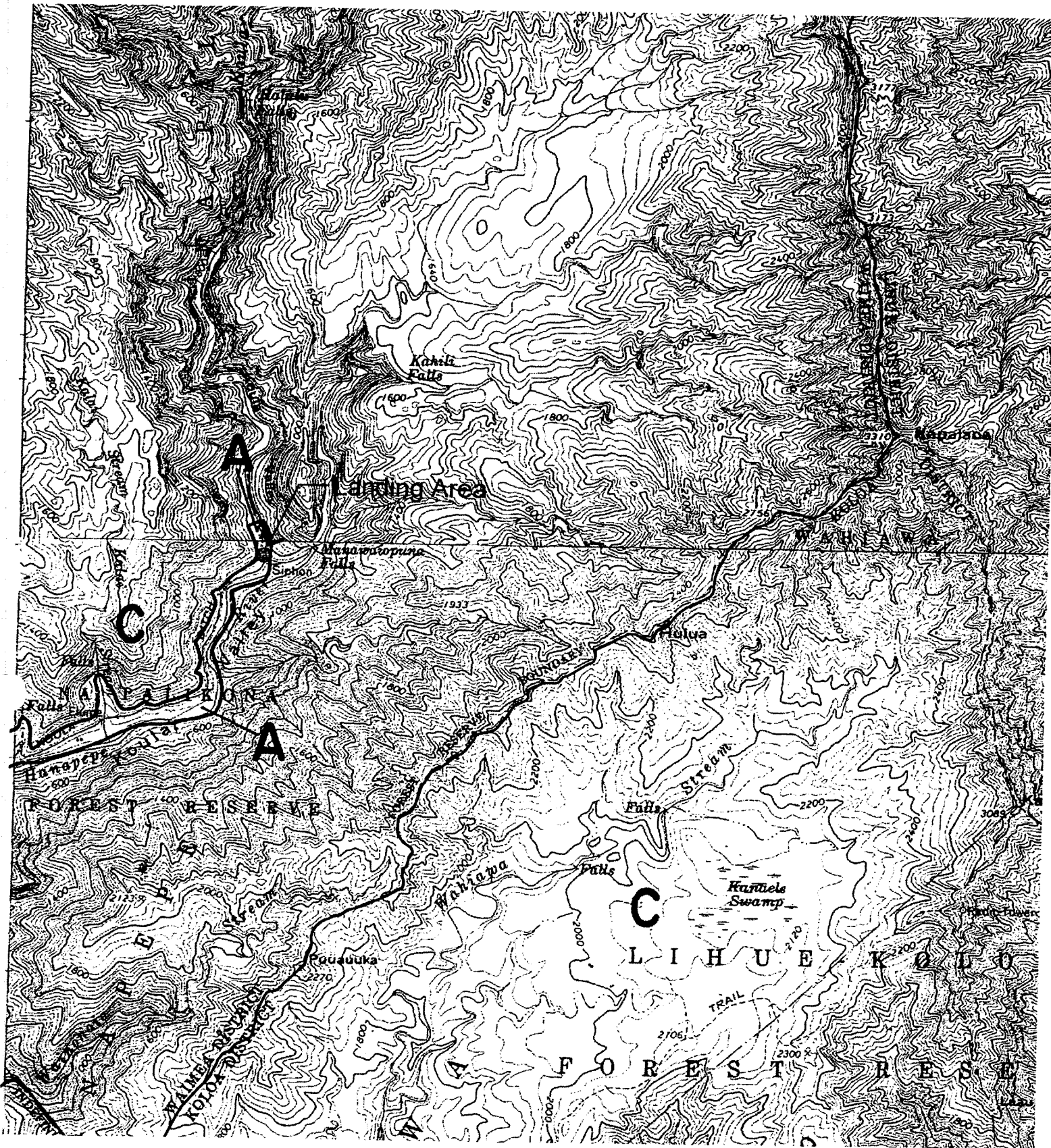
### **C. Land Use Controls**

State and County **land use controls** governing the use of the property are listed below.

- State Land Use Designation: Agricultural
- Kauai General Plan: Open
- Zoning: No Zoning Designation
- Special Management Area: Outside Special Management Area

The site of the landing area is designated Agricultural by the State Land Use Commission (See Figure 4). A portion of the trail leading to Manawaiopuna Falls and the falls is located in the State Conservation district (Protective Subzone).



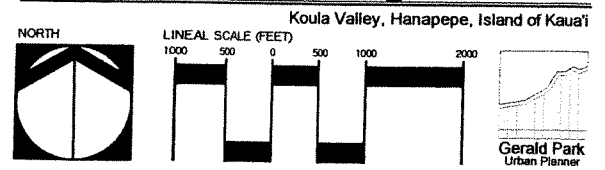


Legend

- U Urban
- R Rural
- A Agriculture
- C Conservation

Source: State of Hawaii, Land Use Commission, Waialeale Quad(K-7) & Kōloa Quad (K-8)

Figure 4  
State Land Use  
Helicopter Landing Area



The Office of Conservation and Coastal Lands (“OCCL”), the regulatory branch of the Department of Land and Natural Resources (“DLNR”) has determined that a Conservation District Use Permit is not required for the proposed action because they did not consider the Conservation lands as being affected by the proposed activity (See Appendix A, Item 1).

The Kauai General Plan (2000) identifies land generally surrounding the communities of Hanapepe, Eleele, and Kalaheo as Open Space, Parks, Agriculture, Conservation. Mauka of this designation, the General Plan considers the land, to include Koula Valley (which is not identified) Important Land Form. This designated area includes mountains, stream valleys and gulches, bluffs and other small coastal features (General Plan, 2000).

#### **D. Public Facilities**

There are no public facilities in the vicinity of Manawaiopuna Falls.

## SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS AND MEASURES TO MITIGATE ADVERSE EFFECTS

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The scope of the project was discussed with the Applicant. State and County agencies were contacted for information relative to their areas of expertise. Time was spent in the field noting site conditions and conditions in the vicinity of the landing area. The consultations, studies prepared by others, and field investigation helped to identify existing conditions and features that could affect or be affected by the project. These conditions include:

- There are no rare, threatened, or endangered flora or fauna within the project limits;
- There are no recorded archaeological resources within the project limits;
- There are no cultural resources associated with the project limits;
- There is no flood hazard rating for the area;
- Cattle and horses graze the floor of Koula Valley;
- Helicopter tour companies currently fly over Manawaiopuna Falls but do not land;
- Public access into Koula Valley is not allowed without permission of the landowner;
- There are no public facilities or recreation areas in Koula Valley and Manawaiopuna Falls; and
- The Federal Aviation Administration (“FAA”) has approved the site as a helicopter landing area.

### A. Short-term Impacts

The proposed improvements should not adversely affect ambient **air quality**. Grading and excavation are not proposed thus fugitive dust should not be generated. Because of the limited, small scale clearing and cleaning activities and the remote location of the landing area, dust control measures are not necessary.

Construction **noise** can be expected but will be limited in duration. More than likely chain saws, grass trimmers, and a lawn mower is all that is needed to clear the landing area of unruly vegetation. Clearing activities should take less than one day. There is no noise sensitive area nearby that would be adversely affected by the sounds of power equipment. Sounds of tumbling water from Manawaiopuna Falls and flowing water in the irrigation flume will mask equipment noise. These “water related” noise sources are the loudest in the area. The equipment to be used in preparing the landing area is no different from equipment a homeowner would use to maintain his or her property.

The nearest residential area (Hanapepe Cliffside) to the proposed landing area is about 3 miles to the south. This distance in conjunction with the dense vegetation between the proposed landing area and the inhabited residential area should attenuate sounds. Cutting back trees and branches and mowing grass are not significant noise generating activities.

Trees will be trimmed or cut without removal of the roots wherever possible. The existing trees and remaining roots help to stabilize the soil and avoid exposing the soil which creates opportunities for **runoff and erosion**. If trees need to be removed, the disturbed area should be stabilized as soon as possible with appropriate plant material. The landing site is relatively flat, small in area, and does not require grading. If required, a Best Management

Practices (BMPS) plan for erosion control will be prepared for review and approval by the Department of Public Works.

Wild pigs frequent the area and signs of their **rooting activity** are evident. Existing and future rooted areas in the landing area and along the trail will be filled with soil and grassed for safety reasons and to minimize the occurrence of soil entering the irrigation ditch or stream.

The consulting archaeologist (Pantaleo, 2005) offered the following recommendation “Due to the absence of surface **cultural remains** in the project area, and no improvements or ground disturbing activities are planned in the helicopter landing area and along the trail, no further archaeological work is recommended. However, in the event future improvements or construction activities are planned in the area, archaeological monitoring is recommended to ensure that any subsurface cultural remains are properly documented.”

Should subsurface **archaeological or cultural features** be unearthed, work in the immediate area will cease and the State Historic Preservation Division notified immediately for disposition of the finds. If burials are unearthed, the State Historic Preservation Division and the Kauai Police Department will be notified.

Adverse effects on **flora** are not anticipated. Trees, shrubs, and grasses found within the landing area are common to Hawaii and are not rare, threatened, or endangered species or candidates for that status. The observed species also grow in areas away from the landing site.

## **B. Long-term Impacts**

**Ambient air quality** may be affected by exhaust from the helicopter. Air quality at the project area is considered “very good” due to its remoteness and location away from human activity. Point sources of pollution (e.g. a power plant, residential subdivision) and non-point sources (automobiles, construction activities) are not associated with the project area. Exhaust emissions will be dispersed by the prevailing winds and the helicopter rotor blades.

Helicopter downdraft will raise **dust and loose debris** during take-offs and landings. This effect cannot be avoided at the proposed landing area. Airborne dust and debris will settle onto and outside the landing area. Removing grass trimmings from the landing area following maintenance can help to mitigate this impact. ***Ford (2008) concluded that fugitive dust and debris will be minimal, and miniscule in comparison to the normal bed load of sediments carried by the river.***

***Grass and other vegetation cover the surface and adjoining areas. Applicant will maintain the landing area and can allow the grass to spread and inter-grow creating a fairly dense grass covered landing area as a mitigating measure. Vegetation will retain soil thus minimizing fugitive dust during landing and takeoffs and subsequent transport to the adjoining streams.***

***Over time, Applicant can determine the best way to minimize grass cuttings and debris raised by aircraft downdraft at and in the immediate vicinity of the landing area. It may require letting the vegetation grow to a certain height and maintaining it at that height. Loose debris such as broken tree branches can be collected and hauled away from the landing area as frequently as possible.***

***The Office of Environmental Quality Control commented that Hanapepe River and its upstream tributaries are identified as impaired waters by the Department of Health because of turbid conditions. Natural causes such as erosion processes, scouring of the river bank and bottom, fallen trees and leaves, and runoff are contributing factors to water quality impairment upstream and downstream of Manawaiopuna Falls. Erosion also is attributable to unrestrained grazing of feral goats and pigs. In inhabited and agricultural areas below Manawaiopuna Falls, man's activities are probably the primary factor contributing to the turbid conditions of the Hanapepe River in its lower reaches.***

Helicopter landings will introduce a new source of **noise** to the project area. Applicant flies the Aerospatiale Model AS350 B2 in its tour operations. This helicopter model generates noise on the order of 89.8 dB at takeoff and 91.4 on approaches. A typical takeoff will generate noise in the range identified above for approximately 1½ to 2 minutes and a like amount of time when landing. While little can be done to reduce the noise of aircraft landings and departures, the increase in ambient noise level during such times is temporary in duration and should not adversely affect wildlife resources in the area. Wildlife and birds may temporarily leave the area upon hearing noise and with the increase in human activity.

***Applicant is one of the original signatories to a voluntary helicopter noise abatement program (Fly Neighborly) for Kauai. To this day, Applicant avoids flying their aircraft over residential communities and noise sensitive areas identified for Kauai in the Hawaii State Helicopter System Plan (1988) which was revised in 1994. The purpose of the program is to alleviate, as much as possible, noise emitted by helicopters and to provide for the safety of the passengers, the flight, and the general public. The Applicant will continue to adhere to the Fly Neighborly program, but with a reduced number of daily flights.***

Koula Valley is privately owned and public access restricted. In general, people should not be hiking or driving on the valley floor without permission of the landowner. Since people are not allowed onto the property, there should be no acoustical impacts on humans in the vicinity of the landing area.

**Noise per se** does not generate sufficient energy or changes in air pressure to dislodge materials and it is not likely that noise from a helicopter can do so. Vibration, rather than noise can cause material displacement. Noise from a helicopter, however, does not generate sufficient energy to create sound induced vibration. The trail to the falls is near the base of a valley side not more than 50 feet away on the west. Vegetation covers much of the side. If roots are naturally detached or uprooted, falling vegetation could **dislodge rocks** and other material (or falling rocks could dislodge vegetation). This type of natural occurrence is unavoidable and difficult to mitigate. There are no written records of falling rocks or landslides in this area and no documentation evaluating the condition of the valley sides, slope, and vegetation growing thereon. Rocks dislodged naturally by water and stream flow can be seen at the base of the plunge pool and in the streambed, respectively. The landing area and trail to the falls are located away from the base of the valley sides. Any dislodged rocks should be arrested by the intervening vegetation and ditch before posing a hazard to persons on the trail and landing area. There was no presence of dislodged rocks or debris on the trail and landing area.

Mist from Manawaiopuna Falls drifts onto the trail segment between the falls and the irrigation flume keeping the ground moist and vegetation green. Because of the **damp**

**conditions**, frequent use of the trail should not foster erosion and subsequent discharge into the adjoining irrigation ditch. The trail further can be moved further away from the irrigation ditch as a mitigating measure.

Wild pigs frequent the area and their burrowing activities can result in soil being naturally discharged into the irrigation ditch and Koula Stream. In the vicinity of the landing area, Applicant will fill in areas rooted up by pigs both as a safety precaution for passengers and to minimize water quality degradation in adjacent waterways.

The landing site on the valley floor is not a **pristine environment**. Although in a remote and generally inaccessible location, the area was long ago improved for irrigation use and recently used for “on-location” filming of the movie Jurassic Park. The vegetation is not native to Hawaii and no native avifauna and wildlife are known to have established habitat in the area. Resident species identified in this assessment are primarily “alien” or introduced species.

*The stream has been disturbed over the past half century by surface diversion for sugar irrigation, blocking of streams by weirs, introduction of non-native predatory and competitive aquatic species, and sedimentation of river beds from soil erosion created by unrestrained grazing of feral goats and pigs, and periodic landslides. The stream banks are dominated by introduced and naturalized plant species. Native aquatic migratory species, however, persist within the watershed (Ford, 2008).*

By requiring visitors to stay only on the trail while hiking to the falls, the **native ecosystem** will not be adversely disturbed. Grass that may be trampled on the trail and landing area are not endangered or threatened species and will naturally regrow.

The possibility of **alien species** being introduced to the area should not be discounted. The introduction could be through seeds and spores unknowingly attached to passenger’s footwear. If this is a significant concern, passengers should be required to clean their footwear before boarding the aircraft. A mechanical or compressed air cleaner can be setup at the waiting area adjoining Applicant’s helipad at Lihue Airport for this purpose.

The introduction of alien species, however, already may be occurring. Workers who maintain the Koula Ditch travel great distances and could unknowingly pick up and deposit seeds along their way to the ditch. Alien species can also be introduced naturally--- the wind can blow seeds and spores into the valley and the same can be transported by birds and deposited in their droppings. In addition, alien species are part of the floral composition in the project area and natural self-propagation assures their continued presence.

No improvements are planned that would create **impervious surfaces** thus there should be no increase in surface runoff over existing conditions. The existing terrain at the proposed landing area slopes in the direction of Koula Stream and flat areas adjoining the stream. The proposed action will not alter this condition.

Applicant has prepared an Emergency Response Action Plan for responding to **emergencies** for tours landing at Manawaiopuna Falls (See Appendix B). Although no structures are proposed to be constructed at the landing area, storing some equipment in a cabinet for emergencies should be considered. The cabinet should be weather-proof, placed at an accessible but inconspicuous location, and painted to blend with the foliage.

The **FAA** has apprised Applicant that helicopter “approach, landing, take-off, and departure can be conducted safely” from the proposed landing site (See Appendix A, Item 2).

The proposed improvements are not anticipated to result in adverse **visual** impacts. The landing area will be visible from the air and appear as a grassed clearing ringed with trees. However, there should be no visual impact if there is no helicopter on the ground.

A helicopter on the ground will be visible from helicopters flying overhead. Due to height restrictions imposed by the Federal Aviation Administration, these overhead helicopters will be at sufficient distance away so that the visual impact of an aircraft on the ground will be minimal.

An aircraft on the ground will indicate man’s presence in the area but should not detract from the overall experience of seeing the falls from the air. Helicopter tour operators position their aircraft for optimum sightlines towards the falls for their passengers at a distance where passengers can view the totality of the falls; this focus on the falls itself from a distance significantly mitigates the intrusion into the viewplane of people at the base of the falls.

The landing area is part of a larger agricultural area used for **grazing horses and cattle**. This use will continue and should not be affected by the proposed use. The presence of the siphon and flume providing irrigation water to the lower Hanapepe Valley lands in sugar cultivation should not be affected. Other agricultural uses are not feasible because of the narrowness of the valley floor, the limited area for any agricultural activity other than grazing, and the lack of ready access for crop cultivation.

There is very little evidence today that the project area may have been part of an ancient **Hawaiian life system**, although there is still evidence that areas south of the project lands were utilized during ancient and very early historic times (Orr, 2005). Waterfalls and fresh water sources in general were very special to traditional Hawaiians and areas such as this may have been a resource area for cultural gathering practices. However, the project area is quite a distance from the nearest traditional habitation sites.

The pig (*Sus scrofa*) was brought to Hawaii by the early Polynesians. Some of them managed to escape from pens and later inter-mixed with domestic species who also managed to escape. These are known today as feral pigs. The **cultural practice** of hunting these animals continues today, both for sustenance and sport. This practice is allowed by the owners only to employees in areas away from the project site.

The lands in the project area were heavily impacted by the historic activities of the 19<sup>th</sup> and 20<sup>th</sup> centuries although limited in the area of the falls due to the narrow valley floor and steepness of the valley walls. Any cultural sites and/or resources would have been destroyed or buried by ranching and sugar cultivation activities (ditch/berm); therefore there will be no adverse impact to any **cultural resources** in the Manawaiopuna Falls project lands.

**A. No Action**

The no action alternative will maintain the status quo of the property and preclude the occurrence of all environmental impacts---short and long-term, beneficial and adverse---described in this Assessment. The No Action alternative will also deprive people of the opportunity to view and experience the falls.

**B. Vehicular Access**

The opportunity to view Manawaiopuna Falls is limited because of its remote location. Vehicular access is possible but not feasible. An existing dirt access road extends from the town of Hanapepe to Manawaiopuna Falls. The dirt road is used by workers to service the Koula Ditch. It winds through Koula Valley and crosses the Hanapepe River and Koula Stream about seven times before reaching the falls. There are no bridges over the streams, only water crossings. Vehicles driving the dirt road would raise dust, affect ambient noise levels, contribute exhaust emissions, foster erosion, and create the need for restroom facilities en route. Direct impacts associated with water crossings can affect stream flora, fauna, and habitat, increase suspended solids, disrupt natural stream processes, impair water quality, and potentially contribute petroleum by-products to the watercourse. In total, this alternative poses a greater environmental and ecological concern than the proposed helicopter landings. The landowner will not grant permission for such an activity which also prohibits this means of accessing the falls as an alternative.



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Permits and approvals required for the project are listed below. Other permits and approvals may be required depending on final construction plans.

**County of Kauai**

Planning Commission of the County of Kauai

- Special Permit
- Use Permit
- Class IV Zoning Permit

## AGENCIES AND ORGANIZATIONS CONSULTED IN IN THE ASSESSMENT PROCESS

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*The Draft Environmental Assessment for the Helicopter Landing Area Koula Valley was published in the Office of Environmental Quality Control's Environmental Notice of May 8, 2008. Publication initiated a 30-day public review period ending on June 8, 2008. The Planning Commission, County of Kauai circulated copies of the Draft Environmental Assessment. An asterisk \* identifies agencies and organizations that submitted letters or written comments during the review period. All comment letters and responses are found in Appendix C.*

### **County of Kauai**

Planning Department

### **State of Hawaii**

Department of Health

\*Office of Environmental Quality Control

Department of Land and Natural Resources

Division of Aquatic Resources

Division of Forestry and Wildlife

### **Others**

Robinson Family Partners

\**Carl Imparato, Sierra Club of Hawaii*

### **Pre-Assessment Consultation:**

County of Kauai Planning Department

Land Use Commission, State of Hawaii

Department of Land and Natural Resources, State of Hawaii

Federal Aviation Agency

Carl Imparato, Sierra Club of Hawaii

Maka'ala Ka'aumoana

Kodani & Associates, Inc.

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Chapter 200 (Environmental Impact Statement Rules) of Title 11, Administrative Rules of the State Department of Health, establishes criteria for determining whether an action may have significant effects on the environment (§11-200-12). The relationship of the proposed project to these criteria is discussed below.

**1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;**

Archaeological and cultural surveys of the project area have not identified any resources that will be affected by the proposed action.

The Koula Ditch will continue to remain operational and unaffected by the proposed action. Proposed activities as it relates to the ditch will entail, at the most, up-close viewing and an explanation of the ditch system and how it interrelates to the irrigation system for plantation agriculture.

**2) Curtails the range of beneficial uses of the environment;**

The proposed action will not curtail the beneficial uses of the environment. Fresh water, an environmental resource from Manawaiopuna Falls and the Koula Ditch, a man-made irrigation ditch that channels water out of Koula Valley towards Hanapepe, will not be affected by the proposed action. In addition, Koula and Haulili Streams, the principal water courses in the project area will not be affected

The larger property which includes the project area is and will continue to be used for grazing horses and cattle.

**3) Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in chapter 344, Hawaii Revised Statutes, and any revisions thereof and amendments thereto, court decisions or executive orders;**

The proposed action will not conflict with the State's long-term environmental policies, goals, and guidelines expressed in Chapter 344, HRS.

**4) Substantially affects the economic or social welfare of the community or State;**

The project will not substantially affect the economic or social welfare of the community or State.

**5) Substantially affects public health;**

Public health will not be adversely affected as the proposed activity is more than three miles from the nearest residence and of limited magnitude.

**6) Involves substantial secondary impacts, such as population changes or effects on public facilities;**

Population changes or effects on public facilities are not anticipated due to the limited scope of the project and non-involvement of public facilities.

**7) Involves a substantial degradation of environmental quality;**

Environmental quality of the project area will be affected by helicopter noise, helicopter landings and take-offs and the presence of people in the area. These effects will be minimal and temporary. A substantial degradation of environmental quality is not anticipated.

**8) Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;**

The project does not directly involve a commitment for a larger action. The action will be the first to allow tour helicopters to land near Manawaiopuna Falls so that passengers can view the falls close up on foot. This action could lead to possible proliferation of additional landing permits sought by other helicopter tour operators. This potential cumulative impact is probably unlikely and can be mitigated as a) the landowner has given exclusive landing rights in Koula Valley to the Applicant; b) the absence of similar inaccessible waterfalls on privately owned land reduces the likelihood that other applications for similar permits will be forthcoming; and c) regulatory requirements will require approval from state or county agencies or both.

**9) Substantially affects a rare, threatened or endangered species, or its habitat;**

There is no rare, threatened or endangered flora and fauna or habitat on the premises. Flora observed on the premises is common to the island of Kauai.

**10) Detrimentially affects air or water quality or ambient noise levels;**

The proposed use will not detrimentally affect air quality, water quality, and the acoustical environment. Ambient air quality over the proposed landing area may be temporarily affected by the increase in engine exhaust fumes, however, the effect should not be significant because of the limited number of trips. Ambient noise levels will increase as a result of the proposed activities, but the absence of any human habitation within miles of the site will mitigate any effects thereof.

**11) Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.**

Available information does not document that the proposed landing site is in an environmentally sensitive area.

**12) Substantially affects scenic vistas and view planes identified in county or state plans or studies, or,**

The project area is located away from public highway, scenic view planes and vistas, and will not be affected by the proposed activity. Further, the Kauai General Plan does not specifically identify Koula Valley as providing scenic vistas or view plan or part of a view plane. The valley and Manawaiopuna Falls, however, are included in a broad

resource category defined as Important Land Form. The proposed use will not affect the landform.

**13) Requires substantial energy consumption.**

A negligible increase in energy consumption is anticipated. For a helicopter, take offs and in-flight cruising consume more fuel than approach and landings. The increase, however, is not significant because of the limited number of events occurring on a daily basis.

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EXHIBIT "A"

ARCHAEOLOGICAL ASSESSMENT OF THE PROPOSED  
MANAWAIOPUNA FALLS TOURS HELICOPTERS LANDING AREA

**ARCHAEOLOGICAL ASSESSMENT  
OF THE PROPOSED MANAWAIOPUNA FALLS  
TOUR HELICOPTER LANDING AREA  
HANAPEPE *AHUPUA*'A, KOLOA DISTRICT  
ISLAND OF KAUAI  
TMK 1-8-01**

for  
Island Helicopters  
P.O. Box 831  
Lihue, Kauai 96766

by  
Jeffrey Pantaleo, M.A.

April 2005

**Jeffrey Pantaleo Consultants, LLC  
3075 Ala Poha Place #1206  
Honolulu, Hi. 96818**



## ABSTRACT

Jeffrey Pantaleo Consultants, LLC, of Honolulu, conducted an archaeological and cultural assessment of a proposed tour helicopter landing area at Manawaiopuna Falls, Hanapepe *ahupua'a*, Kona District, Kauai Island. The project includes a landing area and an unimproved trail to the falls. The purpose of the current study was to determine the presence/absence, nature, and extent of archaeological resources in the project area and evaluate their significance.

Historical and archaeological background researches were conducted to enhance site predictability and interpretation. The surface survey of the project area resulted in no findings. The proposed helicopter landing area is situated on a level area about 10,000 feet southwest from Manawaiopuna Falls. Since no ground disturbing activities are proposed and the helicopter landing area had been previously disturbed for an access road, subsurface testing was deemed unwarranted.

Due to the absence of surface cultural remains in the project area, no further archaeological work is recommended. However, in the event future improvements or construction activities are planned in the area, further archaeological work including monitoring is recommended to ensure that any subsurface cultural remains are properly documented.

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## INTRODUCTION

At the request of Island Helicopters, Jeffrey Pantaleo Consultants, LLC (JPC), of Honolulu, conducted an archaeological assessment of a proposed tour helicopter landing area near Manawaiopuna Falls, Hanapepe *ahupua`a*, Kona District, Kauai Island. The project includes a landing area and an unimproved trail to the falls. The purpose of the current study was to determine the presence/absence, nature, and extent of archaeological resources in the project area and evaluate their significance. Moana Lee, B.A., and Jeffrey Pantaleo, M.A., conducted the fieldwork on November 11, 2004.

## PROJECT AREA

The project area (TMK 1-8-01) is situated approximately 10,000 feet southwest of Manawaiopuna Falls within the Palikona Forest Reserve, Hanapepe *ahupua`a*, Kona District, Kauai Island (Fig. 1). It is bounded by Koula Ditch to the north, Koula River to the south and west, and Manawaiopuna Falls to the east (Fig. 2).

## ENVIRONMENT

The project area is situated on a level rocky area at the bottom of Koula Valley near Manawaiopuna Falls (Fig. 3). Terrain is level, and elevation is 520 feet above sea level. Vegetation is typical of tropical rainforests and includes *hau* (*H. tilaceus*), guava (*Psidium guajava*), *kukui* (*Aleurites moluccana*), and various grasses and weeds.

Soil in the project area includes river wash. This soil consists of nearly level bars of sand, gravel, and stones along perennial and intermittent streams. In places it consists mainly of large stones and boulders. It is nearly bare of vegetation and subject to overflow and shifting during normal high water. The soil is mainly used for wildlife habitat.

## HISTORY

Background information regarding Hanapepe *ahupua`a* was summarized in Joesting (1984), Spear (1992), Creed and Hammatt (1995), Kikilo (2000), and Orr (2005). Only a brief summary of these studies will be included here.

Hanapepe, literally translating as “crushed bay”, was an ancient surfing area (Pukui et al. 1974:41). Manawaiopuna literally translates as “stream branch of Puna”.



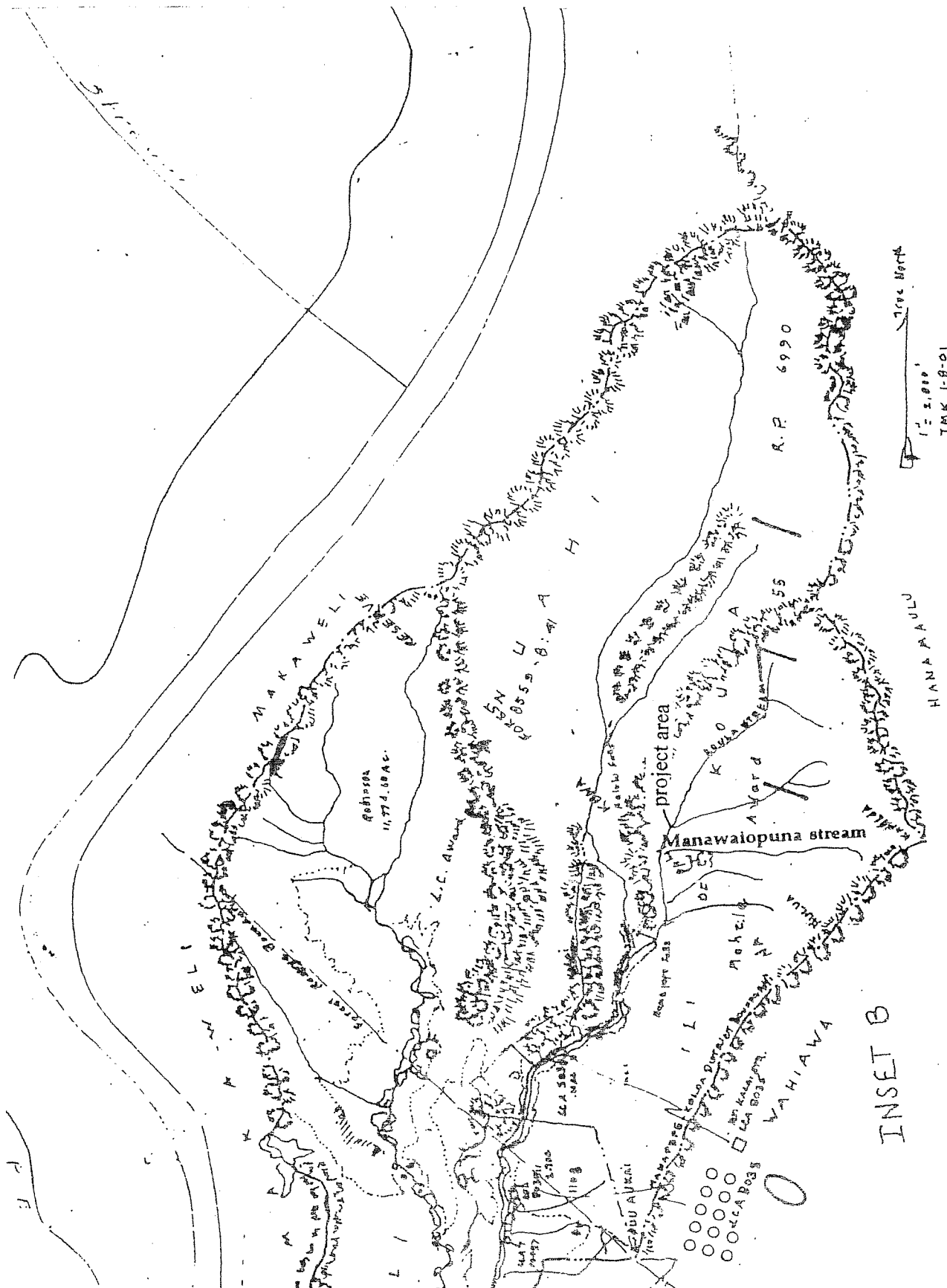


Figure 2. Project Area on TMK Map 1

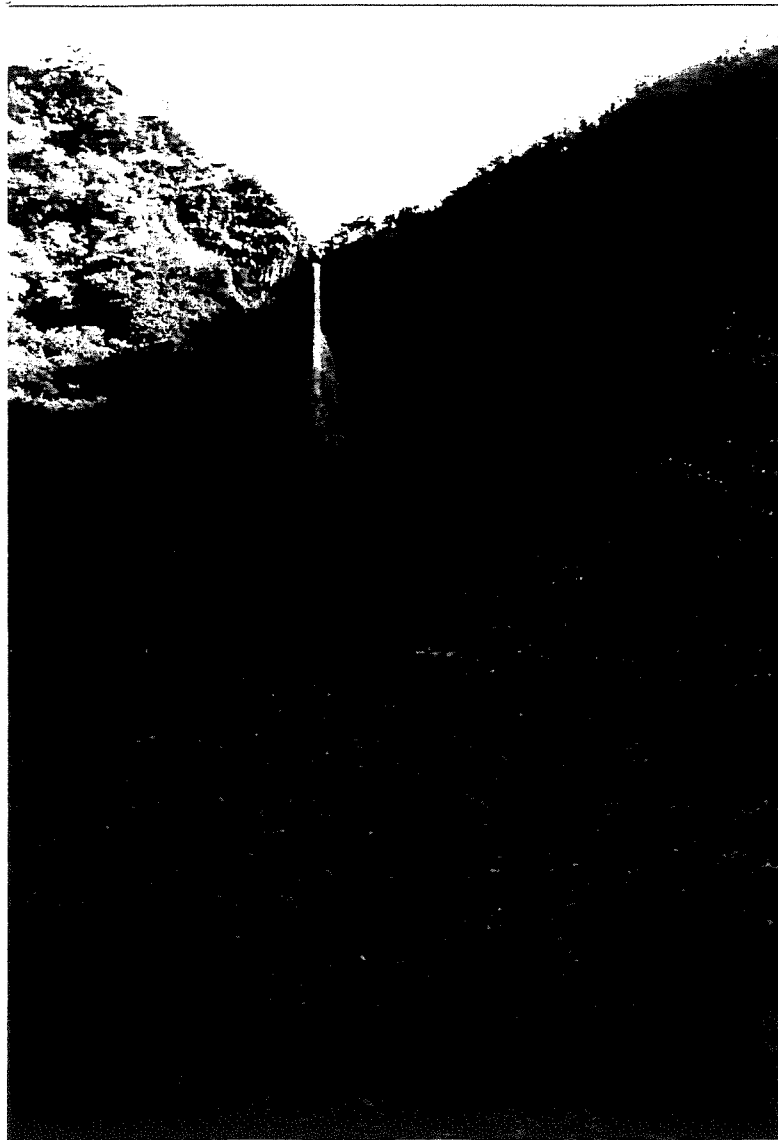


Figure 3. Overview of Project Area Showing Manawaiopuna Falls, View to Northeast

Handy and Handy (1972) described Hanapepe:

Next to Waimea, Hanapepe must in ancient times have supported the largest population in the *kona* section. It is a magnificent steep-walled valley winding far into the uplands, but flatlands along the large stream offers ideal locations for wet taro for six miles or more inland...Bennett, who explored Hanapepe for some distance inland, reports that "the taro terraces are everywhere that the land is irrigable." In the interior where the slopes are steep, stone supporting walls were used, but in the flatlands the terraces are broad and flat and separated by earth partitions, as in lower Waimea. (ibid:429)

In 1964 we were able to explore the whole length of Hanapepe Valley, which is about nine miles long, from its mouth to the waterfall at the head. As far in as seven miles, every level area along the rushing stream showed traces of old *lo'i* and house sites. The steep sides of the small gulches and valleys down which little streams cascade, were, wherever we examined them, built up with tier upon tier of stone-faced *lo'i*, some of them with walls five or more feet high. *Auwai* tapped the streams above the highest *lo'i* and the water ran down over successive stepped terrace.

Koula is a great stream and valley which joins Hanapepe about six miles in from the sea. Undoubtedly there are old *lo'i* up in this valley like those in Hanapepe.

Legendary accounts of Hanapepe include Kawelo, who was the ruling chief of Kauai during the 16<sup>th</sup> Century. Kawelo was born in Hanama'ulu on Kauai, and raised by his grandparents in Wailua. His grandparents and Kawelo traveled to Waikiki to visit their other grandchildren. At this time, Kakuhihewa was the ruling chief of O'ahu. Kawelo, while in Waikiki, learned the skills of battle and how to wrestle and other important skills, and married his teacher's daughter. After learning these skills, Kawelo sailed to Kauai to battle 'Aikanaka, the chief of Kauai, who took Kawelo's parents hostage. With his skills and cunning, together with the aid of his warrior's wife, Kanewahineikiaoha, he succeeded in killing off the opposition. 'Aikanaka, his parents, and family escaped to the uplands of Hanapepe, at Koula, where they took up residence.

'Aikanaka...lived in the uplands of Hanapepe and in great poverty. He had no lands, no honors, no food, no meat, no kapas, and no home...All that 'Aikanaka did was till the ground to raise food for their future use (Fornander 1959:102).

Kawelo adopted a son, Kaeleha, part of the conquest party, and awarded him the district of Puna. One day Kaeleha traveled to Hanapepe and befriended 'Aikanaka, who had come down to Wahiawa to fish and swim in the sea. Kaeleha married 'Aikanaka's daughter and eventually plotted to overthrow Kawelo. Kawelo heard of this plot and promptly went to Hanapepe to do battle. After many feats and acts of cunning, he killed his traitor son and 'Aikanaka, and returned to live with his wife and parents in Hanamaulu to peacefully rule Kauai.

The first historical account of Hanapepe is from the diary of Georg Scheffer of the Russian American Company (Pierce 1965). Scheffer, a Russian trader of sandalwood and other goods, was given Hanalei *ahupua'a*, land in Waimea for plantations and factories, the *'ili* of Mahinuali in Makaweli, and the *'ili* of Kuiloa in Hanapepe.

(October) 14 [1816]...I spent two days in Hanapepe, where I received for the Company from the chief Obana Platov [Obana Tupigea-Opana Kupihea renamed Platov by Scheffer] a village with eleven families. It lies in the province of Hanapepe on the right bank of the river Don and is called Tuiloa Platov [Kuiloa](Pierce 1965:185).

After Scheffer departed, the Ruggles, a missionary family, in 1822 moved from Waimea to Hanapepe to establish a mission station (Kauai Becen. Comm. 1978:33).

In 1824 Kalanimoku sailed to Kauai to settle government affairs and land disputes that were tied to the annexation of Kauai Island to the Kamehameha Monarchy. Kaumuali'i was allowed to retain his hereditary control of Kauai Island as long as he pledged his allegiance to the Kamehameha Monarchy and forfeit this power following his death. At Waimea, Kalanimoku called a council of chiefs and announced that lands would continue as they did before and that Kahalai'a was the new ruler over Kauai affairs (Kamakau 1961:268). However, the leeward Kauai chiefs, under Kia'imakani and supported by Kaumuali'i's son, Humehume (George Kaumuali'i), wanted land re-divided under a new rule, as was normal when a chief died, but Kalanimoku refused. The leeward chiefs opted to rebel and stormed the fort at Waimea, but most were killed. Those that lived set up a fort at the Hanapepe/Wahiawa border, but they didn't count on the ten ships of men and arms sent from Maui and O'ahu, including Hoapili (ruling chief of Maui), who were sent to support Kamehameha's claim against Humehume.

On August 8 [1824] the battle of Wahiawa was fought close to Hanapepe. The Hawaii Island forces were at Hanapepe, and the Kauai forces at Wahiawa where a fort had been hastily erected and a single cannon (named Humehume) mounted as a feeble attempt to hold back the enemy...Large numbers of Kauai soldiers had gathered on the battleground, but they were unarmed save with wooden spears, digging sticks, and javelins. Many women were there to see the fight. The men acted as if death were but a plaything. It would have been well if the gods had stepped in and stopped the battle. No one was killed on the field, but as they [the Kauai soldiers] took flight they were pursued and slain...For ten days the soldiers harried the land, killing men, women, and children. Humehume had ridden away to the mountains with his daughter and his wife, Pake. Many fled to the mountains until amnesty for all was declared. All the rest took prisoners and brought them to Oahu and even to Maui and Hawaii. A great deal of property was taken, among other things horses and cattle, which had become numerous on Kauai because the foreigners had given many such to Kaumuali'i (Kamakau 1961:268-269, citing newspaper articles of April 11 and 18, 1868, from *Ka Nupepa Ku'oko'a*).



The Mahele in 1848 changed Hawaii's traditional land tenure system to a more western style where land could be purchased as fee simple. According to land conveyance testimonies, native Hawaiians who were living as tenant farmers claimed their *kuleana*. The majority of Hanapepe was awarded to the *ali'i*, in addition to 80 kuleana claims extending from the shore to about 3 miles inland. Claimants list 131 apana in use of the 80 claims made by 78 individuals.

The majority of apana (56) are located within the *'ili* of Kaauiwaekahi, with 11 claimed in 'Ele'ele, 10 in Kaawainui, 6 each in Koula and Kuhumu, 5 each in Kukuilolo and Kuiloa, 4 each in Manuahi and Hanapepe, 3 each in Ukula, Kamohio, and Waikanono, 2 each in Kapewa, Kapouhana, Kahunaone, Punalau, and Waiulili, and 1 each in Hanapepeluna, Hikiula, Kaawaiki, Kumimi, and Waikoko.

The project area includes a portion of L.C.A. 55 (R.P. 6998). This L.C.A. was awarded to Paniani on February 1, 1848, and included ½ of the *'ili* of Koula. No land use was indicated in this award.

Agriculture in Hanapepe *ahupua'a* underwent a transformation from the traditional Hawaiian subsistence economy based on taro production to commercial. The stream flood plains that were terraced for *lo'i* were modified for sugarcane cultivation, and the former *'auwai* were modified for irrigation.

The Hanapepe Ditch, constructed in 1889 and completed in 1891, provided water from Hanapepe River to the sugarcane fields. The ditch, measuring 13.5 miles long and extending from the intake on the Hanapepe River to a reservoir, followed the canyon walls along the eastern side of Hanapepe Valley, crossed the river four times by pipe, and brought across the valley by a siphon. The last 6.5 miles was a dirt ditch. By the time the new Olokele Sugar Company was started in 1940, the Hanapepe Ditch was leaking at an estimated one million gallons a day. Due to the deteriorated condition of the Hanapepe Ditch, in 1948, Gay and Robinson and C. Brewer built the Koula Ditch tunnel to improve the Hanapepe Ditch. Referred to as the Hanonui Tunnel, Koula Ditch included two tunnels, one 13,000 feet and the other 4000 feet, totaling over 3 miles. However, Koula Ditch diminished the flow of water from Hanapepe River downstream to McBryde Sugar, resulting in a lawsuit between McBryde and Gay & Robinson. McBryde took Olokele and Gay & Robinson to court to determine how much water McBryde was entitled. The Hanapepe case resulted in the 1973 Supreme Court decision in water rights referred to as the McBryde Decision. In 1994, Gay & Robinson bought Olokele Sugar Company.

## PREVIOUS ARCHAEOLOGY

No previous archaeological work has been conducted within the current project area. Francis Gay (1875) provided the first record of sites in Hanapepe, including Maloku, Kauakahiuu, and West Paleilei *heiau*. Thrum (1907) subsequently recorded seven *heiau* in Hanapepe, including Nihoana, Makole, Pualu, Kuwiliwili, Kauakahinunu, Moloku, and an unnamed *heiau*.

Bennett (1931) conducted the first systematic archaeological survey of Kauai Island. Types of sites in Hanapepe *ahupua'a* included *heiau* (Sites 48, 51, 54, 55, 56, 59), burials (Site 53), salt pans (Site 49), house sites (Sites 50, 52, 57), and agricultural terraces (Sites 58, 60)(Fig. 4).

Kikuchi (1963) conducted an archaeological survey of Kauai Island, and identified caves and Akowai *heiau* in Hanapepe. All of the caves had been vandalized. Kikuchi (1982) later conducted a damage assessment of Site 3038, Salt Pond Park, following Hurricane 'Iwa. A total of 15 artifacts associated with fishing activities were collected from the surface in the park. Due to the adverse effects from storm erosion and potential of looting, Kikuchi (1982) recommended data recovery at Site 3038.

Cultural Surveys Hawaii (Hammatt 1990) conducted an archaeological reconnaissance survey of 72-acres in Hanapepe for A&B Properties. The entire property was cultivated in sugarcane since 1884, indicating that any evidence of traditional Hawaiian occupation of the area would have been destroyed.

Scientific Consultant Services, Inc. (Spear 1992) conducted an archaeological inventory survey of the Hanapepe First United Church of Christ in Hanapepe. Site 50-30-09-497, a cultural layer consisting of traditional artifacts and charcoal, was recorded. A charcoal sample collected from the deposit returned a date range between AD 1360 and 1590.

Cultural Surveys Hawaii (Creed et al. 1994) conducted an archaeological inventory survey of Hanapepe Town Lots 100 and 101. Sites 50-30-09-704 and 705, human burials, and Site 706, a cultural deposit, were recorded. The burials were preserved in situ. A charcoal sample collected from Site 706 yielded a date range between AD 1811 and 1927.

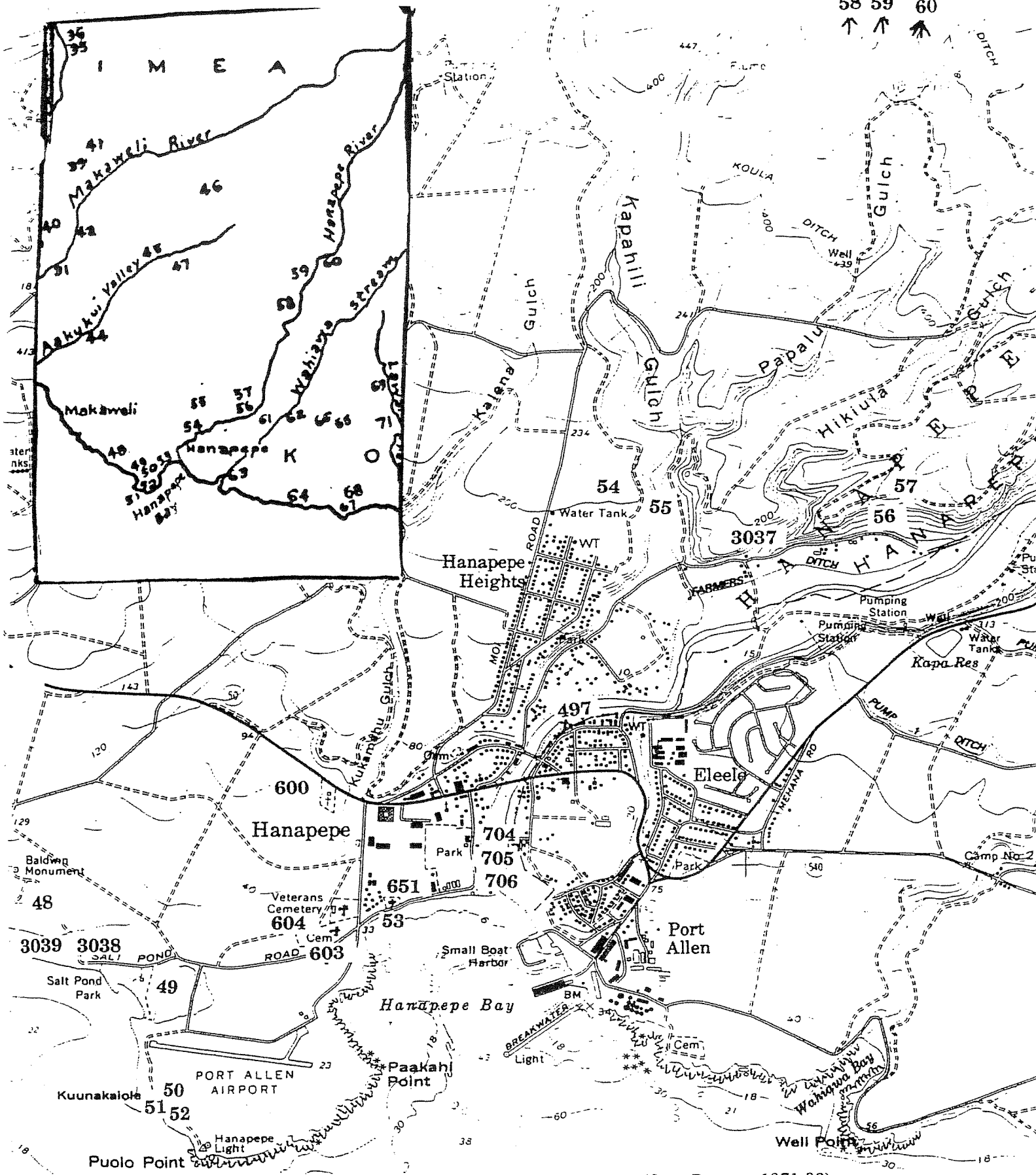


Figure 4. Location of Archaeological Sites in Hanapepe (from Bennett 1971:98)

Cultural Surveys Hawaii (Creed et al. 1995) conducted an archaeological inventory survey and subsurface testing of a 3.246-acre parcel for the Self-Help Housing in lower Hanapepe valley. No surface cultural remains were identified during the survey. A total of five backhoe trenches, comprising 48 linear meters, were excavated in selected areas in the project area and revealed no subsurface cultural remains. The project area was used during World War II for the U.S. Army Hanapepe Training Camp, and later for sugarcane cultivation.

Cultural Surveys Hawaii (Kikiloi et al. 2000) conducted an archaeological assessment of a proposed waterline and Well Site B in Hanapepe. No surface cultural remains were identified within the project area; however, remnants of an *'auwai* were noted outside the proposed waterline corridor. Due to the absence of surface cultural remains in the project area, no further archaeological work was recommended.

### **SETTLEMENT PATTERN**

General settlement patterns for Hanapepe *ahupua'a* can be inferred from information obtained from historical and archaeological studies (Handy 1941, Fornander 1959, Joesting 1984, Creed et al. 1994, 1995). Hanapepe *ahupua'a* was extensively occupied during the pre-Contact Period. Prehistoric settlement probably occurred by A.D. 1500, with permanent or seasonal occupation of the coastal areas to exploit the marine resources and along Hanapepe River. *Heiau*, burials, house sites, and *lo'i* existed along Hanapepe River, suggesting a settlement pattern that reflects religious, habitation, and agricultural activities.

By the 1880s, commercial sugarcane in Hanapepe dramatically changed the settlement pattern. The *lo'i* terraces along the stream flood plain were modified for sugarcane cultivation. Following the demise of the commercial sugarcane industry, the abandoned cane fields were used for diversified agriculture including coffee and macadamia nut trees. Currently, Hanapepe has been developed for housing, agriculture, and tourism.

### **SITE EXPECTABILITY**

Based on the results of previous archaeological investigations in the upper portion of Hanapepe Valley, together with information obtained from L.C.A. awards in Hanapepe *ahupua'a*, prehistoric sites associated with temporary habitation, seasonal agriculture, and *mauka-makai* transit are expected in low densities. Historic sites associated with commercial sugarcane cultivation, such as Koula Ditch, may also be present.

## METHODS

Archaeological and historical background researches were undertaken to determine the nature and extent of potential cultural resources in the project area. These researches were conducted at the State Historic Preservation Division (SHPD) library at the Department of Land and Natural Resources (DLNR) in Kapolei, and the Bureau of Conveyances and Land Management Branch of DLNR in Honolulu.

The surface survey entailed conducting systematic, walk-through transects spaced at 1-5 meters apart depending on vegetation density and ground visibility throughout the parcel. Since no ground disturbing activities are proposed and the helicopter landing area had been previously disturbed for an access road, subsurface testing was deemed unwarranted. Color photographs on 35mm format were taken of project area. During the course of this project, all accepted standard archaeological procedures and practices were followed. Field notes, maps, and photographs, are being curated by Jeffrey Pantaleo Consultants, LLC, in Honolulu.

A cultural assessment of the current project area was conducted by Kuiwalu Consulting (Orr 2005), and is included under separate cover.

## RESULTS OF SURVEY

No surface cultural remains, isolated artifacts, or areas of exposed deposits were identified in the project area. The proposed tour helicopter landing area is located on a previously cleared area for an access road, probably associated with construction and maintenance of the Koula Ditch (Fig. 5). Since the proposed helicopter landing area and trail to the falls require no construction or ground-disturbing activities, subsurface testing was deemed unwarranted.

Manawaiopuna Falls is located approximately 10,000 feet southwest of the helicopter landing area. Recent modifications of the pool area below the falls were conducted during filming of "Jurassic Park" (Fig. 6). Koula Ditch, located outside to the north of the current project area, was initially constructed in 1889 as the Hanapepe Ditch to supply water to the sugarcane fields, and later modified in 1948 as the Koula Ditch. The ditch, constructed of concrete, extends from the base of Manawaiopuna Falls, crosses Koula Stream, to lower Hanapepe Valley (Fig. 7).



Figure 5. Top: Overview of Project Area, View to South.  
Bottom: Project Area Showing Koula River, View to South

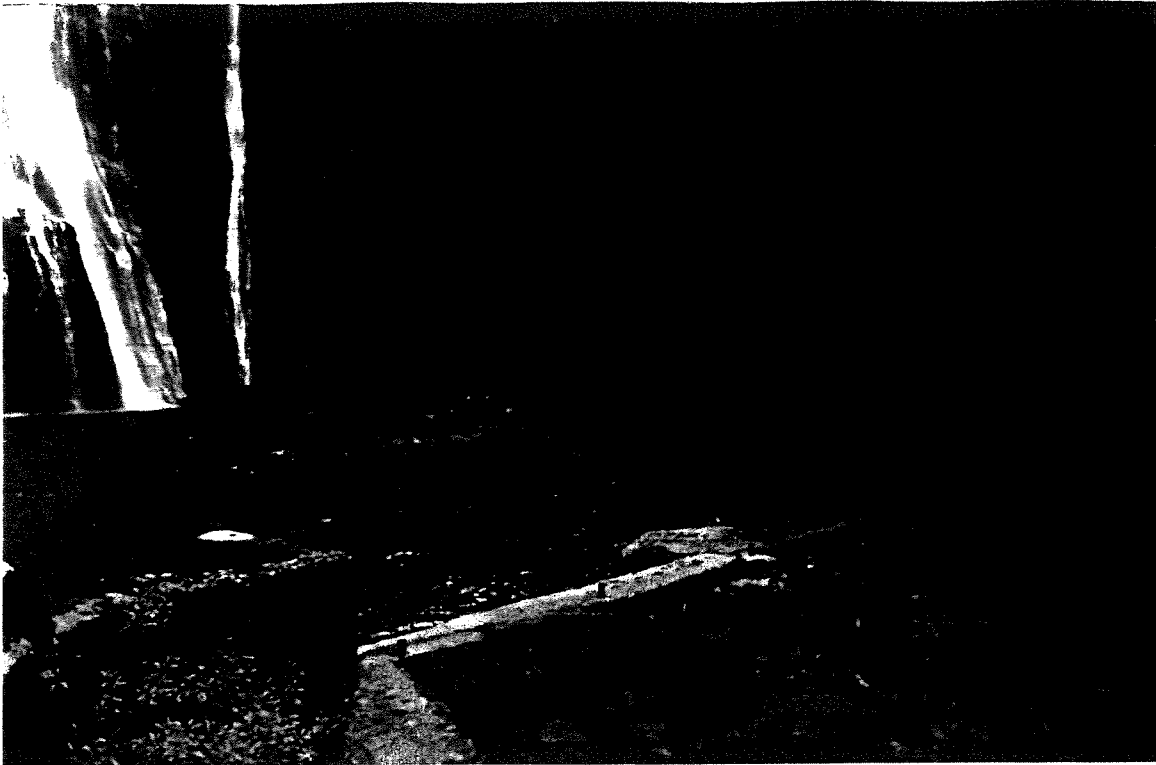


Figure 6. Top: Overview of Manawaiopuna Falls, View to Northeast.  
Bottom: Koula Ditch, View to Northwest



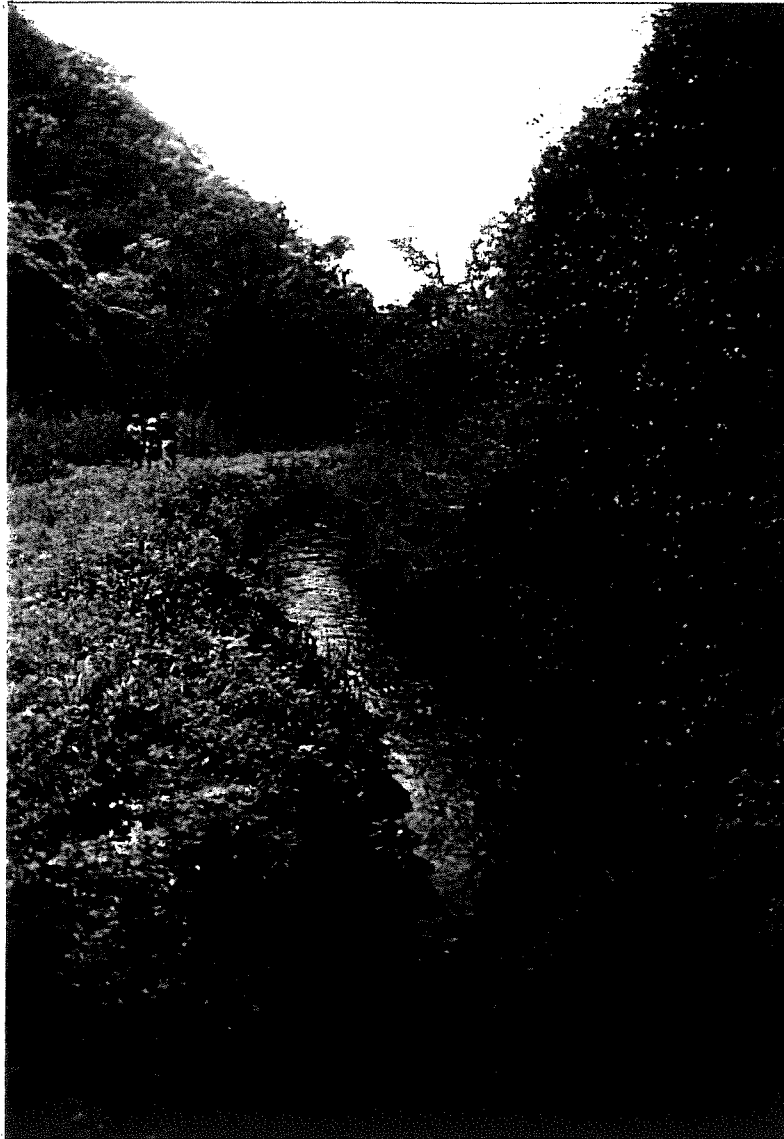


Figure 7. Overview of Koula Ditch, View to South

## DISCUSSION

No significant surface cultural remains were encountered in the project area. The results of the current investigation produced no evidence for sedentary cultural activities during the prehistoric and early historic periods in the subject project area. The project area had undergone extensive ground disturbances from construction and maintenance of the Koula Ditch. The project area also occurs on a lowlying level area adjacent to Koula Stream, and probably floods during periods of heavy rainfall.

## RECOMMENDATIONS

Due to the absence of surface cultural remains in the project area, and no improvements or ground disturbing activities are planned in the helicopter landing area and along the trail, no further archaeological work is recommended. However, in the event future improvements or construction activities are planned in the area, archaeological monitoring is recommended to ensure that any subsurface cultural remains are properly documented.

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LINDA LINGLE  
GOVERNOR OF HAWAII



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BUREAU OF CONVEYANCES  
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CORRECTION AND COASTAL LANDS  
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ENGINEERING  
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HISTORIC PRESERVATION  
KAIROHAWAUNI AND RESERVE COMMISSION  
LAND  
STATE PARKS

November 30, 2007

'07 DEC 11 09:32

Ian Costa, Director/Ka'aina  
County of Kauai, Planning Department  
4444 Rice St.  
Lihue, Hawaii 96766

PLANNING DEPT.

LOG NO: 2007.3680  
DOC NO: 0711NM06  
Archaeology

Dear Mr. Costa:

**SUBJECT: Chapter 6E-42 - Historic Preservation Review - Z-IV-2008-5, U-2008-3 and SP-2008-2 (Island Helicopters Kauai LLC)  
Proposed Helicopter Landing Site  
Hanapepe, Koloa District, Island of Kaua'i  
TMK: (4) 1-8-001: por. 01**

The aforementioned permit is for helicopter landing pad in Manawaiopuna Falls, Koula Valley.

We believe that "no historic properties will be affected," because:

- Intensive cultivation has altered the land
- Residential development/urbanization has altered the land
- Previous grubbing/grading has altered the land
- An accepted archaeological inventory survey (AIS) found no historic properties
- SHPD previously reviewed this project and mitigation has been completed
- Other:

In the event that historic resources, including human skeletal remains, are identified during routine construction activities, all work needs to cease in the immediate vicinity of the find, the find needs to be protected from additional disturbance, and the State Historic Preservation Division, Kauai Section, needs to be contacted immediately at (808) 742-7033.

Aloha,

Melanie Chinen, Administrator  
State Historic Preservation Division

NM:oap

EXHIBIT "B"

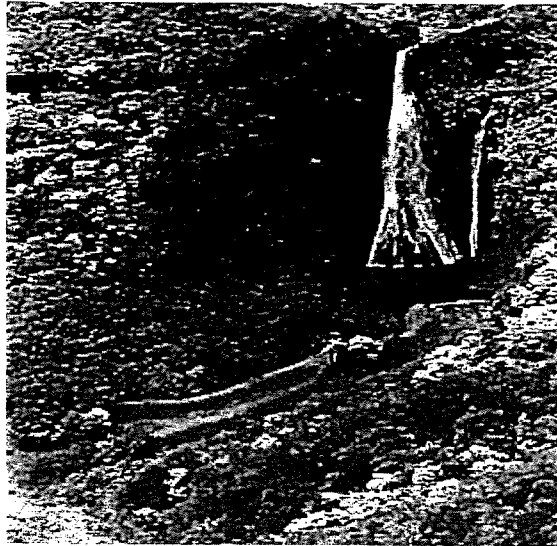
CULTURAL IMPACT STUDY/ASSESSMENT

MANAWAIOPUNA FALLS

'ILI OF KO'ULA, AHUPUA'A OF HANAPEPE, DISTRICT OF WAIMEA

KAUAI ISLAND, HAWAI'I

**Cultural Impact Study/Assessment  
Manawaiopuna Falls  
`Ili of Kō`ula, Ahupua`a of Hanapēpē, District of Waimea  
Kaua`i Island, Hawai`i**



Prepared for  
**Ku`iwalu**

By Maria E. Ka`imipono Orr  
March 10, 2005

Cover Page: Manawaiopuna Falls and berm helicopter landing site.  
[photo from Air Kauai 2000]



## EXECUTIVE SUMMARY

At the request of *Ku`iwalu*, a Cultural Impact Study and Assessment of the proposed Manawaiopuna Falls Helicopter Landing Pad project lands in the `ili of Kō`ula, in the *ahupua`a* of Hanapēpē, Kaua`i was undertaken as part of a larger study. The purpose of a cultural impact study and assessment is to gather information about traditional cultural practices and pre-historic and historic cultural resources that may be affected by the implementation of an undertaking.

This study is in compliance with Act 50 SLH 2000 (HB 2895 H.D.1) as it amends the State of Hawaii Environmental Impact Statement law [Chapter 343-2, HRS], and the Office of Environmental Quality Control [OEQC] *Guidelines for Assessing Cultural Impacts* (1997). To this end, the targeted “audience” of this report are the people who will be reviewing it. Therefore, it was written with this in mind and includes an overview of the history of the `ili of Kō`ula, within the context of the *ahupua`a* or traditional land division of Hanapēpē and greater Kaua`i Island and Hawai`i. The literature review included *mo`olelo* or Hawaiian stories and legends of the vicinity, ethnohistoric works from the 19<sup>th</sup> and early 20<sup>th</sup> centuries and other pertinent archival material.

The *level of effort* of this study included two interviews and a broad, but limited literature review. The project lands have been privately owned for over one hundred years and modified by the addition of an irrigation ditch and associated berm.

There is very little evidence today that the project area may have been part of an ancient Hawaiian life system, although there is still evidence that areas south of the project lands were utilized during ancient and very early historic times. Waterfalls and fresh water sources in general were very special to traditional Hawaiians and areas such as this may have been a resource area for cultural gathering practices. However, the project area is quite a distance from the nearest traditional habitation site.

The pig (*Sus scrofa*) was brought to Hawaii by the early Polynesians. Some of them managed to escape from pens and later inter-mixed with domestic species who also managed to escape. These are known today as feral pigs. The cultural practice of hunting these animals continues today, both for sustenance and for sport. This practice is allowed by the owners in the vicinity of the project lands, but only to employees.

The lands within the project area were heavily impacted by the historic activities of the 19<sup>th</sup> and 20<sup>th</sup> centuries. Any cultural sites and/or resources would have been destroyed or buried by ranching and sugar cultivation activities (ditch/berm); therefore there will be no adverse impact to any cultural resources in the Manawaiopuna Falls project lands.

## ACKNOWLEDGEMENTS

This project could not have been completed without the *mana`o* of my ethnographic consultants: Ms. Alotha Kaohi; and Mr. Warren Robinson.

A special *mahalo* to Ms. Lani Lapilio, Esq. of Ku`iwalu for asking me to do this project; and Ms. Iini Patelesio for transcribing and both ladies for their archival research.

# MAHALO!

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## INTRODUCTION

This Cultural Impact Study/Assessment [CIS] for Manawaiopuna Falls was undertaken as part of an archaeology inventory survey of the projects lands. The purpose of this cultural impact study and assessment was to gather information about traditional cultural practices, ethnic cultural practices and pre-historic and historic cultural remains that may be affected by the development project--a landing helicopter "pad" near the falls. This study is in compliance with Act 50 SLH 2000 (HB 2895 H.D.1) [Appendix A] as it amends the State of Hawai'i Environmental Impact Statement law [Chapter 343-2, HRS] to include:

*effects on the cultural practices of the community and State. Also amends the definition of "significant effect" to include adverse effects on cultural practices.*

This report is organized into five parts. Part I describes the project area in terms of location, in the context of *ahupua`a*, district and island, as well as a generalized description of the natural environment [geology, fauna, flora]. Part II explains the methods and constraints of this study. Part III summarizes the review of the traditional and historical literature in the context of the general history of Hawai'i, the island of Kauai, the Kona (Waimea) district, and the local history of Kō`ula , Hānapepe as it pertains to cultural resources, land, water and marine resources and use in the project area and vicinity. Part IV presents the analysis of the ethnographic survey. Part V summarizes the findings of this cultural impact study and assessment, which are based on archival and ethnographic research.

### SCOPE OF WORK

The scope-of-work (SOW) [Appendix B] was based on the recommendations in the Office of Environmental Quality Control (OEQC) *Guidelines for Assessing Cultural Impacts* (1997) [Appendix C] and focuses on three cultural resource areas (traditional, historical and archaeological), conducted on two levels: archival research (literature review) and ethnographic survey (oral histories). Since another independent contractor has conducted an archaeological inventory survey for this project, this study will only include brief overviews of previous archaeological studies and Land Commission Awards (LCA).

The research for this cultural impact study and assessment was conducted within the broader context of the *ahupua`a* (traditional land division) and *moku* (traditional district), as well as the history of the agricultural and cattle industry in the area. The *level of effort* of this study included two interviews and a broad, but limited literature review. The project lands are connected to private sugar cane fields and cattle ranging by the owners, *Gay and Robinson* whose families have owned these lands for at least 100 years.

Research on traditional resources entailed a review of the literature of Hawaiian *mo`olelo* or stories/legends, late nineteenth and early twentieth century ethnographic works and interviews with knowledgeable consultants who met the following consultant criteria:

- ❖ Have Ties to Project Area
- ❖ Known Hawaiian Cultural Resource Person
- ❖ Referred by Ku`iwalu staff

Historic research focused on Land Commission Awards (LCA), the sugar and cattle industries in the context of the *Gay and Robinson* history. Archival material from the following was reviewed: University of Hawai'i-Manoa Hamilton Library-Hawaiian; Bishop Museum Archives; Internet searches and personal library.

Archaeological research entailed a limited review of reports located in the DLNR State Historic Preservation Division (SHPD) library.



# PART I: PROJECT AREA

## Project Location

The Manawaiopuna Falls project area (TMK 1-8-01) is located on the island of Kauai, in the Kona *moku* or traditional district, in the *ili* of Kō`ula in the *ahupua`a* of Hanapēpē. The project area covers the floor of Kō`ula Valley near the Manawaiopuna Falls. The project lands are private lands owned by the *Gay and Robinson* Plantation/Ranch.

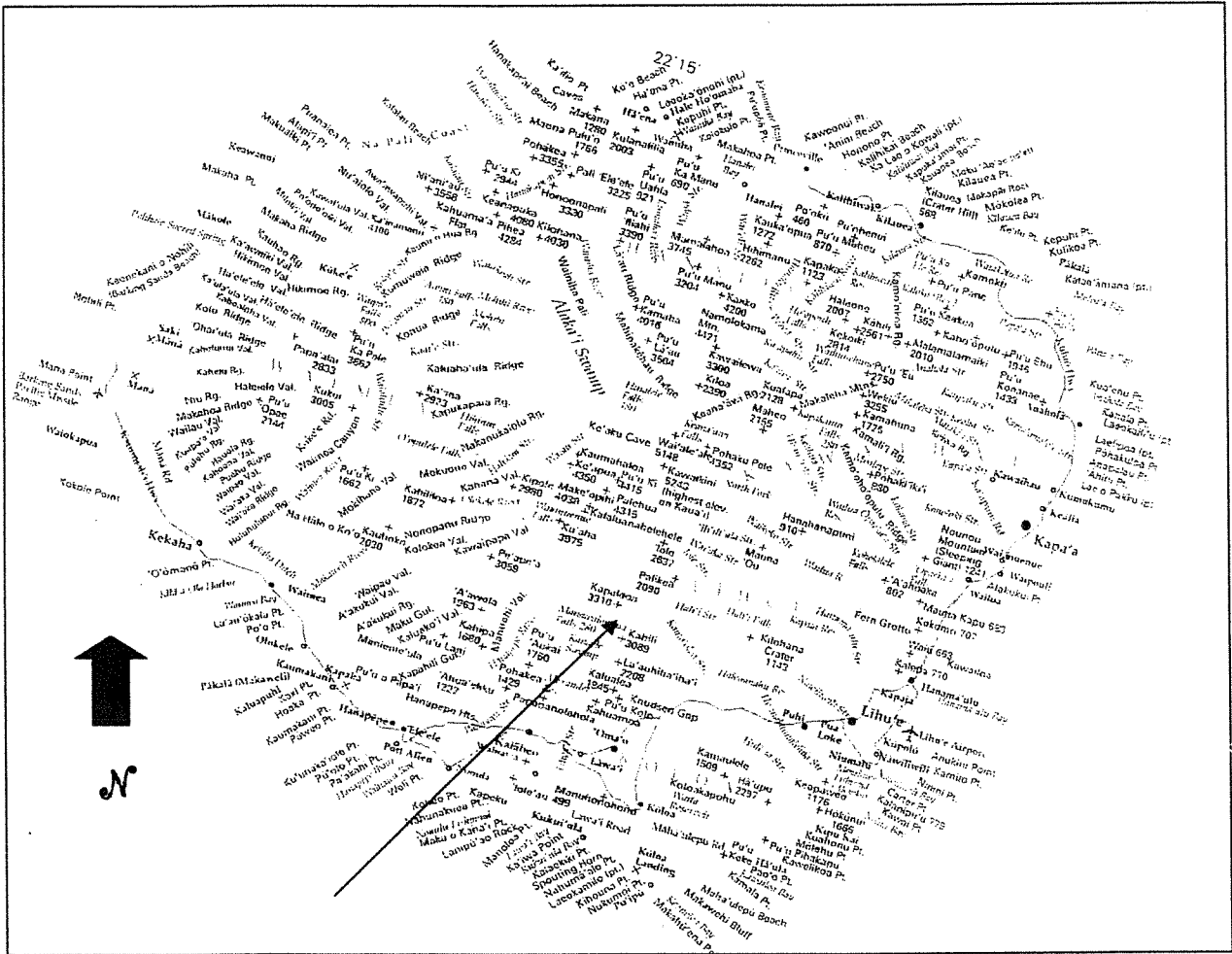


Figure 1. Map of Kauai, arrow indicates project area (adapted from Juvik & Juvik 1998:5).

## Environment.

The project area is a steep-sided valley system that includes a waterfall, pond, stream, ditch, and berm or ditch bank. The stream feeding the falls is made up of tributary streams coming from the area of Kapalaoa (3310') and includes Kahili Falls. Manawaiopuna Falls cascades into a pond that continues a relatively short distance and connects to Kō`ula stream which is fed by several tributaries coming from Kawaikini Ridge (5243') area and through Na Pali-Kona where it meets Hialoa stream. Kō`ula stream eventually flows into the Hanapēpē River several miles southwest of the Manawaiopuna Falls. The ditch from the Manawaiopuna Falls leads to a siphon, which connects (southwest) to Kō`ula Ditch and Kō`ula Tunnel. This system provides irrigation water to the sugar lands of *Gay & Robinson*. The following maps illustrate the sources of Kō`ula Stream and Kahili Falls and stream (Murabayashi 1973).

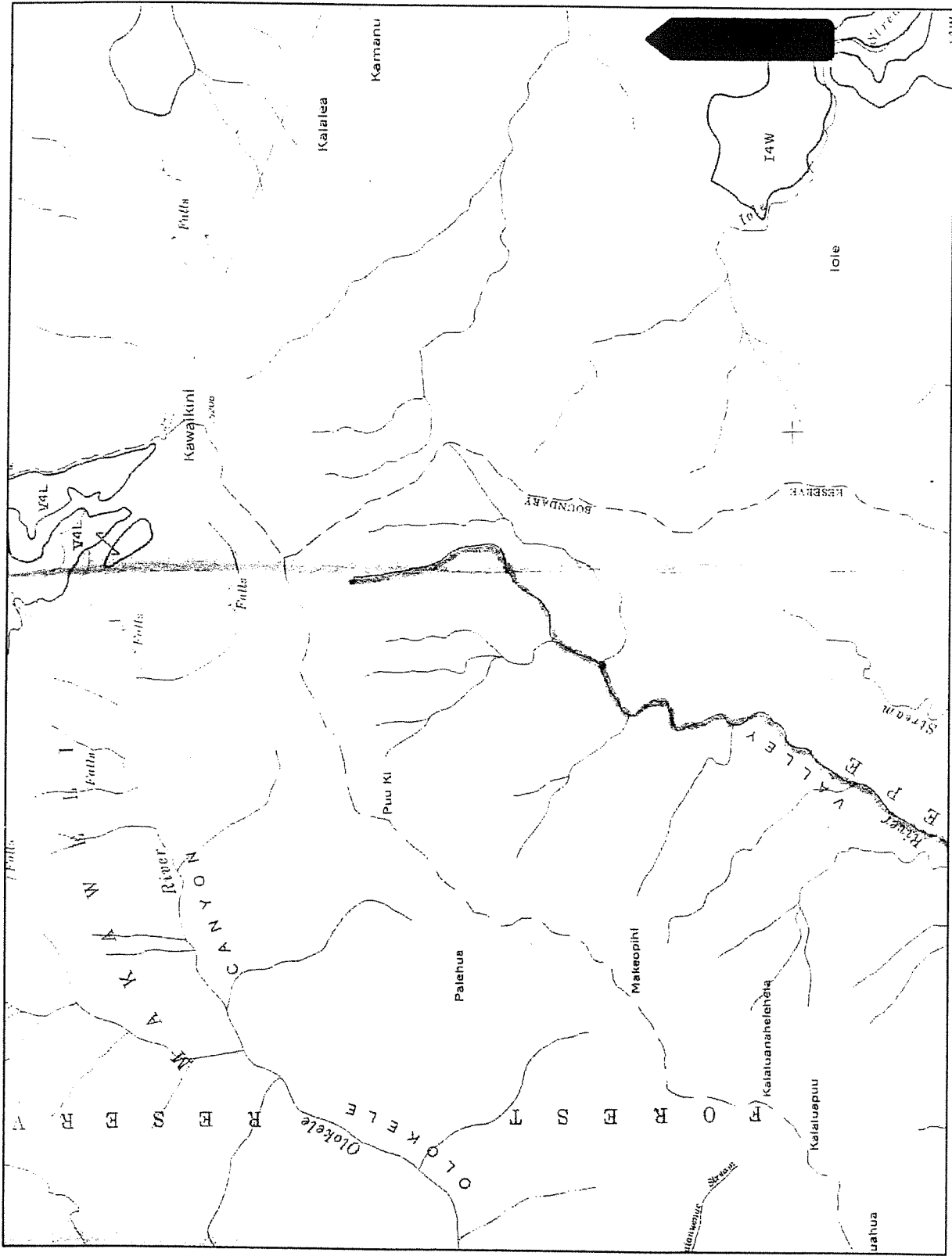


Figure 2. Source of Kō'ula Stream (purple line) (Waialeale Quad-1965 by Fujimura; In Murabayashi 1973).

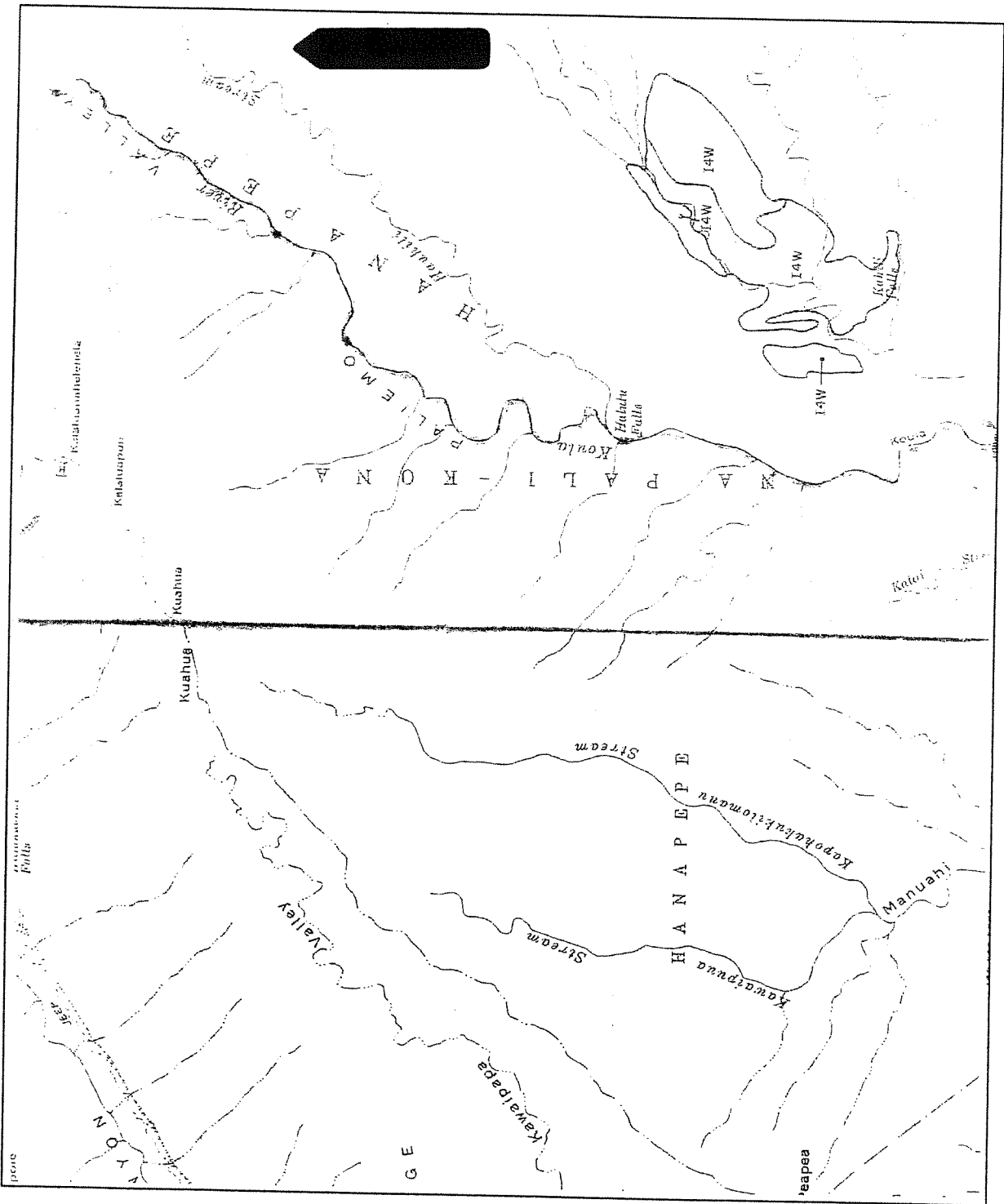


Figure 3. Kō'ūla Stream continues south; Kahili Falls-Hialoa Stream flows to Manawaiopuna Falls (Waimea Canyon Quad [L] and Waialeale Quad [R] 1965 by Fujimura In Murabayashi 1973).

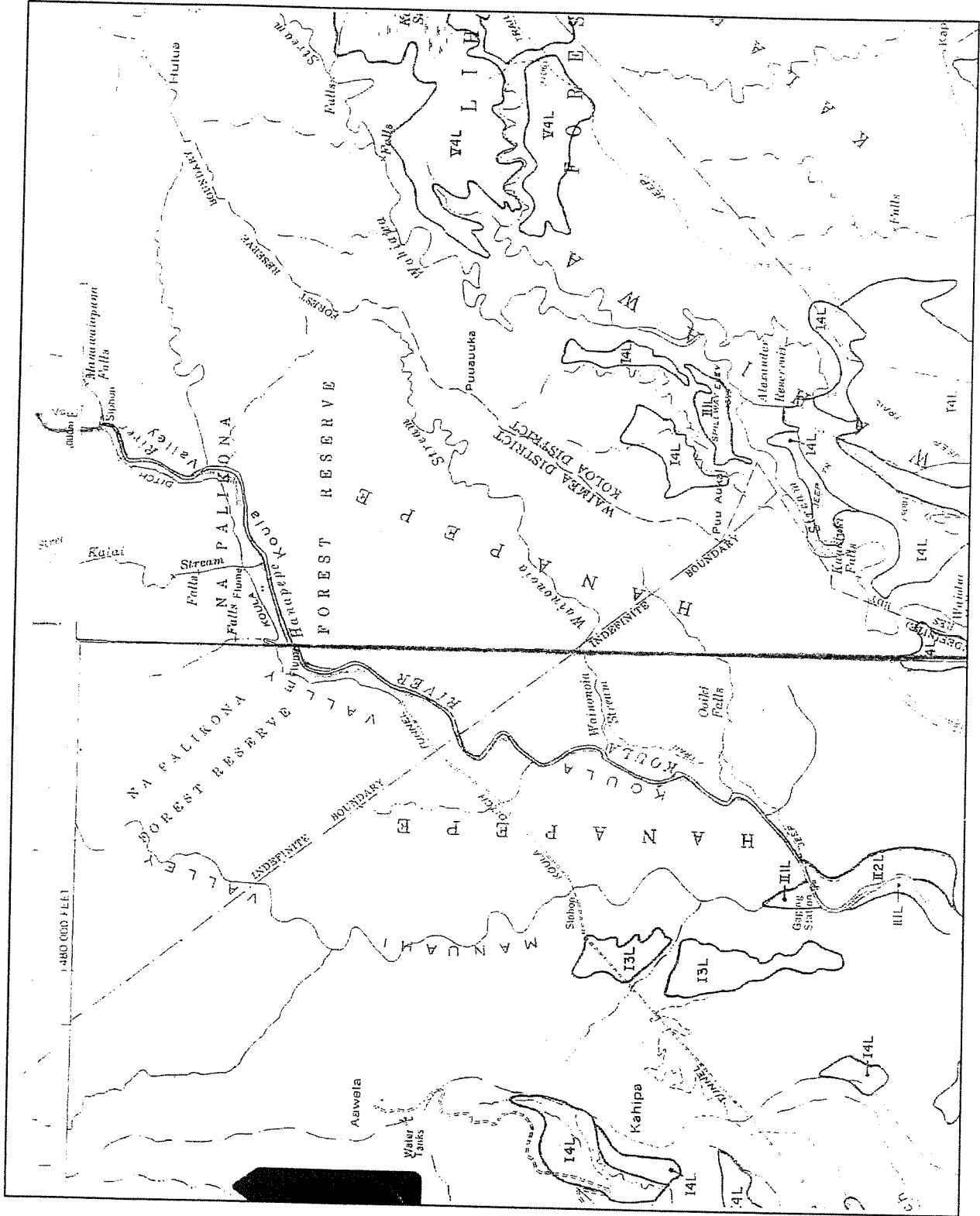


Figure 4. Manawaiopuna Falls/stream [orange line] connects with Kō'ula Stream, which continues southwest to Hanapēpē River [yellow line] (Hananāpē Quad 1963a and Kō'ula Quad 1963 by Fujimura *In* Murabayashi 1973).

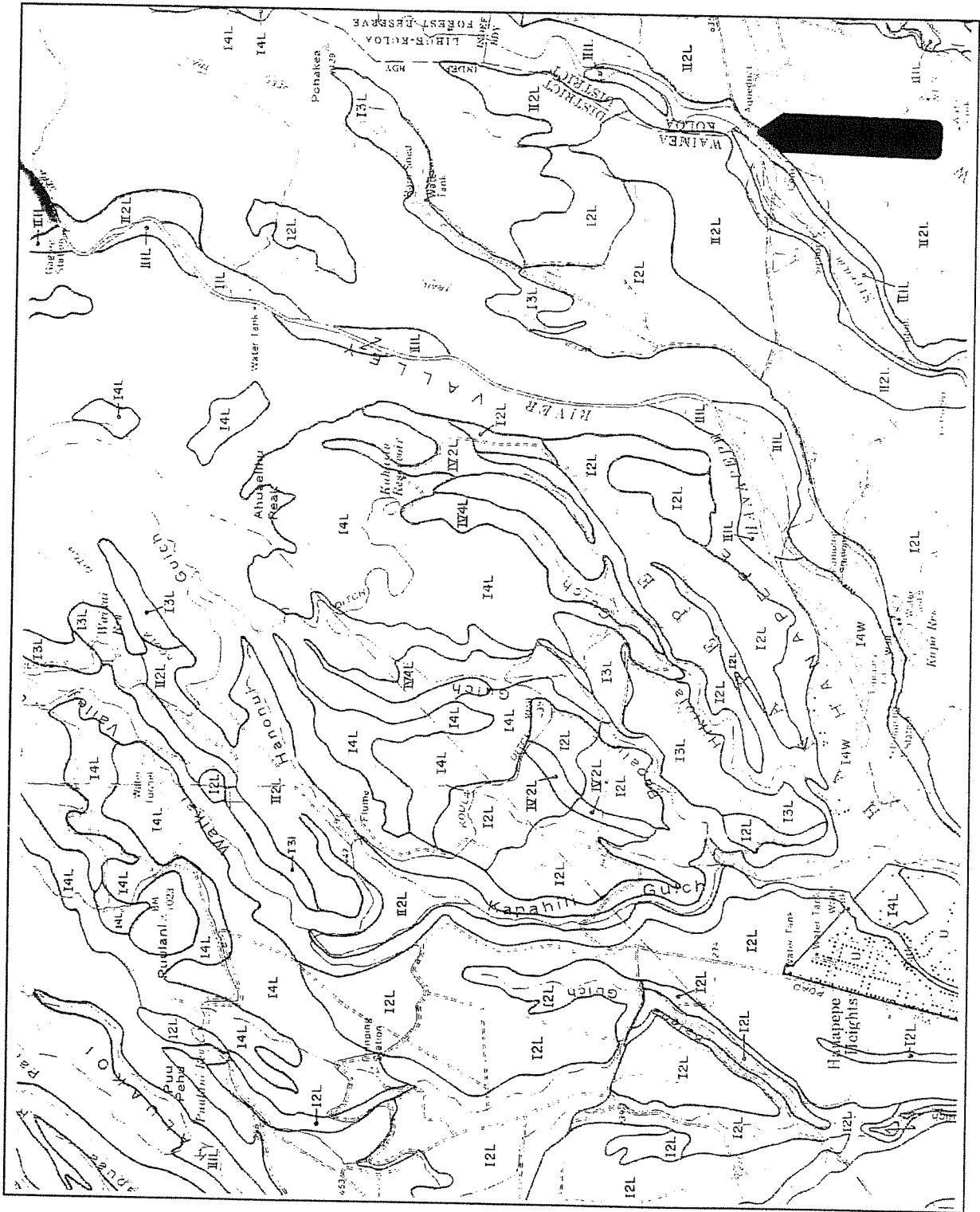


Figure 5. Kō'ula Stream [purple line] flows into Hanapēpē River [yellow line] (Hanapēpē Quad 1963b by Fujimura In Murabayashi 1973).

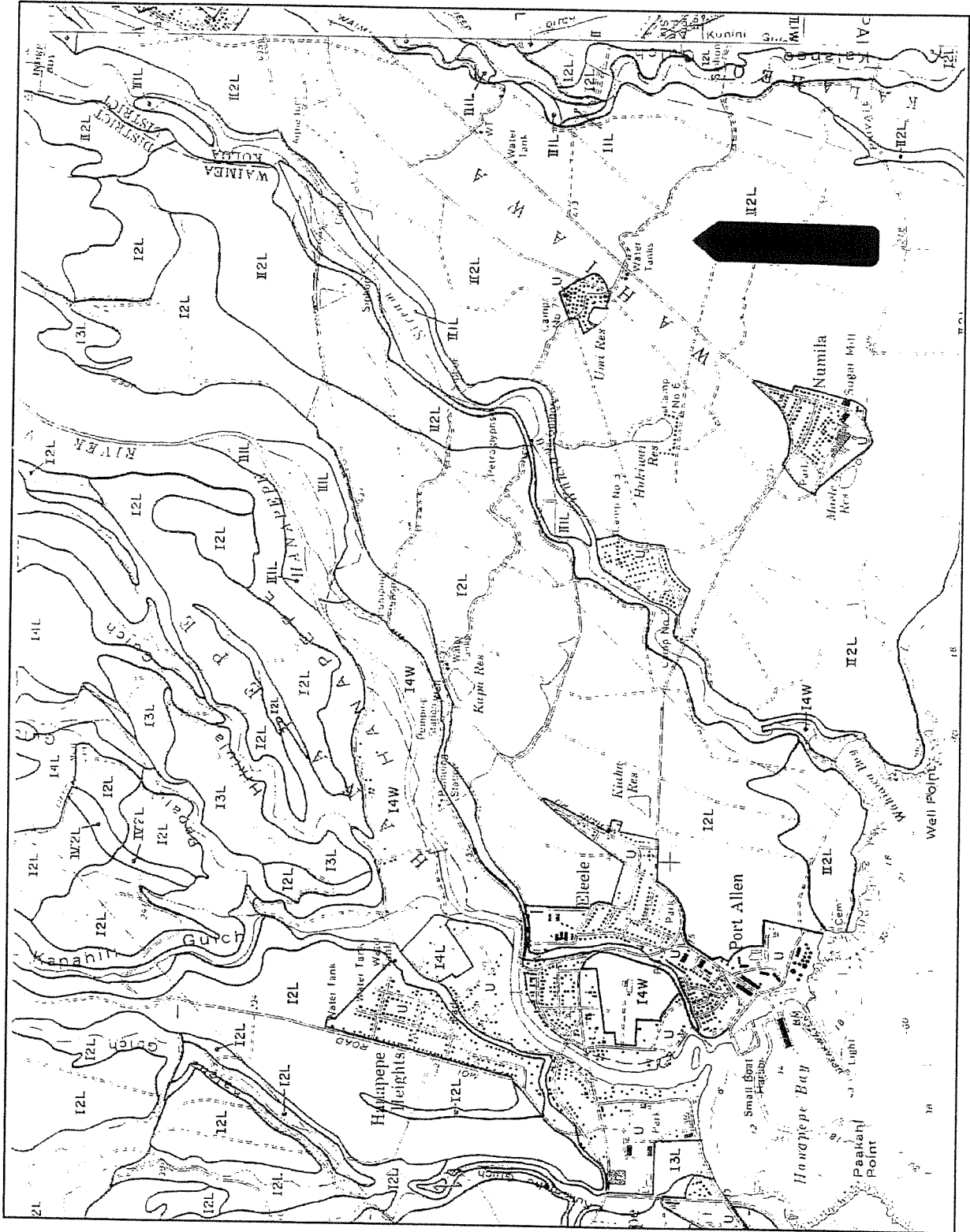


Figure 6. Hanapēpē River [yellow line] flows into Hanapēpē Bay several miles southwest of Manawaiohanga Falls (Hanapēpē Quad 1963c by Fujimura In Murabayashi 1973).

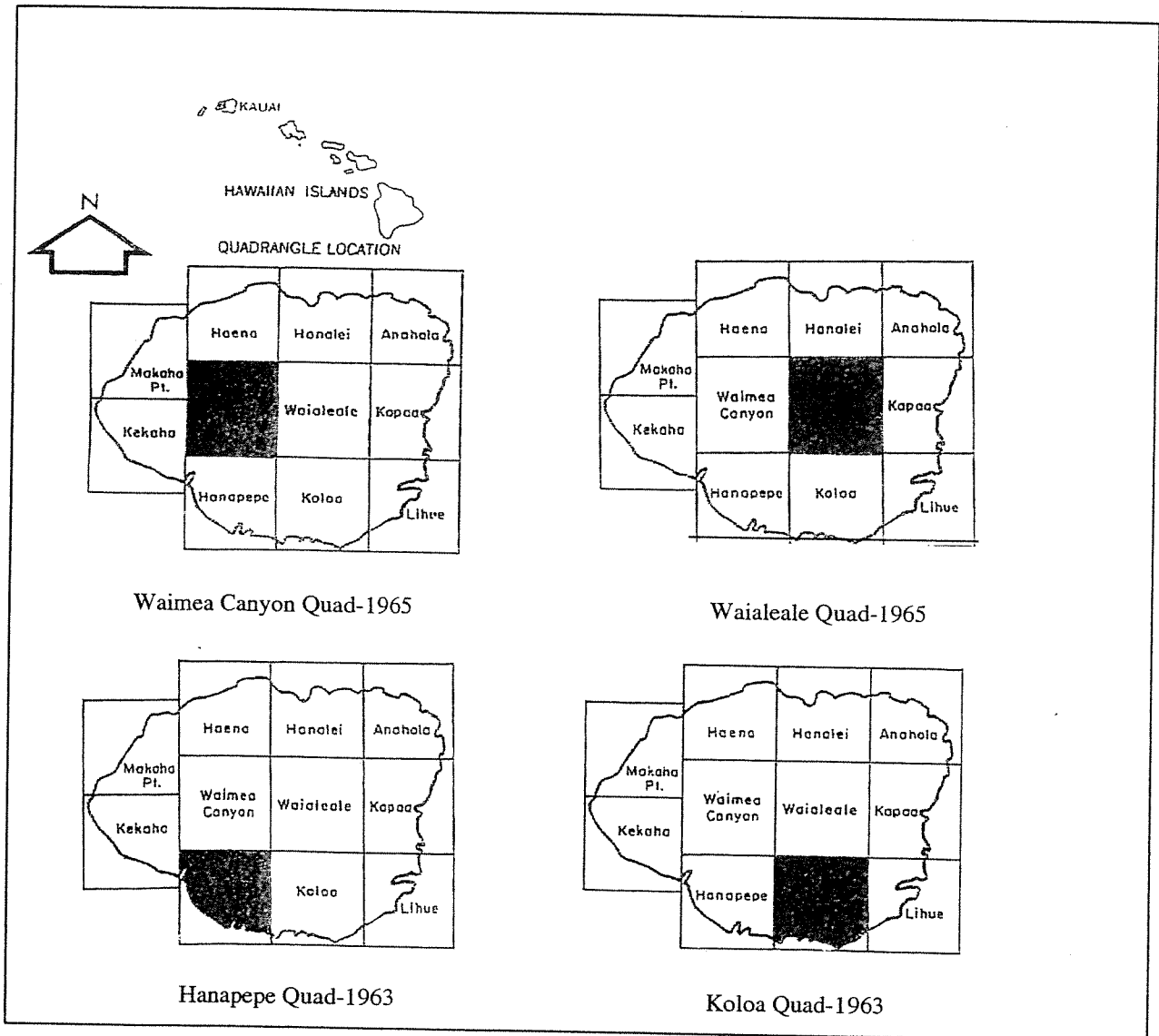


Figure 7. Quadrangle Map Location (Cartography by Fujimura In Murabayashi 1973).

**Geology.**

The island of Kauai is a single shield volcano, 552 square miles and the oldest (5.6 million years) of the major Hawaiian Islands. The highly eroded island has spectacular land forms-- an enormous caldera complex with a graben, or down-dropped block, on the caldera's south side. The Makaweli graben was probably formed by a large landslide off the island's southern coast. Voluminous rejuvenated-stage lavas, weathering flows and deep erosion make unraveling Kauai's geologic history difficult (Juvik and Juvik 1998:41). "The hilly and mountainous interior consists of rough and broken terrain ranging in elevation from sea level to 500 feet. Annual rainfall generally exceeds 60 inches and ranges to over 400 inches" (Murabayashi 1973:24).

The plateau of Kauai reaches elevations of 5,148 feet (1,569m) at Wai`ale`ale and 5,243 feet (1,598m) at Kawaikini and is directly exposed to trade winds ascending abruptly over precipitous *pali* (cliffs). As a consequence, the mountain summit of Kaua`i is one of the wettest spots on Earth. Average annual rainfall at Wai`ale`ale is 444 inches (11,278mm) [450 inches according to Armstrong 1983:14]. The interior mountains of Kaua`i have been eroded by running water to produce the spectacular topography of Waimea Canyon and Nā Pali Coast. The transported alluvium formed broad coastal plains with deep soil and extensive beaches. This landscape is the foundation for Kauai's economy: agriculture and tourism (Juvik and Juvik 1998:3).



Photo 2. Bird's-eye view of Manawaiopuna [from B. Green & L. Brown 2000]

**Flora.** The surrounding upper area appears to consist of upper forest vegetation, a mixture of native (e.g. *kukui*, *ʻohia lehua*), Polynesian-introduced species (e.g., *mai`a*-banana, ti) and a variety of alien/exotic species. The immediate area of the project lands includes a grassy berm/bank of a ditch that parallels (east side) a stream bed from the Manawaiopuna Falls on the valley floor; the west side of the berm/bank is the irrigation ditch constructed for the sugar lands. The sides of the valley are relatively steep with various types of vegetation. The ditch berm is distinguishable by its grassy appearance [lower left of photo below] and a tiny portion of Kō`ula streambed visible in lower left of photo, perpendicular to the stream bed from the falls.

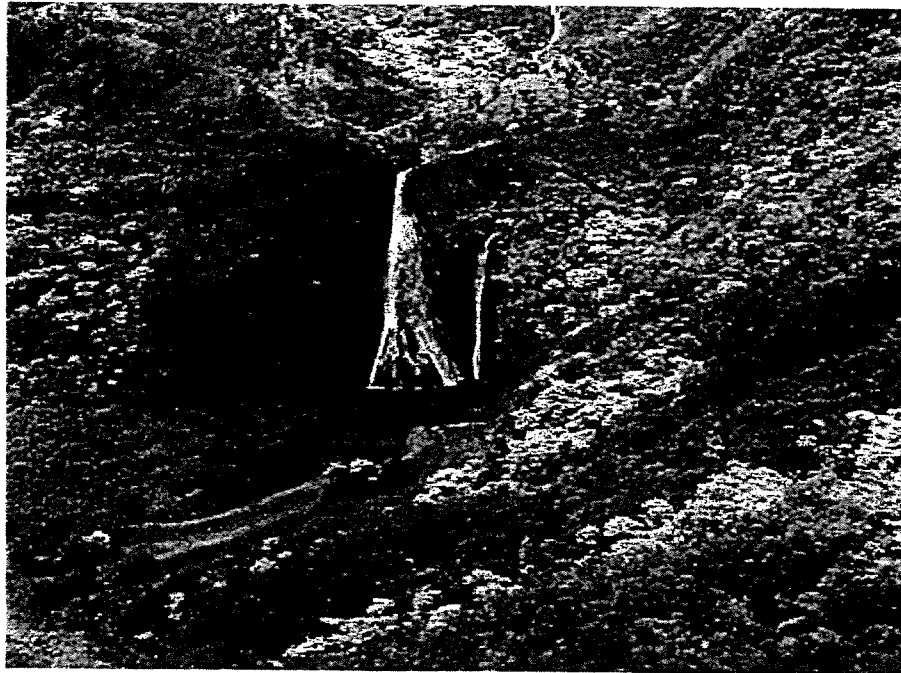


Photo 3. Manawaiopuna Falls in Kō`ula Valley [Air Kauai 2004].



**Fauna.** In almost all of the elevation zones of the Hawaiian Islands, alien animals such as feral pigs, goats, cattle and horses have damaged native vegetation. Terrestrial fauna in pre-colonized Hawai'i consisted of only one endemic mammal, the hoary bat (*Lasiurus cinereus*), thousands of endemic insects [i.e., damselflies (*Ischnura ramburii* and *Ischnura posita*) found around reservoirs and streams], and about 100 species of endemic birds such as the Hawaiian owl (pueo) and Hawaiian honeycreeper (*Drepanididae spp*) (Berger, 1972:7, Kirch, 1985:28). The *pueo* (owl), *koloa* (duck) and the *auku`u* (blue heron) are sometimes observed in the project area according to one of the consultants.



The Pueo, also known as the Hawaiian Owl or short-eared owl, preys on rodents and insects. It builds its nest in the grass on the ground and is active during dusk and dawn. In ancient Hawaiian times, the *pueo* was often worshipped as a family god or an *`aumakua* (Enriques et al 2004; Pang 2004). The *pueo* as *`aumakua* was famous for being a protector from harm and even from death (Pang 2004).

Photo 4. Hawaiian owl, *pueo* (Pang 2004).

Hawaiian Honeycreeper. Amid these species is the I'iwi. It feeds on the nectar from the *lehua* blossom of the *`ohi'a* tree. The I'iwi can be found in the upper forests.... The I'iwi often imitates other birds. The popular endangered Hawaiian Honeycreepers with their brilliant colors were one of the many native birds that were killed to make the chiefs' cloaks (Enriques et al 2004).



Photo 5. I'iwi found in upper forests (Enriques et al 2004)

Early Polynesians introduced animals included the Southeast Asian pig (*Sus scrofa*), jungle fowl or chicken (*Gallus gallus*), dog (*Canidae*), and the Polynesian rat (*Rattus exulans*). The project area is visited by feral pigs, goats, and occasionally by some free-range cattle owned by land owners, the Robinsons.



Photo 6. Mouth of Waimea River, said to be the site of the first settlers on Kauai

## PART II: METHODS

The Manawaiopuna Falls Cultural Impact Study/Assessment was conducted between the months of December 2004 to February 2005. The study consisted of three phases: (1) ethnographic survey (oral history interviews), transcribing interviews, analysis of ethnographic data; (2) cultural and historical archival research (limited literature review); and (3) report writing.

**Personnel.** The personnel consisted of (1) **Maria E. Ka'imipono Orr**, the principal investigator-author-ethnographer who has a masters degree in Anthropology, with a graduate curriculum (archaeology track) that included anthropology theory, cultural resource management, ethnographic research methods, and public archaeology; an undergraduate curriculum background (archaeology track) that included Hawaiian History, Hawaiian Language, Hawaiian Archaeology, Pacific Islands Religion, Pacific Islands Archaeology, Cultural Anthropology, as well as Geology and Tropical Plant Botany; and ethnographic field experience that includes over 186 interviews to date; (2) **Γini Patelesio**, *Ku'iwalu* Administrative Assistant with a Bachelor of Arts in Hawaiian Studies from University of Hawai'i, who did the transcribing and compiled archival material; **Lani Lapilio, Esq.** of *Ku'iwalu*, who also compiled archival material, has a Graduate Certificate in Historic Preservation, a Juris Doctorate and a Bachelor of Arts in Political Science from University of Hawai'i at Manoa.

**Level of Effort.** The level of effort for the ethnographic survey was 2 interviews and limited archival research. The primary effort was to produce a study and report on a very limited budget.

**Theoretical approach.** This study is loosely based on *Grounded Theory*, a qualitative research approach in which "raw data" [transcripts and literature] are analyzed for concepts, categories and propositions. Conceptual labels or codes are generated by topic indicators [i.e., agriculture, flora, burials, fishing]. Categories are generated in a similar manner by forming groupings such as "Land Resources & Use," "Water Resources & Use" or "Cultural Resources & Use." Since this was a semi-focused study, categories were pre-selected as part of the overall research design. However, it is not always the case that these research categories are supported in the data. In the *Grounded Theory* approach, theories about the social process are developed from the data analysis and interpretation process (Haig 1995; Pandit 1996). This step was not part of this cultural impact assessment as the research sample was too small.

**Archival Research.** It took a few weeks of intermittent archival research (private library) and reviewing archival material compiled by *Ku'iwalu*. The majority of the archival research [primary and secondary sources] came from the State Historic Preservation Division library; personal library; and Internet searches. Most of the secondary source material included translations of 19<sup>th</sup> century ethnographic works, historical texts, archaeological reports, and Hawaiian language resources [i.e., proverbs, place names and dictionary].

**Consultant Selection.** The selection of the consultants was based on the following criteria:

- ❖ Had/has Ties to Project Location
- ❖ Known Hawaiian Cultural Resource Person
- ❖ Referred by *Ku'iwalu* Staff

**Interview Process.** The interview process included a brief verbal overview of the study. Then the consultant was provided with an informed consent or agreement to participate form to review, which was drafted for the edification and protection of each consultant (Appendix D). An ethnographic research instrument (Appendix E) was designed to facilitate the interview, a semi-structured and open-ended method of questioning based on the person's answers to questions ('talk-story' style). Each interview was conducted at the convenience (date, place and time) of each consultant. A *makana* or gift was given to each consultant in keeping with traditional reciprocal protocol.

**Ethnographic Interview Procedures.** Interviews were conducted at work offices, at the request of the consultants, using an audio-cassette tape recorder. Notes were also taken as needed, but more attention was given to listening intently to each consultant. Both interviews were conducted at the business places of the consultants.

**Transcribing Process.** The taped interviews were transcribed by the intern staff of *Ku'iwalu* and later edited by the author using a Sony Dictator Transcriber (BM-87DST). Each consultant was given a hard copy of the interview transcripts along with a *mahalo* letter that explained the transcript review process, and a self-addressed, stamped envelope for return of the edited transcripts. This allowed for corrections (i.e., spelling of names, places), as well as a chance to delete any part of the information if so desired. Consultants were also given a "Release" form (see Appendix D) to sign when they were satisfied with the transcript information/revisions.

**Analysis Process.** The analysis process followed a more traditional method, as a qualitative analysis software program was not necessary. The interview was manually coded for research thematic indicators or categories (i.e., personal information; land, water and cultural resources and use; site information-traditional and/or historical; and anecdotal stories). For the purpose of this study, it was also not necessary to go beyond the first level of content and thematic analysis, as this was a more focused study. However, sub-themes or sub-categories were developed from the content or threads of each interview [i.e., sugar plantation, cattle ranch].

**Research Problems.** A typical constraint for most studies is not enough time for archival research as there is usually a lot of material to review; or transcribing taking longer than anticipated. This study was no exception. Another major problem was not being able to have a first-hand view of the project site. A helicopter tour was mentioned but did not materialize. Fortunately, there were a few websites that had photos and descriptions of Manawaiopuna Falls.



Photo 7. Waimea River (*ma uka* view), once the largest settlement on Kauai.

## PART III: CULTURAL & HISTORICAL BACKGROUND REVIEW

The Cultural and Historical Background Review entailed a broad search of primary and secondary source literature. The majority of this research material came from the State Historic Preservation Division library and the author's private library. However, some material (gleaned from previous studies) came from the Bishop Museum Archives; Hawaiian Collections of the University of Hawai'i Hamilton Library (Manoa Campus). Primary source material included maps, visitor journals, genealogies and other studies. Secondary source material included translations of 19<sup>th</sup> century ethnographic works, historical texts, indexes, archaeological reports, and Hawaiian language resources (i.e., proverbs, place names and Hawaiian language dictionary). A review of the archival material is presented in this section, along with a brief overview of the chronology of the *ili* of Kō`ula, within the context of the broader history of the Hanapēpē Ahupua`a, the Kona *moku* (district), the *moku`āina* (island) of Kauai and Greater Hawai'i.

### A. Models of Hawaiian Chronology.

Models of Hawaiian Chronology such as Cordy (1974/1996), Hommon (1976/1986) or Kirch (1985) provide a temporal view of settlement patterns as well as cultural changes through time, from initial settlement through first recorded contact with the western world. Cordy's (1974) first model of a cultural development sequence looked at Initial Settlement Period, New Adaptation Period and a Complex Chieftdom Period. He has since modified this model (1996). Hommon's (1976) model of sociopolitical development sequence included four phases: Phase I AD 500-1400; Phase II AD 1400-1550; Phase III AD 1550-1650; and Phase IV AD 1650-1778. This model was later modified (1986) to three phases: Phase I AD 400-1400 Exploration and Settlement; Phase II AD 1400-1600 Expansion; and Phase III AD 1600-1778 Consolidation. Kirch (1985) believed that initial settlement occurred much earlier than AD 600. His cultural-historical sequence model has four phases: Phase I Colonization Period (AD 300-600); Phase II Developmental Period (AD 600-1100); Phase III Expansion Period (AD 1100-1650); and Phase IV Proto-Historic Period (AD 1650-1795) (Kirch, 1985:296-308; Kolb, 1991:205).

For this cultural impact assessment, Kirch's (1985) model will be used with the following addition: Early Historic Period (AD 1795-1899), Territorial History (AD 1900-1949), and Modern Historic Period (post AD 1950). The reasoning behind Kirch's model is the belief of many aboriginal Hawaiian people that based on oral histories or legends, the migrations of their Polynesian ancestors to Hawai'i took place prior to AD 700. According to Fornander (1917: IV: II: 406), there are seventy-five generations from Wakea to Kamehameha I who born was around AD 1753. If just eighteen years were allotted to each generation (typically a generation is twenty years) that would make the time of Hawaiian progenitors Wakea and Papa Haumea (who settled in Nu`uanu, O`ahu) approximately AD 403. [McKinzie (1983:12) gives thirty years per generation.]

It should be noted that a study by Tuggle & Spriggs (2001) refutes the 'early colonization' supposition. For decades, the consensus among Hawaiian archaeologists was that evidence from Bellows, O`ahu and Ka`u, Hawai'i Island, supported early Polynesian colonization dates of AD 300 to AD 600 (Tuggle 1979; Kirch 1985). However, Tuggle and Spriggs (2001) have since studied new data and re-evaluated past dates and dating methods and have concluded that acceptable early dates fall within AD 700-1100. These dates appear to coincide with data that eastern Polynesia was settled much later than previously thought (Rolett 1989).

The following overview encapsulates cultural changes over time and highlights significant events and people. More corroborating details follow this overview section with traditional *mo`olelo* and *mele*, historic works and various studies.

## B. An Overview of Human Impact, Settlement and Socio-economic Development of Kauai in the context of Greater Hawai'i

**B-1. Colonization Period.** First voyager dating is scanty at best, however, based on early site dates from Bellows, O'ahu and South Point, Hawai'i, Kirch (1985) estimated that the Colonization Period of the Hawaiian Islands was somewhere between AD 300-600. These first Polynesian voyagers to Hawai'i "followed the tracks of migratory birds. Mainly they traveled by the stars... [and] on a voyage of migration; sixty to a hundred persons could exist for weeks on a large canoe, which might be a hundred feet in length" (Day 1992:3). This feat was "remarkable in that it was done in canoes carved with tools of stone, bone, and coral; lashed with handmade fiber; and navigated without instruments" (Teruia 1995: vii).

Reconstructing the cultural sequence for the Kona or Waimea district of Kauai and greater Hawai'i during the colonization period would involve the 'founder effect' and time necessary to adjust and adapt to a new environment. The colonizers were not able to bring all of the gene pool or cultigens from their homeland, so their new culture consisted of what survived the journey, what was remembered and what could be applied to the new environment (Kirch 1985:285-6). Although early Hawaiians were farmers and felt spiritually tied to the *aina* (land) in many ways (Waters, n.d.), when they first arrived they had to modify both their subsistence practices and the land. Faunal remains analyses indicate that early Hawaiian subsistence depended on fishing, gathering, bird hunting (extinct fossil remains, see Olson and James, 1982), as it took time to clear the forests, plant their crops, breed their animals, and construct suitable living quarters.

According to Wichman (2003), Kauai was first settled by people during the time of Papa and Wakea who came well before the descendants of Nana'ulu came to Kauai. Wichman's genealogies (2003:117-131) are used as approximate/guiding dates in this report.

Ho'ohoku-i-kalani [daughter of Papa and Wākea (ca A.D. 530)] gave birth to another son [from Wākea] whom they named Hāloa after his dead brother. From Hāloa, it is said, descend all the Polynesians. Kauai historians claim that a younger brother of Hāloa discovered and settled this island. This was Chief Ka-māwae-lua-lani-moku [ca A.D. 555], who traveled to this island with his wife, Kahiki-lau-lani, and her two paddlers Kō-nihinihi and Kō-nahenahe. Because of his good deeds, the great number of his descendants, and the prosperity of his reign, people began to call this island Kau-a'i (*Place of Abundance*)....

Whether Ka-māwae-lua-lani-moku and Kahiki-lau-lani ever lived on Kauai is unknown. It is more certain that one day, not too many generations after Papa and well before the descendants of Nana'ulu came to Kauai, a voyaging canoe commanded by Kū'alu-nui-kini-akua approached the island from the west. Nothing is known of him except his name and that he had a counselor named Pi'i-ali'i. The genealogy of the first Kauai settlers is broken, for they lost their lands and identity after a long war to new, vigorous, and more warlike adventurers.... The most famous connected to two almost mythical groups of people, the Menehune and the Mū (Wichman 2003:5).

The first group to settle on Kauai landed at the river mouth of Waimea in the Kona district. What they encountered was an area of abundant water and resources.

Kū'alu-nui-kini-akua stepped ashore at the mouth of Waimea river. It was an ideal place. There was abundant water from the swift rivers and streams that flowed within a protected canyon complex.... There was good soil within the canyon valleys.... As the population increased, settlements spread inward into Waimea canyon and its side canyons, into the valleys of Nāpali, along the southern coast to Koloa (Wichman 2003 5-7).

**B-2. Developmental Period.** During the Developmental Period, AD 600-1100, as the founding groups grew, they fissioned into subgroups referred to as ramage, with the senior male of the original ramage as chief of the conical clan, although hierarchical ranking was not just relegated through the patrilineal line of descent (Kirch 1985:31). Bellwood refers to these groups as tribal and related by blood (Bellwood 1978:31). In *Ka Po'e Kahiko* Kamakau refers to Hawaiian ranking in the following passage:

For 28 generations from Hulihonua to Wakea, no man was made chief over another. During the 25 generations from Wakea to Kapawa, various noted deeds are mentioned in the traditions and well-known stories. Kapawa was the first chief to be set up as a ruling chief. This was at Waialua, Oahu; and from then on the group of Hawaiian Islands became established as chief-ruled kingdoms - Maui from the time of Heleipawa, son of Kapawa and Kauai from the time of Luanu u[\*]. In [this] time...records (oral) began to be kept of the chiefs; of the day of birth, the land where each was born, the land where each was born, the places where the placenta (*`a`a*) and its navel string (*ewe*) were deposited, the place where the navel cord (*piko*) was cut, the famous deeds of each, and the burial place where each was laid (Kamakau 1964:3).

[\* Luanu`u (ca A.D. 1380) was the son of Kama-hano and Ka`aua-o-ka-lani; grandson of Ahukini-a-La`a and Ha`i-a-Kama`i`o; great-grandson of La`a-mai-Kahiki, foster son on Mo`ikeha (Wichman 2003:39-41). These people could very well have been living in the later part of this period but more likely the early part of the Expansion Period.]

Over time other settlers inhabited all the Hawaiian Islands. Many genealogies of Hawaiian *ali`i* indicate that Nana`ulu and `Ulu (ca A.D. 830) were prominent ancient ancestors who settled all over the Pacific islands.

Thirteen generations or more than three hundred years, after Papa-nui-hānau-moku and Wākea, a chief of Tahiti, Kī`i and his wife, Hina-kō`ula, became parents of two sons, Nana`ulu and `Ulu. When they were grown, Kī`i asked his sons to go on a voyage of discovery. All memory of the navigational signposts back to their original homeland were forgotten.... Nana`ulu sailed north in his canoe named *Manō-nui* (Great Shark) and found the islands of Hawai`i. The way from Hawai`i to Tahiti was charted. Voyagers came in increasing numbers (Wichman 2003:21-22).

According to Kalākaua (1887/1890), it is likely that when Nana`ulu first landed in the islands, he did not find anyone else. This may be true if they landed on an island not yet inhabited by those from the north islands such as Kauai, Ni`ihau, Necker and Nihoa.

Nanaula, a distinguished chief, was the first to arrive from the southern islands. It is not known whether he discovered the group [Hawai`i] by being blown northward by adverse winds, or in deliberately adventuring far out upon the ocean in search of new lands. In either event, he brought with him his gods, priests, prophets and astrologers, and a considerable body of followers and retainers. He was also provided with dogs, swine and fowls, and the seeds and germs of useful plants for propagation. It is probable that he found the group without human inhabitants.

During that period--probably during the life of Nanaula--other chiefs of less importance arrived with their families and followers either from Tahiti or Samoa. They came in barges and double canoes capable of accommodating from fifty to one hundred persons each. They brought with them not only their priests and gods, but the earliest of Polynesian traditions. It is thought that none of the pioneers of the time of Nanaula ever returned to the southern islands, nor did others immediately follow the first migratory wave that peopled the Hawaiian group (Kalākaua 1887/1890:19-20).

The descendants of `Ulu spread out over the South Pacific. Among them were extraordinary people who lived such wonderful adventures that storytellers had rich material to develop into entertaining sagas [e.g., Māui-ki`iki`i, `Aikanaka-a-Mako`o, Hina-hānau-a-ka-mālama, twins Puna and Hema].... There were so many astonishing ancestors like these that the genealogists added them all into the `Ulu genealogy (Wichman 2003:23).

Changes occurred during this period that brought about a uniquely Hawaiian culture, documented by the material culture found in archaeological sites. These include quadrangular adze, bone fishhook variations, *'ulu maika* (a game piece) stones, *lei niho palaoa* (necklace of bone or ivory and human hair worn by high ranked chiefs) and evidence of shifting cultivation. Kauai developed a unique form of poi pounder such as *pōhaku ku`i poi* (ring and stirrup pounders), double-grooved stone club heads, and a broad anvil kapa beater (Wichman 2003:6).

On Kauai there is evidence of ancient connections with the southern islands of Central Polynesia not found on the other islands of Hawaii.... Differences are seen in the stone implements that were once used on Kauai, in styles of heiaus, in language, and in the stories of the Menehune. Long considered a mythical people of Kauai, in reality the Menehune were a distinct people of an ancient time. Among the stone implements common to Kauaians were two types of poi pounders restricted almost exclusively to that island.... The two Kauai types are the ring and stirrup pounders.... A discovery of significance was made in recent years on the island of Uahuka in the northern Marquesas when an "ancestor" stirrup pounder was discovered there. It is estimated, through radiocarbon dating that it was in use at sometime between A.D 600 and 1300. This type of pounder had been found only on Uahuka and Kauai (Joesting 1984:19).

The evidence also indicates that the "ancestral pattern of corporate descent groups" were still in place at this time (Kirch 1985:302-3). The early culture evolved as the population grew, and many of the changes were related to significant socio-economic changes.

For thirteen or fourteen generations the first occupants of the Hawaiian Islands lived sequestered from the rest of the world, multiplying and spreading throughout the group. They erected temples to their gods, maintained their ancient religion, and yielded obedience to their chiefs. The traditions of the period are so meager as to leave the impression that it was one of uninterrupted peace, little having been preserved beyond the genealogies of the governing chiefs (Kalākaua 1887/1990:20).

In about A.D. 1025 or perhaps a little earlier, the people of the group were suddenly aroused from their long dream of six centuries by the arrival of a large party of adventurers from Tahiti. Their chief was Nanamaoa. Their language resembled that of the Hawaiians and their customs and religions were not greatly at variance. They were therefore received with kindness, and in a few years their influence began to be felt throughout the group. They landed at Kohala, Hawaii, and Nanamaoa soon succeeded in establishing himself as an influential chief. His sons secured possessions on Maui and O`ahu, and on the latter island one of them--Nanakaoko--instituted the sacred place called Kukaniloko, in the district of Ewa, where it was the desire of future chiefs that their sons should be born.... This became the sacred birth-place of princes', as `Īao, in Wailuku valley, on the island of Maui, became their *taboo* spot of internment. It was at Kukaniloko that Kapawa, the son of Nanakaoko, was born. His principal seat of power was probably on Hawaii, although he retained possessions on Maui and O`ahu (Kalākaua 1888/1990:70-71).

But stronger leaders were soon to follow from the south. Among the first was the high-priest Paaō, from Samoa [some say it was Society Islands]. He arrived during the reign of Kapawa, the grandson of Nanamaoa, or immediately after his death. The people were in an unsettled condition politically, and Paaō, grasping the situation, either sent or returned in person to Samoa for Pili, a distinguished chief of that island. Arriving with a large following, Pili assumed the sovereignty of the island of Hawaii and founded a new dynasty. Paaō became his high priest, and somewhat disturbed the religious practices of the people by the introduction of new rites [*luakini* or human sacrifice] and two or three new gods [Kūka`ilimoku] (Kalākaua 1887/1990:20-21).

Kamakau (1991) says that "there were seventeen generations during which Hawai`i island was without chiefs--some eight hundred years.... The lack of a high chief was the reason for seeking a chief in Kahiki, and that is perhaps how Pili became the chief of Hawai`i" (island) (Kamakau 1991:101-102).

The Pa`ao/Pili influence created a major shift in “religion” and socio-economic patterns. Pa`ao brought with him the Kū practice of human sacrifice, used in monumental *luakini heiau* or war temples. Pili started a line of *ali`i nui* that would continue to the Kamehameha “dynasty.” The evolution of the *luakini heiau* is difficult to place archaeologically, and although the arrival of Pa`ao may have been a real event; the uniqueness and complexity of *heiau* were most likely a local (Hawaiian) development (Kolb 1989:3).

Two voyaging canoes set out from Tahiti fifteen generations after Nana`ulu and arrived on O`ahu and Kaua`i. Maweke and Paumakua settled peacefully on O`ahu and quickly became ruling chiefs of a district of that island (Wichman 2003:23).

[According to Kalākaua (1887/1990)] The next arrivals of note [after Nanamaoa] from the southern islands were the two Paumakua families, one of which settled in Oahu and Kauai and the other in Hawaii and Maui....The Paumakua family, which became so influential in Hawaii and Maui, arrived during the early part of the reign of Pili, in about A.D. 1090. A large party accompanied the family, and they brought with them their gods, priests, astrologers and prophets. They first landed and secured possessions on Maui, but the sons and other relatives of Paumakua were brave and ambitious, and soon by conquest and marriage secured an almost sovereign footing both in Maui and Hawaii (Kalākaua 1888/1990:71-72).

At the same time, Puna-nui-ka-`āina, whose genealogy has not survived, arrived on Kauai, having come, most likely, from the Marquesas Islands. Puna-nui-ka-`āina arrived when the chief with the deadly riddles, Ka-iki-pa`a-nānea, was ruler of Waimea. The newcomer chose to settle along the banks of the Wailua river. This land came to be called Puna. There were now two chiefdoms on Kaua`i, Puna and Kona (Wichman 2003:23).

Newcomers were soon changing the socio-political structure of the island polities. There were attempts by some of the prominent families to join forces, but to no avail. Kalākaua (1888/1990) explains:

At that time Kamauaua, a powerful chief of the ancient native line of Nanaula, held sway over the island of Molokai. He proudly traced his ancestry to the first migration in the sixth century, and regarded with aversion and well-founded alarm the new migratory tide which for years past had been casting upon the shores of the islands a flood of alien adventurers, whose warlike and aggressive chiefs steadily possessed themselves of the fairest portions of the group. He had sought to form a league of native chiefs against these dangerous encroachments; but the wily invaders, with new gods to awe the native nobility, had, through intermarriage and strategy rather than force, become the virtual rulers of Hawaii, Maui, Oahu, and Kauai, and he had abandoned all hope of seeing them supplanted. Molokai alone remained exclusively under native control, and its resolute old chief had from their infancy instilled into his sons a hatred of the southern spoilers and a resolution to resist their aggressions to the bitter end (Kalākaua 1888/1990:71-72).

An early date for Waimea coastal settlement of A.D. 910-1275 was found by Hammatt and Ida (1993) for a prehistoric cultural layer on State Site #50-30-05-4012 (Zulick et al. 1999:14).

**B-3. Expansion Period.** The Expansion Period, AD 1100-1650, is significant for a number of reasons. Communication between the Hawaiian groups and southern groups suddenly ceases in the latter part of this period and oral histories don't offer any explanations. With the exception of Molokai and a portion of O`ahu who were of the Kamauaua and Maweke (ca A.D. 1230) families from the Nana`ulu lines, all the others were of the southern chiefs and their descendants (Kalākaua 1887/1990:21-22). Most of the “ecologically favorable zones,” the windward and coastal areas of all major islands, were now settled, and the more marginal leeward areas were being developed.

Legends reveal that during the 12<sup>th</sup> century, several Hua chiefs reigned on Maui. Huanuikalalailai is the grandfather of Haho [Haho is the son of Paumakua (ca A.D. 1255) who is buried in `Īao; Haho also founded the *Aha-ali* (Kalākaua 1888/1990:84-85)]; Haho is the grandfather of the famous Hāna twins Hanala`anui and Hanala`aiki who become the progenitors of the *ali`i nui* of Hawai`i Island, Maui,



Molokai, Lāna`i, as well as O`ahu and Kaua`i (McKinzie 1983: xx).

A story or *mo`ōlelo* of a southern adventurer winning the heart of a chiefess takes place on Kauai in the early part of this period, when Hina-`a-ulu-a, daughter of Puna-`ai-koā-i`i (son of Puna-kai-`olohia and grandson of Puna-nui-ka-ia-`āina, the first Puna chief of Wailua, Kauai), chooses newcomer Mo`ikeha (ca A.D. 1280) over other local suitors. Puna-`ai-koā-i`i, in order to be fair designs a contest where the suitors must swim to the island of Ka`ula off the southwest of Kauai, to retrieve a *lei paloa*. Mo`ikeha's genealogy indicated that he came from the Nana`ulu line down to Maweke. Maweke was a chief of a voyaging canoe from the south (Kahiki) who arrived in the islands two generations earlier and settled on O`ahu. Another advantage of Mo`ikeha was that his companion was La`a-maomao, owner of a calabash that kept all the winds of the world. Mo`ikeha's brother `Olopana married a chiefess from Kohala. Mo`ikeha's wife, Hina-`a-ulu-a gave birth to her three sons at the *heiau* Holoholokū, constructed for Mo`ikeha by orders of his father-in-law Puna-`ai-koā-i`i. From then on all *ali`i nui* on Kauai were born at the birthing stones there (Wichman 2003:24-29).

During the early part of this period (ca A.D. 1305) the three sons of Mo`ikeha were settled on three different islands, O`ahu, Hawai`i and Kauai.

Ho`okamali`i, the oldest, moved to O`ahu to become the ruling chief of the Kona district and settled on the plains of `Ewa. Kila went to Waipi`o on Hawai`i.... Haulani-nui-ai-ākea remained on Kaua`i, where on Mo`ikeha's death, he became *ali`i nui* [Mo`ikeha's bones were taken to Ra`iātea by La`a-mai-Kahiki, his foster son]. Haulani-nui-ai-ākea proved to be an unsatisfactory *ali`i nui*. Other Kaua`i chiefs, under the leadership of Ke-oloewa-a-Kamaui, deposed their unfit ruler. Ke-oloewa-a-Kamaui was a Moloka`i chief married to one of Maweke's granddaughters.... Haulani-nui-ai-ākea was easily overthrown. When Ke-oloewa-a-Kamaui refused the throne, Kila was asked to come to Kaua`i and take over as *ali`i nui*...his heart was not on Kaua`i. He placed the highest ranking *ali`i* in the family, the beautiful Ka`ili-lau-o-ke-koa, as paramount chief, returned to his canoe and sailed to Ra`iātea to remain the rest of his life (Wichman 2003:35).

The advisors of Ka`ili-lau-o-ke-koa wanted her to marry Ke-li`i-koa, the Kona (Kauai) chief, but she declined. A lot of intrigue followed this decision along with attempted murder. This led to several centuries of war between the Kona and Puna chiefdoms. It was during her reign that Ka`ili-lau-o-ke-koa organized the women of Wailua to fight in the battle instigated by the Kona chief Ke-li`i-koa, who was eventually killed by Ka`ili-lau-o-ke-koa with her *pikoi* (tripping club). Sadly, Ka`ili-lau-o-ke-koa died later without any heirs. The chiefdom was offered to Ahukini-a-La`a (ca A.D. 1305-1355), the oldest son of La`a-mai-Kahiki (ca A.D. 1305); followed by his son Kama-hano (ca A.D. 1330-1380), then his son Lu`anu`u (ca A. D. 1355-1405) (Wichman 2003:36-41).

Lu`anu`u (ca A.D. 1355-1405), grandson of Ahukini-La`a (ca. A.D. 1305-1355), was named after the grandfather of Ki`i, father of `Ulu and Nana`ulu. He was a good chief and was greatly admired in spite of the continuing wars with Kona--references to him indicate a close relationship to Kona. During the time of Lu`anu`u there was a great warrior named Palila, son of Ka-lua-o-pālena and Maihi-iki. He was taken at birth and raised by his grandmother Hina in a sacred temple of Alana-pō where he was trained very well. Later he helped his father defeat Kona chief Ka-maka-o-ka-lani on the plains of Koloa. Shortly after, a messenger from the ruling chief of O`ahu arrived asking for Palila's help. Palila had many adventures on O`ahu and Hawai`i and later became the ruling chief of Hilo (Wichman 2003: 44-47).

Kūkona (ca A.D. 1380-1430) [son of Lu`anu`u] inherited an island at war and left it united as one kingdom. From then on, the legends of the Kona kingdom were seldom told and the genealogies of the first settlers were forgotten.... Kūkona's *ali`i wahine* was Lau-puapua-ma`a and they had twin sons, Mano-ka-lani-pō (ca A.D. 1405) and Palekaluhi. When Kūkona became *ali`i nui* (ca A.D. 1405) of Puna, the Kona chief was Makali`i-nui-ku-a-ka-wai-ea. He had been at the royal court of O`ahu for many years and several times had fought in battles against Kama-pua`a.... Makali`i-nui-ku-a-ka-wai-ea had been sent by Kama-pua`a to the royal court with the bad news of

defeat. Eventually Makali`i-nui-ku-a-ka-wai-ea returned home to Waimea and organized his own force. Makali`i-nui-ku-a-ka-wai-ea's army included the father and older brother of Kama-pua`a (Wichman 2003:47-48).

Kona and Puna forces met once more in battle in Koloa. After a stalemate the two kingdoms merged with Kūkona as the *ali`i nui* (ca A.D. 1405). To insure the success of this situation, Nae-kapu-lani, the daughter of Kona's Makali`i-nui-ku-a-ka-wai-ea was married to Mano-ka-lani-pō (ca A.D. 1405-1455), son of Puna's Kūkona.

A legend (Skinner 1902:212-216) tells about a Japanese vessel wrecking on Maui in the 1200s (according to Wichman's dates it was in the 1400s). The captain and his sister marry into *ali`i nui* families, but what is most significant about this story is the metal sword that the Captain had. During this period the *ali`i nui* of Hawai`i Island was Kalaunui [Ka-lau-nui-o-Hua] who had subdued Maui [Ka-malu-o-Hua] and Molokai [Ka-haku-o-Hua] and on O`ahu [Hua-i-pou-leilei] a great fight ensued. In the battle the Captain fought bravely with his sword, but was finally struck down by a warrior named Kaulu, son of Waahia, a seer of great renown. Rather than turn the sword over to the Hawai`i king, Kaulu buried it on the spot. He later retrieved it and put it into his mother's (Waahia) care before the Hawai`i contingency headed for battle on Kaua`i [where Kūkona (ca A.D. 1380-1430) was the ruling chief].

The Hawai`i warriors were overcome and defeated [by Kūkona] before they could even land their canoes by the sling stones and javelins of the Kaua`i warriors. The Hawai`i king Ka-lau-nui was taken prisoner and the kings of Maui, Molokai and O`ahu who were hostages of Ka-lau-nui were set free. Kaulu escaped with a remnant force only to be accused by the queen of cowardice. In the negotiations for the release of Kalaunui, the queen offered several things: a fleet of canoes with many spears; twenty feather cloaks with stone axes, ivory and whalebone; but these were all rejected. The last resort was to offer her daughter in matrimony to the king of Kaua`i. This too was rejected. After three years and unsuccessfully trying to get an army together, the queen was ready to give up. This is when Waahia asked for an audience at court. She explained that she alone could rescue the king, but the court had to grant whatever her wish was when they returned. They agreed and Waahia left Hawai`i Island with a single oarsman for Kaua`i. They arrived during Makahiki festivities and Waahia got an audience in court. Her offer was the Japanese sword "that was harder than stone, that broke spears like reeds, that gave its owner supreme fortune and supreme command." The offer was accepted. Before the release of Kalaunui, Waahia had him agree that his release was contingent on him giving his daughter to her son in marriage. This too was agreed on [see also Wichman 2003:49-52].

Once Kaua`i was united as one kingdom and was free from any threat of invasion from its windward neighbors, attention was focused on the development of a solid political system based on land division. The paramount chief ruled the entire island, owned all the land, and had the power of life and death over the people, *ali`i* and *maka`āinana* alike. To help him govern, the *ali`i nui* chose a *kalāimoku* (prime minister, land manager) to advise him on all practical and civil matters. The royal establishment was kept at Wailua, although there was also a permanent home at Waimea.... Kaua`i was divided into six *moku* (districts), which were governed by an *ali`i`aimoku*, each carefully chosen for his loyalty and close relationship to the ruling chief. The largest district was Kona, the former kingdom centered at Waimea, followed by Puna (Wichman 2003:53-54).

The genealogy of Kaua`i *ali`i* was considered the most ancient and impeccable in all the Hawaiian islands. *Ali`i* from other islands were eager to introduce the Kaua`i bloodline into their own.... A chiefess would live with a Kaua`i chief for a time, bear one or more children, then send the chief on his way, leaving his bloodline and genealogy to mingle with those of her own family on Maui and Hawai`i. Marriage to the O`ahu families was commonplace for Kaua`i chiefesses. It was a peaceful kingdom that Mano-ka-lani-pō inherited and helped to create. He ruled over the Golden Age of Kaua`i history (Wichman 2003:55).

This was also the period of the greatest population growth, the development of large irrigation field system projects, and dry land farming. The uniquely Hawaiian invention, the *loko* or fishpond aquaculture, was developed in the fifteenth century or the later half of this period (Kirch 1985: 303). Monumental *heiau* building flourished in this Period, as “religion” became more complex. Other monumental building included irrigation ditches or *auwai* such as the Pi`ilani *Auwai* in Lahaina, Maui and the Menehune Ditch in Waimea, Kauai.

During the last 200 years of the Expansion Period, the concept of *ahupua`a* was established, as well as class stratification, territorial groupings, powerful chiefs and “*mo`i*” or king (Kirch 1985:303-6). Most prominent during this period was Liloa and Umi of Hawai`i Island; Kawaokalole, Pi`ilani and his children Lono-a-Pi`ilani, Pi`ikea and Kiha-a-Pi`ilani of Maui; Kakuihewa and Ku`alii of O`ahu; and Kalanikukama, Kamakapu and the beginning of the Kawelo line of *ali`i nui* on Kauai.

Legends mention a few times where foreigners ship-wrecked or landed on the shores of various Hawaiian Islands. One story takes place during the reign of Kealiiohaloa, son of `Umi-a-Liloa, who reigned about A.D. 1525-30 on Hawai`i island. A vessel was wrecked at Keei, South Kona at a place now called Kulou, the captain and his sister reached shore in safety. They intermarried with the natives. Centuries later it was learned that on October 31, 1527 three vessels fitted out by Spaniard Cortez, conqueror of Mexico, left Zacatula for the Moluccas. About 1,000 leagues from port they were separated by a severe storm and two smaller vessels never made it to their destination. Later in 1555 the Spanish navigator Juan Gaetano discovered these islands; and ancient manuscript chart in Spanish archives indicates a group of islands in the same latitude as the Hawaiian Islands, but over ten degrees longitude too far east. In June 1743 a British warship captured a Spanish galleon near the Philippine Islands and found a manuscript chart on board with the same group of islands charted the same as the 1555 chart in the archives (Wisecarver 1993:11).

*Mo`olelo* about events that took place in the early to mid 1600s were revealing in that they illustrate that many of the battles of this period were relatively quickly contained by the opposing *ali`i* [see *History of Kualii* (Kualii ca. 1630-1660s) in Fornander 1917:IV: II: 364-434]. These stories also illustrate the ongoing inter-relationships between the people of the various islands. In the *History of Kualii*, the exploits of Kualii (great-great grandson of Kakuihewa (ca. A.D. 1580), *ali`i nui* of O`ahu) take him to every island and he eventually unites all the islands “from Hawai`i to Ni`ihau” (Fornander 1917: IV: II: 406).

**B-4. Proto-Historic Period.** The Proto-Historic Period, AD 1650-1795, appears to be marked with both intensification and stress. Many wars took place during this time between intra-island chiefdoms and inter-island kingdoms. However, it was during this period that the *Royal Kolowalu Statute* or Kualii`s Law was enforced. Kualii Kuniaakea Kuikealaikauaokalani (ca A.D. 1655?-1730) lived for a long time, was said to sometimes have supernatural powers, and was the first to “unite” all the islands. Kū-ali`i acquired Kaua`i (ca A.D. 1680) after the deaths of cousins [Kawelo had ceded Kaua`i to Kū-ali`i should they both die in battle there. Kū-ali`i was a descendant of the Kawelo line on his grandmother`s side.] Kū-ali`i went to Kaua`i and declared himself *ali`i nui* and installed his son Pele-iō-hōlani (ca A.D.1680-1755+) as governor (Wichman 2003:89).

It (Kualii`s Law) was strict, unvarying and always just. It was for the care and preservation of life; it was for the aged men and women to lie down in the road with safety; it was to help the husbandmen and the fishermen; to entertain (morally) strangers, and feed the hungry with food. If a man says, “I am hungry for food,” feed (him) with food, lest he hungers and claims his rights by swearing the *Kolowalu* law by his mouth, whereby that food becomes free, so that the owner thereof cannot withhold it; it is forfeited by law. It is better to compensate.... A transgressor or one who is about to die, is, under the application of this law exonerated of his death or other penalty... (Fornander 1917: IV: II: 432).

Kū-ali`i, *ali`i nui* of O`ahu, died at Kailua in Ko`olaupoko in AD 1730, supposedly at the age of one hundred and seventy five.

When Pele-iō-hōlani left Kaua`i to pursue his destiny as the future ruler of the O`ahu kingdom, he left his daughter Ka`apuwai as governor of Kaua`i. She was the first chiefess since Ka`ili-lau-o-ke-koa, some centuries before, to become paramount ruler. She was married to Ka`ume-he-iwā, a high chief of Kaua`i. They were both descended from Ka-lani-kukuma, and their marriage joined the junior and senior genealogical lines that stemmed from their common ancestor, thus giving their daughter Ka-maka-hele a stronger *mana* than either of her parents (Wichman 2003:92).

In 1736, Maui *ali`i nui* Kekaulike died. He chose his *nī`aupi`o* son Kamehameha-nui to be his heir, though Ka`uhi`aimoku-a-Kama was the oldest; he was of a slightly lower rank.

Ke-kaulike had many children by his wives (*wahine*) and female retainers (*haia wahine*). Ka-uhi-`aimoku-a-Kama by Kaha-walu was the first born; Manu-ha`a-ipo, Ke-hau-hiwa-moku and Ka`eo [kulani] were the children of Holau; Kamehameha-nui, Ka-lola, Ka-hekili and Ku-ho`oheihai-pahu, of Ke-ku`i-apo-iwa-nui; Na-mahana and Ke-kua-manoha` of Ha`alo`u.... When Ke-kau-like heard that the ruling chief of Hawai`i was at Kohala on his way to war against Maui, he was afraid and fled to Wailuku in his double war canoe named Ke-aka-milo. He sailed with his wives and children...his officers, war leaders, chiefs, and fighting men, including warriors, spearmen, and counselors.... The fleet landed at Kapa`ahu at the pit of `Aihako`ko in Kula. Here on the shore the chiefs prepared a litter for Ke-kau-like and bore him upland to Haleki`i in Kukahua. There Ke-kau-like died, and the sound of lamentation for the dead arose. Then fearing the arrival of Alapa`i bent on war, the chiefs cut the flesh from the bones of Ke-kau-like in order to lighten the load in carrying the body to `Īao (for burial) (Kamakau 1992:69).

Alapa`i sailed from Kohala on Hawai`i with a great company of chiefs of Hawai`i, his war leaders, warriors, and the district chiefs of the island...but when he landed at Mokulau in Kaupō and heard that Ke-kau-like was dying, he gave up all thought of war and wished only to meet Ke-kau-like and his (half) sister Ke-ku`i-apo-iwa-nui. He heard that Kamehameha-nui had been chosen ruler over Maui and he had no desire to make war upon his sister`s child (Kamakau 1992:70).

In 1737 and 1738 a couple of great battles took place in the districts of Lahaina and Kā`anapali. Kauhi-`aimoku-a-Kama (Kauhi), oldest son of Ke-kau-like rebelled against his younger brother, Kamehameha-nui. "Near the house of David Malo is a breadfruit tree on which the first victim of the battle was laid. There the fighting men of Kamehameha-nui were slaughtered." This prompted Kamehameha-nui to flee to his uncle`s canoe, big island *ali`i nui* Alapa`i-nui-a-Ka-uaua (Alapa`i), who took him to Hawai`i island where they spent a year preparing for war. Alapa`i was the half-brother of Kamehameha-nui`s mother (Kamakau 1992:73-74).

When Ka-uhi heard that Alapa`i was heading back to Maui, he enlisted the help of his uncle, Pele-iō-hōlani, Kaua`i *ali`i nui*, ruling chief of O`ahu, son of Kū-ali`i and cousin of Alapa`i. Alapa`i attacked Maui (A.D. 1738), drying up the streams of Kaua`ula, Kanaha and Mahoma near Lahainaluna, destroying the taro patches. His men kept guard over the streams of Olowalu, Ukumehame, Wailuku and Honokawai (sic). "When Pele-iō-hōlani heard that Alapa`i was in Lahaina he gathered all his forces at Honokahua and at Honolulu. At Honokawai (sic) an engagement took place between the two armies, and the forces of Alapa`i were slaughtered and fled to Keawawa." Pele-iō-hōlani had 640 men to Alapa`i's 8,440. The cousins once again came face to face in Pu`unene and decided to once more opt for peace between the families. Kamehamehanui ruled Maui in peace; Pele-iō-hōlani retired to Molokai, and Alapa`i went back to rule Hawai`i (Kamakau 1992:74).

About AD 1755 Kaua`i`s rule went to Ka-maka-helei, granddaughter of Pele-iō-hōlani.

Ka`apuwai died before her father [Pele-iō-hōlani], and the government of Kaua`i passed to Ka-maka-helei...[who] owed allegiance to her grandfather Pele-iō-hōlani.... Her first husband was a Kaua`i chief, Kiha, and with him she had three children: first a daughter, Lele-māhoa-lani, then a son, Keawe, and finally another daughter, Ka-lau-i-pihana. Then Pele-iō-hōlani sent his grandson Ka-neoneo to Kaua`i to ensure the island would remain loyal to him. Ka-neoneo and Ka-maka-helei were first cousins, and soon Ka-maka-helei put Kiha aside and took Ka-neoneo for her husband (Wichman 2003:92-93).

A few years later, around AD 1759, High Chief Kalani'opu'u from the Island of Hawai'i made war on East Maui and conquered Hāna from *ali'i nui* Kamehameha-nui, brother of Kalola and Kahekili. Kalani'opu'u took control of Hāna's prominent Pu'u Kau'iki as his fortress. He appointed one his chiefs, Puna, as "governor" of Hāna and Kīpahulu (Kamakau 1992:81-82). Kamehameha-nui relinquished Hāna and lived in peace in West Maui with his wife and half-sister, Namahanaikaleleonani. In 1766 the peaceful Maui *ali'i nui* died. After ruling Maui for 29 years, Kamehamehanui was taken ill at Kawaipapa, Hāna on a journey about the island. While still in Hāna Kamehamehanui ceded his lands to his younger brother Kahekilinui'ahumanu (Kahekili), a fierce warrior and "manipulator" (Kamakau, 1992:82-84; Kame'eiehiwa 1992:47).

But according to Kalākaua (1990:353) Kamehamehanui "died very suddenly at Wailuku, which had been his favorite place of residence." During the period of mourning for him, his successor and younger brother, Kahekili "removed his court to Lahaina." It was while there that they were visited by an *ali'i* from Hawai'i Island. The visitor was Ke'eumoku, son of Keawe-poepoe, who was the son of Lonoikahapu (sovereign of Kona, Kaua'i) and Kalanikauleleaiwi (half sister/wife of Keawe, once *moi* of Hawai'i Island). Years before, after the death of his uncle Alapa'inui [Hawai'i Island *moi*], in AD 1754, Ke'eumoku was discontent with the rule of his cousin Keaweopala so he joined forces with Kalaniopu'u of Ka'u and defeated Keaweopala in Kona, making Kalaniopu'u, grandson of Keawe, the new *moi* of Hawai'i Island. Ke'eumoku fortified himself in Kohala and later (1765) incurred the wrath of Kalaniopu'u and was attacked by him. Ke'eumoku escaped and spent some time on Lāna'i before heading to Maui just after the death of Kamehamehanui. To the displeasure of Kahekili, Ke'eumoku promptly won the heart of Namahana [I], the widow of his brother (Kalākaua 1888/1990:353-356), and also his half-sister [Kekaulike was their father but they had different mothers]. After the couple settled in Waihee (Namahana's lands), Kahekili decided to re-locate his court to Wailuku.

With the help of his nephew Kahahana, who was also a land-holder of Waihee, Kahekili contrived to find cause to battle Ke'eumoku. To this end he was successful, causing Ke'eumoku, Namahana, her mother, two brothers and a considerable following of chiefs and retainers to flee to Molokai. This did not stop Kahekili who invaded Molokai with a large force, and once again defeated Ke'eumoku. Barely escaping, Ke'eumoku, Namahana and their entourage fled to Hāna which was still under the control of Hawai'i Island. There he was forgiven by Kalaniopu'u and given shelter by Mahihelelima, governor of the Hāna district (Kalākaua 1888/1990:357-358). While in Hāna, Namahana (I) gave birth to Ka'ahumanu in 1768 (Kalākaua 1888/1990:359) in a cave at the base of Pu'u Kauiki; she would later play a pivotal role in the history of Hawai'i.

During this period the socio-political intrigue continued to affect all islands including Kaua'i.

On O'ahu, Kūmahana, who was Pele-i'ō-hōlani's regent, proved himself to be an entirely unsatisfactory ruler. The O'ahu chiefs rebelled against him and sent Kūmahana, his wives, and children into exile on Kaua'i. Pele-i'ō-hōlani returned posthaste from his skirmishes against Kahekili on Maui to renew his claim to O'ahu. Kahekili...took this opportunity to lead his forces once again against those of Pele-i'ō-hōlani. After several battles, Kahekili was victorious. To consolidate his rule, he married his sister Kalola to Ka-lani-'opu'u of Hawai'i in the hopes that he would either help by sending men and arms or at least, remain indifferent to the situation.... From O'ahu, Pele-i'ō-hōlani sent Ka-neoneo to join him to help stem Kahekili.... This left Ka-maka-helei vulnerable. Although she was the nominal ruler of Kaua'i, her uncle Kūmahana began to make his moves to take over her government (Wichman 2003:93).

Kahekili...was quick to realize the opportunity this presented to neutralize Kaua'i. He sent his young half-brother Ka'eo-kū-lani to Kaua'i to woo Ka-maka-helei. Ka'eo-kū-lani was successful...since she was nine years older than Ka'eo-kū-lani, she did not expect to bear any more children, and her oldest son, Keawe, was named heir to the kingdom.... By this time, all of Maui, Moloka'i and Lāna'i were under the rule of Kahekili who had succeeded in taking them

from Pele-i`ō-hōlani. He was gearing up for an invasion of O`ahu where Pele-i`ō-hōlani, now a very old man, had turned over the government to his grandson Ka-neoneo (Wichman 2003:93-94).

In 1775 Kalani`opu`u, son of Ka-lani-nui-I-a-mamao (whom the *Kumulipo* was composed for) and his forces in Hāna raided and severely destroyed the neighboring Kaupō district, before continuing several more raids on the islands of Molokai, Lāna`i, Kaho`olawe and parts of West Maui. He returned again in 1776 and for several years later, raiding and treating the *maka`āinana* cruelly.

The Alapa, the fierce fighting men of Kalani`opu`u, were defeated; only two men escaped. The chiefs and fighting men of Kalani`opu`u wanted to continue; “tomorrow we will drink the waters of Wailuku and rest in the shade of Hekuawa.” Ka-hekili prepared for the “great battle” which took place on the sand hills between Waikapu and Wailuku; Ka-hahana, now ruling chief of O`ahu and Molokai came to his aid.

Kahekili stopped that war and made peace at the request of his sister Ka-lola, but a few years later Kalani`opu`u once again sailed to ravage the lands of Maui and Lāna`i. It was during this war that Kamehameha I, nephew of Ka-lani`opu`u was noticed as a great and brave warrior by both sides.

In January 1778 Cook landed in Waimea, Kaua`i and the culture of old Hawai`i began its spiraling change (see Day 1992). Fishermen off of Koloa, Kaua`i first saw the ship *Discovery* and rushed to tell Kaua`i *ali`i nui* Ka-maka-helei and Ka`eo-kū-lani. The *kahuna nui* Kū`ohu declared “That can be nothing else than the *heiau* of the god Lono. In the center is the tower of the demi-god Ke-o-lewa, and there in the back is the place of sacrifice at the altar” (Wichman 2003:94; see also Kamakau 1961:92-96). However, after several days of observation the *kahuna* concluded that these were not gods, but men. He said they were like the two white priests who had come to the islands when Paumakua was living and they were like the *haole* Kū-ali`i had seen on his travels less than a hundred years earlier (Wichman 2003:94). According to Captain Clerke, he was visited by a young chief named Kaneoneo; up to this time “no chief had come to see either Clerke or Cook” (Beaglehole 1967:38 In Kikuchi et al 1978:8). However, according to Wichman (2003) and Kamakau (1961:93-96) Ka-neoneo was now on O`ahu, replaced by Ka`eo-kū-lani as husband of Ka-maka-helei, granddaughter of Pele-i`ō-hōlani.

[Ka-maka-helei] sent three men on board to see what this strange ship really was and to assess those on board. These three were *kahuna* Kū`ohu, wearing his *lei palaoa* (necklace of woven human hair holding a hook of carved whale ivory); chief Kāne-a-ka-ho`owaha, and chief Kī`i-kīkī who was Ka`eo-kū-lani’s trusted man who had come with him from Maui.... Captain Cook gave Kū`ohu a dagger, a gift beyond price. It was the first gift from Western civilization to Hawai`i, and it was considered an omen.... Kī`i-kīkī reported back to Ka`eo-kū-lani and described the dagger. Ka-pupu`u, one of the guards surrounding Ka`eo-kū-lani...went out to the ship and saw quantities of iron things just lying about on deck. He grabbed as many pieces as he could and threw them into his canoe. One of the ship’s guards raised his rifle and shot Ka-pupu`u dead. He was the first Hawaiian to die by a bullet....

Some chiefs thought that Captain Cook should be put to death for killing Ka-pupu`u but the *kahuna* Kū`ohu said “No they were not to blame...Kapupu`u was to blame, for he went to steal even though our *ali`i nui* had forbidden it.” The following day Captain Cook came ashore for the first time. His longboat landed at the mouth of the Waimea River, on the beach of Luhi beside Lā`au-`ōkala point. He was greeted by a huge crowd of people pushing and shoving to get a look at this...living god come among them. People had come from Nāpali, Mānā, and Kīpū like a rushing stream during the night.

Captain Cook wandered about Waimea for a time before returning to his ship.... Ka-maka-helei presented gifts to Cook: hogs, chickens, bananas, taro, sweet potatoes, sugarcane, yams, fine mats, and tapa cloth. In return Cook presented them with cloth, iron, a sword, knives, bead necklaces, and mirrors. Then Ka-maka-helei offered Cook her own daughter, Lele-mahoe-lani. According to the Kaua`i source of this story, she spent the night on board with Cook. She left the following morning laden with presents (Wichman 2003:95-96).

Cook also gave the chiefs some goats (Beaglehole 1974:677 In Mills 1996:72), sheep and a new breed of pigs (Joesting 1984:199). After visiting Hawaii Island Cook left Hawai`i for several months, but returned later in the year. Kalani`opu`u was fighting Kahekili's forces in Wailua, Maui on November 19, 1778 when Cook's ship was sighted on his return trip to the islands. Kalaniopu`u visited Cook on the *Resolution*, while Kahekili visited Clerke on the *Discovery* (Kuykendall and Day 1976:16). When Cook sailed into Kealahou Bay on January 17, 1779, Kalani`opu`u was still fighting Kahekili on Maui. At this time Kahekili's brother, Kaeo was ruling chief of Kaua`i [co-ruler with Ka-maka-helei, granddaughter of Pele-i`ō-hōlani]; Kahekili's nephew Ka-hahana of O`ahu and Molokai; Kalaniopu`u of Hawai`i and Hāna [eastern Maui]; and Kahekili of western Maui, Lāna`i and Kaho`olawe (Kamakau, 1992:84-86, 92, 97-98). On January 25<sup>th</sup> Kalaniopu`u visited Cook again at Kealahou Bay, presenting him with several feather cloaks. By February Cook's scheme to kidnap Kalaniopu`u as a hostage were thwarted and Cook was killed following a skirmish over a stolen cutter (Kuykendall and Day 1976:18). His ships and crew visited Kauai once more (1799) after Cook's death. A battle had taken place the day before and warriors had been killed. It was also evident that venereal disease had spread throughout the island as a result of their first visit to the island (King 1967: part 2:585-586 In Mills 1996:78).

#### On Kauai:

In 1780, Ka-maka-helei gave birth to another son, Ka-umu-ali`i. The situation on Maui grew uncomfortable for Kahekili. He sent a message to his brother Ka`eo-kū-lani to return to Maui. Ka`eo-kū-lani brought his two trusted counselors, Ki`i-kīkī and Kai`awa with him. Ka-umu-ali`i, his son with Ka-maka-helei, was declared heir to Kaua`i, passing over his older brother half-brother, Keawe (Wichman 2003:96-97).

The warring between the Hawai`i and Maui forces continued. On his way to Kona from Ka`u, Kalani`opu`u was taken ill. He went instead to Ka`iliki`i at Waio`ahukini in Pakini where he died in January 1782. In 1781 a few months before the death of Kalani`opu`u, when Kahekili heard how ill Kalaniopu`u was, he split his forces and sent them through the south-eastern Kaupō Gap and the north-eastern Ko`olau Gap into Hāna. After damming and diverting the supply of spring water to Pu`u Kau`iki, the Hawai`i chiefs were finally defeated, and the Maui *ali`i nui* regained control of Hāna in 1782 (Kamakau, 1992:84-86; 110, 115-116; Fornander 1900: Vol II 146-7, 150, 216).

But what became of Ke`eumoku and his family [wife Namahana and daughter Ka`ahumanu], whose home for years had been the hills of Hāna? Learning of the meditated invasion of the district, and unwilling to trust himself to the mercy of Kahekili, Ke`eumoku fled with his family to the almost barren island of Kahoolawe, where he lived in seclusion until after the fall of Kauwiki and death of Kalaniopu`u, when he boldly returned to Hawai`i, quietly settled on his old and inalienable estates at Kapalilua, in South Kona, and awaited the development of events, which he perceived were rapidly and irresistibly tending toward wide-spread revolution and disorder. For more than fifteen years he had heard the clash of arms only at a distance, and he yearned for the shouts of battle and the music of marching columns (Kalākau 1888/1990:361).

Kahekili reclaimed Hāna, then through war and trickery went on to gain control of all the islands except Hawai`i (Kamakau 1992:116, 128-141).

The O`ahu chief [Ka-hahana, nephew and foster son of Kahekili] was living in Nu`uanu Valley above Honolulu when he received word that Ka-hekili had landed on the beaches with a large fleet of war canoes and was gathering his warriors about him for an attack on the defenders of O`ahu. In January 1783, a decisive battle was fought. Ka`hekili's wife, Kau-wahine, who was also a noted fighter, took part in this battle.... Confusion seized the ranks; the warriors of Ka-hahana were dispersed while he and his wife fled to the forest. Thus, O`ahu and Molokai were taken by Ka-hekili.... [However] fighting erupted on his home island of Maui among minor chiefs... [along with] the growing threat from Hawai`i.... Kahekili's son and designated heir, Ka-lani-kū-pule, was dispatched to Wailuku to prepare for the coming attack. Ka-lani-kū-pule took with him

Maui's war leaders and Ka-hekili's best warriors, the battle-scarred veterans of the war on O`ahu (Speakman 2001:40-41).

In early 1790 when Captain George Vancouver made his first stop in the Hawaiian Islands he was told that Kalaniopu`u was dead; Hawai`i was ruled by Keoua Kuahu`ula (half-brother of Kiwala`o), his uncle Keawe-mau-hili, and Keoua's cousin, Kamehameha (Day 1984:77). Vancouver went on to trade with Kalanikūpule in Waikīkī. He then found that the ruling chief of Kaua`i, Ka-umu-ali`i, was a mere child; his father Ka`eo was on Maui with Kahekili. Vancouver also noted a decrease in the population and the number of chiefs since the arrival of Cook (Kamakau 1992: 162-163), but foreigners continued to arrive.

In spite of the on-going battles, the foreign explorers and merchants were not deterred; foreign vessels continued to come to the islands.

By 1790 several other foreign ships also visited the islands, helping to establish them as a "familiar resort for the fur traders" and as a "port of call and wintering place . . . for those engaged in the more general trade which grew up between Asia and the west coast of North and South America." [21] These voyagers included English Captains Portlock, Dixon, and Meares (seeking commercial development), and French naval vessels under the command of La Perouse.... Because of their excellent harbors and strategic location nearly equidistant from the coasts of the Orient and North America, the Hawaiian Islands quickly became a primary stop on the Pacific trade routes. These islands contained more cultivated land than most of the other Pacific islands, forming "an oasis in the ocean desert" (Greene 1993: Chap II).

By 1790 Kamehameha I had gained enough control of the island of Hawai`i from his uncles and cousins that he could leave to join the war parties on Maui. His canoe fleet "beached at Hāna and extended from Hamoa to Kawaipapa" to battle Kalanikūpule, son of Kahekili (who now ruled from O`ahu). After several battles along the East Maui coast, Kamehameha's forces reached Wailuku where the "great battle" took place. This would be the beginning of the end of independent ruling chiefs because of the inequity of battle strategy and weaponry. Kamehameha had brought a cannon from the *Eleanora* along with her captain, Isaac Davis, and crewmember John Young, who were now his *aikane punahele* (favorites) and advisors (Kamakau 1992:147-148). This battle of 1790 was known as the *Battle of Kepaniwai* where the bodies of fallen warriors dammed `Īao Stream in Wailuku or "water of destruction" (Engebretson 2000:2).

While Kamehameha was at Wailuku with his followers he heard of Ka-lola's being on Molokai with her daughters and granddaughter and he sent word by Kikane for her not to proceed to O`ahu as he was coming to escort her to Hawai`i. He sailed with a great company, among them Ke`eaumoku, Keawe-a-heulu, Ka-me`e-ia-moku, and Ka-manawa, the brothers of Ka-lola, and landed at Kaunakakai. They met Ka-lola at Kalama`ula and, when Kamehameha saw how ill she was and of an incurable disease according to kahuna's diagnosis, he asked, "Since you are so ill and perhaps about to die, will you permit me to take my royal daughter and my sisters [Ke-opu-olani, her mother Ke-ku`i-apo-iwa and aunt Ka-lani-hau-io-kikilo] to Hawai`i to rule as chiefs?" Kalola answered, "If I die, the girl and the sisters are yours." Then Kamehameha and all the chiefs waited until the death of Ka-lola [widow of Ka-lani-`opu`u; sister of Kahekili and highest ranking *ali`i*] (Kamakau 1992:149).

While Kamehameha was on Molokai waiting for the passing of Kalola, *kapu* chiefess of Maui, he sent two messengers to O`ahu; one to Kahekili and one to find the Kaua`i *kahuna* Kapoukahi of the *kahuna* order Huluhonua, as he was skilled in the art of reading omens and signs. It was he who advised that if Kamehameha wanted to rule over all the islands that he should build a great *heiau* at Pu`ukohola at Kawaihae (Kamakau 1992:149-150). The messenger to Kahekili threw down two *maika* stones, a black one and a white one. Kahekili asked if Kamehameha was coming to O`ahu to wage war and the messenger said yes. Kahekili then asked him where he would land. The messenger told Kahekili of the landing places that were advised and who advised Kamehameha. After commenting on each suggestion, Kahekili imparted a message for Kamehameha:



Go back and tell Kamehameha to return to Hawai`i and watch, and when the black tapa covers Kahekili and the black pig rests at his nose, then is the time to cast stones. Then, when the light is snuffed out at Kahiki that is the time to come and take the land (Kamakau 1992:150).

While on Molokai Kamehameha heard that his cousin Keoua Kuahu`ula, Ka`u chief, had waged war on other chiefs of Hawai`i Island and had killed Keawe-ma`u-hili, the Hilo chief who had aided Kamehameha in the Maui battle, in spite of an agreement with Keoua that he wouldn't "fight the sons of Kahekili." Keoua took over Hilo then went on to Waipi`o where he destroyed the fishponds and plundered the taro patches and robbed the people from Waipi`o to Waimea, then went on to ravage Kohala. Kamehameha returned to Hawai`i Island from Molokai and proceeded to wage war on Keoua. Several battles later, both sides could not gain an upper hand. Although Keoua's warriors seized the muskets of Kamehameha, they didn't have the powder to make them work. It took an act of nature or the goddess Pele to turn the tide as Keoua's army was annihilated by a volcano eruption (Kamakau 1992:151-152).

In the meantime, Ka`eo-kū-lani, ruling chief of Kaua`i and brother of Kahekili, heard what happened to his nephew Kalanikūpule on Maui and how they narrowly escaped death. He heard "how the waters of `Āo had been choked with the bodies of the slain in this war." He was so upset that he decided to wage war against Kamehameha (Kamakau 1992:148, 159). The shift in style of warfare that Kamehameha started during the *Battle of Kepaniwai* in Wailuku, Maui continued.

[Ka`eo-ku-lani] set out with [nephew] Pe`ape`a, son of Kamehameha-nui, his counselor of war, Ki`ikiki`i, Kai`awa, and chiefs, warriors, and paddlers, all well armed with muskets and weapons of all kinds, and with his two man-eating dogs. (He also took with him) Maka`eha and Mr. Mare Amara [foreigner], a man skillful in the use of arms who acted as his gunner (Kamakau 1992:159).

On O`ahu Ka`eo met up with his brother Kahekili, ruling chief of O`ahu, Maui, Molokai and Lāna`i and persuaded Kahekili to join him in the war against Kamehameha. Kahekili left his son Kalanikūpule in charge of O`ahu and left for Molokai.

The war party landed at Kaunakakai on Molokai, and when the Kaua`i chief saw for the first time, by the ovens they had left, the size of the camp which Kamehameha had occupied he said, "Where a big squid digs itself a hole, there crab shells are heaped at the opening." Upon their reaching Maui...the army camped at Wailuku and of Waiehu the Kaua`i chief remarked, "Here is the land of the warrior to whom Kamehameha owes his kingdom (alluding to Ke`eaumoku whose wife Namahana, brought him the land of Waiehu)... Waiehu fell to Ki`iki`i and it was, alas! The Kaua`i people who ate the poi of Waiehu.... Kahekili gave some of the land of Maui to the ruling chief of Kaua`i to be divided among his men.... This caused discontent among the chiefs of Maui, who had thus to lose some of their land, and they rose against the Kaua`i chief. A battle was fought at Paukukalo adjoining Waiehu while some of the people were out surfing (Kamakau 1992:159-160).

It is not clear what happened right after that battle because what follows is Kahekili leaving Maui with his warriors from Kaupō; while Ka`eo sails for Hawai`i with his warriors from Hāna. However, they both land in Waipi`o and Ka`eo keeps his vow and "wantonly destroyed everything in Waipi`o" including the sacred places and the tabu threshold of Liloa...not even Keoua who has passed through there the year before and destroyed the land and the food, had made such wanton destruction" (Kamakau 1992:160). Kahekili in the meantime goes on to Halawa in Kohala where fighting occurs, then sails from Halawa and joins Ka`eo in Waipi`o. When Kamehameha hears about Ka`eo and Kahekili, he sails with John Young and Isaac Davis and meets up with Ka`eo and Kahekili at Waimanu cliffs. The battle of 1791 called *Kepuwaha`ula*, was a stand-off with loss to both sides. Kahekili left and returned to Maui (Kamakau 1992:161-162).

Kamehameha decided to take the advice of the Kaua`i *kahuna* Kapoukahi and build a *heiau* at Pu`ukohola. Kamehameha personally helped to construct the *heiau* Pu`u Koholā in the summer of 1791, to assure his victory over his cousin, Keoua Kuahu`ula, son of his father's older brother. Messengers were sent to Keoua to ask him to come to the *heiau* so that there would be peace between the cousins. Keoua left Ka`u with a fleet of twenty-seven canoes. As he sailed into Kawaihae Bay at Mailekini, Ke`eaumoku thrust a spear at Keoua, which he dodged, snatched and thrust back. Suddenly muskets were fired from the shore, leaving Keoua and all the others from his canoe dead. The rest of Keoua's warriors were spared when Kamehameha declared the law of the broken paddle [*Mamalahoa*] (Day 1984:77; Kamakau 1992:154-157).

Vancouver returned to Hawai`i Island in February 1793 to find all the chiefs wanting guns and powder. Instead he gave Kamehameha a bull and heifer from California and asked that all the chiefs stop fighting. In March he sailed to Lahaina and saw Kahekili who was now an old man. He also asked Kahekili to stop the fighting. Kahekili said that "it was not right for the chiefs of Hawai`i to raid Maui and rob and pillage without cause." He told Vancouver he should stay and guard him against further wars. Vancouver went on to O`ahu to see Kalanikūpule, then to Kaua`i before going to North America. It was the last time Vancouver saw Kahekili who died later that year at the age of eighty-seven, after becoming ill and returning to Waikīkī, O`ahu. His bones were carried by his twin brothers Ka-me`e-ia-moku and Kamanawa and hidden in a secret cave in Kaloko, North Kona. His gods were Ku-ke-olo-ewa, Kuho`one`enu`u, Kalai-pahoa, Ololupe, Kameha`ikana, Kala-mai-nu`u, Kiha-wahine, Haumea and Wali-nu`u (Kamakau 1992:164-166).

On Vancouver's third visit to the islands in 1794, Kamehameha I was ruling chief of Hawai`i; Ka`eo was ruling chief of Maui, Molokai and Lāna`i; Kalanikūpule of O`ahu and Ka-umu-ali`i of Kaua`i. Then Ka`eo got tired of Maui and wanted to go back to Kaua`i. Not knowing what his uncle's plans were, Kalanikūpule prepared for war. A few skirmishes and reconciliations took place that year on O`ahu, but as Ka`eo prepared to embark to Kaua`i from West O`ahu he discovered a conspiracy among some of his chiefs, principally his two counselors Ki-Kīkī and Kai`awa, who were planning to throw him overboard in mid-ocean. He decided it was better to die in battle, then alone in the ocean so he dismantled his canoe and proceeded to make war on Kalanikūpule. Ka`eo won a couple of skirmishes, but in the end was defeated in Ai`ea by Kalanikūpule who was aided by foreign vessels in Pearl Harbor, guarding the shores with guns and cannons. Ka`eo died in mid-December 1794 (Kamakau 1992:168-169).

The captain and some of his crew of the foreign vessels were then tricked and killed. Kalanikūpule confiscated the vessels and munitions with the intention of sailing to Hawai`i to overtake Kamehameha. Just one day out they all got seasick and had to return to Waikīkī with Kalanikūpule and his wife still on board. The foreigners sailed off during the night, but put Kalanikūpule and his wife aboard a canoe and let them go back to O`ahu. The foreigners then sailed for Hawai`i Island to tell Kamehameha what happened and to give him all the munitions on board (Kamakau 1992:170-171).

Demographic trends during the Proto-Historic Period indicate a population reduction in some areas, yet show increases in others, with relatively little change in material culture. There was a continued trend in craft and status material, intensification of agriculture, *ali`i* (chief) controlled aquaculture, upland residential sites, and oral records [*mo`olelo*] from that period were rich in information. The Ku cult, *luakini heiau*, and the *kapu* (restriction or regulation) system were at their peak, although Western influence was altering the cultural fabric of the islands (Kirch 1985:308, Kent 1983:13). By 1794 American, English, Irish, Portuguese, Genoese, and Chinese foreigners were living in the islands (Day 1992:23-25). Between 1778 and 1794 at least 21 ships from various countries had visited Kaua`i for provisions and to trade (Mills 1996:68).

**B-5. Early Historic Period.** The Early Historic Period (AD 1795-1900) is marked by very significant events. Kamehameha left Hawai'i Island in early 1795 and landed in Lahaina, taking over all the food patches and cane fields before leaving for Molokai where the "whole coast from Kawela to Kalama'ula was covered by canoes. There on Molokai he awaited for the proper time to sail for O'ahu, where the chiefs and warriors of Kalanikūpule were slaughtered.... In the *Battle of Nu'uaniu* O'ahu, Molokai, and Lāna'i were conquered" (Kamakau 1992:170-171). Kamehameha took Keku'iapoiwa Liliha and Kalanikauiaka'alaneo to O'ahu to witness this battle of Nu'uaniu Pali and the defeat of O'ahu. It was during this trip that Kalanikauiaka'alaneo was given the name Ke'ōpūolani (Klieger 1998:21).

During this Early Historic Period, "between one hundred and two hundred foreigners lived in the islands.... Hardly a ship touched without leaving a deserter or two behind.... A white man automatically ranked as a chief, although he could not own land in fee simple or build a permanent house...[and] they took Hawaiian wives" (Day 1992:25).

In 1802 and 1803, Kamehameha I and his court resided in Lahaina where he had a two-story brick house built (Alexander 1953:63). Lahaina became the capitol of the islands (except for Kaua'i). This was short-lived, however, as Kamehameha I moved to Honolulu in 1803 (Klieger 1998:22). In 1802 on the island of Lāna'i a Chinese man named Wong Tze Chun is believed to have been the first person to mill sugar cane (WSC 1962:7); he came to Hawai'i as part of the sandalwood industry. In 1803 the first horses landed in Hawai'i from California (WSC 1962:7).

Hawai'i's culture and economy continued to change radically as capitalism and industry established a firm foothold. In 1810, Kaua'i *ali'i nui* Ka-umu-ali'i ceded his kingdom of Kaua'i, Ni'ihau, Lehua and Ka'ula to Kamehameha (see more C-3) although Ka-umu-ali'i continued to have autonomy over the island. At this time the sandalwood trade in Hawai'i was flourishing; the Fijian and Marquesan supply of sandalwood was exhausted. Sandalwood came under the personal control of Kamehameha I, who had become "a fervent consumer of high-priced western goods." The sandalwood industry was thriving to the point where the subsistence levels declined, as farmers and fishermen spent most of their time logging, causing famine to set in (Kent 1983:17-20). Hawai'i became known as "Tan Heong Shan" or the "sandalwood mountains" to entrepreneurs of Southern China, who first came as early as 1794 in search of this prized wood (WSC 1962:41).

Although white men from various countries stayed over in temporary houses, it wasn't until 1816 when a large structure (80 x 100 meters) was constructed, primarily under the supervision of employees of the Russian-American Company (RAC), on the eastern banks of the Waimea River; it was known as *Hippo* or *Fort Elizabeth*—made of stone and adobe apparently with the help of Kaumuali'i's wives and over 300 "native Hawaiians" (Mills 1996:145). Before its completion the employees of the RAC were expelled from the island; the fort was then completed by Kaumuali'i, who had "acquired one of the most important symbols of European power" (Mills 1996:149, 151). However, Kamehameha continued to exercise his suzerainty by collecting tribute from Kauai in the form of sandalwood, hogs and vegetables (Mills 1996:153).

On May 8, 1819, Kamehameha I died at Kamakahonu, Kailua, Hawai'i Island. Following his death, his son and heir Liholiho banished the *kapu* system at the advice of his queen mother Ke'ōpūolani and queen regent Ka'ahumanu (Kamakau, 1992:210, 222). On October 1819, seventeen Protestant missionaries set sail from Boston to Hawai'i. The missionaries arrived in Kailua-Kona on March 30, 1820, to a markedly changed culture; one with a "religious" void, and a growing appetite for western products. They brought with them George Humehume, the 21-year old son of Kaumuali'i, who had been living in the United States since he was six or seven--sent there by his father so he could receive an education (Mills 1996:155). Humehume finally returned to Waimea, Kaua'i in May, 1820 where his father Kaumuali'i and the queen Debra Kapule, primarily resided. Kaumuali'i gave Humehume the district of Waimea, including *Hipo*. The immediate area was the most cultivated, and the area between Waimea and Hanapepe was "largely uncultivated" (Damon 1925:205-206, In Mills 1996:160). Shortly after arriving

Humehume married Betty, a daughter of Isaac Davis whom he met on Hawaii Island (Mills 1996:163).

The missionaries quickly started missions on all of the islands, at the objection of the trading community (Mills 1996:158). In 1820 Lahaina was proclaimed the capital of Hawai'i; this lasted until 1845 (Wisecarver 1983:18) when the court moved to Honolulu. Ka'ahumanu, the *kuhina nui* of Kamehameha II (Liholiho) was not automatically a convert to Christianity, however, when she finally embraced it, it was with tremendous zeal. Missionary Bingham (1847:162) wrote an entry in his journal in 1822:

Kaahumanu with husband made tour of windward islands with a large retinue, including sister Namahana [II], her brother-in-law Laanui.... and while on this pleasure-seeking tour, searched out and destroyed many idols. On the 4<sup>th</sup> of June, she sent for Kalaipahoa, the so-called poison deity, and caused it to be publicly burnt, with nine other images. On the 26<sup>th</sup> of the same month, one hundred and two idols, collected from different parts of Hawai'i, where they had been hidden 'in the holes of the rocks and caves of the earth,'... [were] committed to flames.

In 1821 Liholiho paid a visit to Kaua'i, intending to resolve the issue of his sovereignty over all the islands. Kaumuali'i met him at Waimea, making a pledge to him the same as he had done to his father; he offered Liholiho the fort, his vessels, his munitions and even the island. Liholiho told him to keep the island. But Liholiho did take one of Kaumuali'i's wives. After spending a couple of months on the island, Liholiho invited Kaumuali'i onto his ship. When they had settled on board, Liholiho gave his men a signal to set sail, thus "kidnapping" Kaumuali'i. A few after they arrived on O'ahu, Ka'ahumanu married her cousin, Kaumuali'i (Mills 1996:171-172) [her mother was the half-sister of his father]. Ka'ahumanu, then married one of Kaumuali'i's sons, cementing her position of power. Kaumuali'i died a few years later in 1824 (Mills 1996:173).

In August 1824, after Ka'umuali'i's death, a skirmish took place at Fort Elizabeth that included his oldest son George Humehume who was married to a daughter of Isaac Davis. He wanted revenge and felt that his father had been poisoned. Kalanimoku had arrived to check on Kauai and was faced with some opposition. He sent back to Oahu for reinforcements; they came led by Maui governor Hoapili, a former warrior and counselor to Kamehameha I, whose warriors were more experienced and had more weapons. The rebel warriors, including George Humehume, held a position overlooking Hanapepe Valley. They were subsequently outnumbered and defeated by the forces of Hoapili and his men who came up from Waimea to Hanapepe and Wahiawa. George, with his wife and infant daughter fled to the mountains on horseback. They were later captured and shipped off to Oahu, where he died two years later at age twenty-nine (Joesting 1984:104-111).

In the 1820s and 1830's other industries such as whaling, merchandising and sugar crept into Hawai'i. "For the first time Hawaiian masses were drawn to a cash economy as workers and producers." By 1825 most of the powerful chiefs/chiefs had become Protestant Christians. In the 1830s, first sugar plantation was established on Kaua'i in 1836 (Kent 1983:22, 23, 29). The 1840s heralded other changes as well. The Hawaiian government, with the aid of the missionaries, encouraged the sugar industry as well as other enterprises such coffee, cotton, rice, potatoes, and silk worms (Speakman 2001: 93).

In the mid-1840s a political act of the Hawaiian Kingdom government would change forever, the land tenure system in Hawai'i and have far-reaching effects. The historic land transformation process was an evolution of concepts brought about by fear, growing concerns of takeovers, and western influence regarding land possession. King Kamehameha III, in his mid-thirties, was persuaded by his *kuhina nui* and other advisors to take a course that would assure personal rights to land. One-third of all lands in the kingdom would be retained by the king; another one-third would go to *ali'i* as designated by the king; and the last one-third would be set aside for the *maka'ainana* or the people who looked after the land [native tenants or *kuleana* lands]. In 1846 he appointed a Board of Commissioners, commonly known as the Land Commissioners, to "confirm or reject all claims to land arising previously to the 10<sup>th</sup> day of December, AD 1845." Notices were frequently posted in *The Polynesian* (Moffat and Kirkpatrick, 1995). However, the legislature did not acknowledge this act until June 7, 1848 (Chinen 1958:16; Moffat and

Kirkpatrick 1995:48-49), known today as *The Great Mahele*. In 1850, the Kingdom government passed laws allowing foreigners to purchase fee simple lands (Speakman 2001:91).

In 1846 there were only eleven mills in Hawai'i manufacturing sugar and molasses; two on Kaua'i, three on Hawai'i Island and six on Maui (WSC 1962:10). The whaling industry was at its peak between 1846 and 1860 with almost 600 ships reaching Hawai'i ports in one year. But the late 1850s saw a decline in the whaling industry with the discovery of oil in Pennsylvania, the Civil War, and the sinking of at least forty whale ships by the Union to block the harbors; as well as the early freeze in the Bering Strait in 1871 which trapped thirty-three ships. Although the crews escaped, five hundred Hawaiian sailors returned home penniless (Speakman 2001:88-89).

Disease had a devastating affect on the population and the landscape, killing *ali'i* and *maka'ainana* alike; measles epidemics in 1848 and 1849, were followed by the horrendous smallpox epidemic in 1852-1853. Ten thousand people are said to have died of this disease in Hawai'i (Kamakau, 1992:411, 418). John Papa 'Ūi in *Fragments of Hawaiian History* (1984) talks about the impact of this disease and as *kahu* or guardian of several young *ali'i*, he had to take several of them off of O'ahu island. They just kept sailing from island to island and usually were not allowed to land as O'ahu was thought to be the source of the smallpox.

By 1858 at least 2,119 foreigners lived in Hawai'i. Many were merchants who traded with whalers, while the missionaries lived in various locations throughout the islands. The foreigners also included one hundred and eighty Chinese contract laborers from Hong Kong (Speakman 2001:109). Some "foreigners engaged in agricultural pursuits with the idea of reaping a profit from the land, in contrast with the Hawaiians, who carried on...subsistence agriculture" (Coulter 1971:11).

The U. S. Civil War of the 1860s brought about a boost for the sugar industry in Hawai'i as sugar plantations in the South were boycotted or destroyed (Speakman 2001:91-96). The rise in the number of plantations brought about a radical change in both the population in general, and the number and ratio of foreigners to native Hawaiians. As more and more labor was needed to accommodate the expanding industry, plantations sought laborers from several countries.

Statistics...show that far from being unsuited to plantation labor, or considered inefficient workers, Hawaiian labor was considered the best obtainable by many planters. As late as 1869 some plantations employed Hawaiian labor exclusively.... 'The true reason why there is a dearth of Hawaiian labor is the increase of the planting interests from some 2,000,000 of pounds in nine or ten years to 18 or 20,000,000, requiring from eight to ten times as many men now as then.' This source found more Hawaiians employed in such labor than ever before, and statistics for that year (1873) showed that out of 3,786 laborers employed on thirty-five plantations, 2,627 were Hawaiian men and 364 were Hawaiian women.... Nevertheless, the population decline was palpable and became a matter of public concern for the kings and their advisors, of the Hawaiian legislature, and of the sugar planters.... Immigration of labor from China and Japan [filled] the population and labor gap...it was from these two countries that the largest contingents of immigrants came, though supplemented by Caucasians, including Portuguese, and Filipinos, Koreans, Puerto Ricans, Germans, Pacific Islanders and many others.... In that period the population rose from 55,500 in 1876 to 154,000 in 1900. The following table shows the changes in percentages (Speakman 2001:107-108):

	1876	1900
Hawaiian & Part-Hawaiian	89.2%	26.0%
Caucasian	6.3%	17.5%
Oriental	4.5%	56.5%

The Overthrow of the Hawaiian Kingdom in 1893 and the subsequent annexation to the United States in 1898 (Daws 1974:289-290) heralded even more radical changes to the Hawaiian culture and to the local landscapes.

**B-6. Territorial History (AD 1900-1959).** In 1900 Hawai`i had a population totaling 154,000 of whom only 29,799 were pure Hawaiians, 7,857 part-Hawaiians and the rest of 116,244 consisting of many other races (Wisecarver 1983:13). This period saw Native Hawaiians running for Congress (Daws 1974 297); and much of the lands being sold in fee simple. The Organic Act was effective on June 14, 1900 and Hawai`i became a Territory of the United States; in 1901 the first Territorial Legislature convened and passed the first income tax law (WSC 1962:26). In the 1940s, World War II also had some lasting influence on lives and industries as young men left the islands by the hundreds, for the front lines abroad.

**B-7. Modern History (AD 1950-).** Post World War II brought about an influx of people and industries to Hawai`i, allowing the tourism industry and offshoot enterprises to flourish. Along with the rise of the tourism industry, and competing sugar markets abroad, the sugar companies saw a sharpening decline in business (the Sugar Acts of 1934 and 1937, and ILWU Strike of 1946 didn't help). 1950 marked the introduction of radiocarbon analysis which shifted the focus of study in archaeology to excavation as a primary method of data recovery, with a research focus on settlement patterns, subsistence, land and marine use. The 1950s and 1960s were the bleakest years for the sugar industry and it was becoming apparent that the sugar industry was beyond salvage (Kent 1983:107-108). More changes were soon to take place on the landscapes of Hawai`i.

In the 1960s, various federal and state environmental and historic preservation laws and regulations were passed, mandating surveys and impact studies of the landscape, prior to development. In 2000 Hawai`i Legislature passed an EIS amendment resolution which the governor signed as Act 50. This legislation has broadened the scope of environmental impact studies to include cultural impact studies to assure that traditional Hawaiian and other ethnic cultural practices are not adversely impacted, as vacant sugar fields give way to the ever-growing populations and expanding tourist and real-estate industries.

## C. Traditional Literature

The ethnographic works of the late 19<sup>th</sup> and early 20<sup>th</sup> century contribute a wealth of information that comprise the traditional literature--the *mo`olelo*, *oli*, and *mele*--as well as glimpses into snippets of time, and a part of the Hawaiian culture relatively forgotten. The genealogies handed down by oral tradition and later recorded for posterity, not only give a glimpse into the depth of the Hawaiian culture of old, they provide a permanent record of the links of notable Hawaiian family lines. The *mo`olelo* or legends allow *ka po`e kahiko*, the people of old, the *kupuna* or ancestor, to come alive, as their personalities, loves, and struggles are revealed. The *oli* (chants) and the *mele* (songs) not only give clues about the past, special people, and *wahi pana* or legendary places, they substantiate the magnitude of the language skills of *na kupuna kahiko* (the people of old).

**C-1. Genealogies.** *Po`e ku`auhau* or genealogy *kahuna* (masters) were very important people in the days of old. They not only kept the genealogical histories of chiefs "but of *kahunas*, seers, land experts, diviners, and the ancestry of commoners and slaves.... An expert genealogist was a favorite with a chief." During the time of 'Umi (ca. AD 1500-1600s) genealogies became *kapu* (restricted) to commoners, which is why there "were few who understood the art; but some genealogists survived to the time of Kamehameha and even down to the arrival of the missionaries" (Kamakau 1992:242).

Surviving genealogies illustrate that the ruling families of each island were interrelated quite extensively. The chiefs of O`ahu, Kaua`i, Hawai`i, Maui and Molokai had common ancestries. Families branched out, but conjoined several times in succeeding generations (Kamakau in McKinzie, 1983: xxv). Not only were the chiefs or *ali`i* related to each other, they were also related to the commoners. In *Ruling Chiefs*, Kamakau states that "there is no country person who did not have a chiefly ancestor" Kamakau (1992:4). In the following passage Kamakau (1992) explains how some of the *ali`i* were connected.

It is said that the chiefs of Hawai'i island were from Maui and from O'ahu and Molokai between the times of 'Aikanaka and Hanala'anui. Thus 'Aikanaka was the chief of Koali and Mu'olea in Hāna; Hema, the chief of Ka'uiki in Hāna; Kaha'i, the chief of 'Īao in Wailuku; Wahieloa, the chief of Papauluana in Kīpahulu. Laka the chief was born at 'Alae in Kīpahulu, Maui; he ruled in Ko'olaupoko, O'ahu; the site of his house, Hale'ula, was at Waikane, O'ahu. Lu'anū'u was born at Waimea, Kaua'i, and ruled that kingdom. Kamea was from Waikele, 'Ewa, O'ahu; Pohukaina was from Kahuku; Pau, that is Ka-pau-nui-kua-ōlohe, was from Kea'au in Wai'anae. Hua was from Lahaina, Maui...this is Hua the son of Kapua'i-manakū [Pohukaina] whose *heiau* was Luakona, near to Kapō-ulu. Huanuiikalāla'ila'i [son of Pau, that is Kapaunuihua'ōlohe] was born at Kawelo in Honolulu; Paumakua-a-Lonoho'onewa was born at Kua-a-'ohe, Ko'olaupoko, and rules there; Haho was born by the *kawa*, the leaping place, of Kua'ikua at the stream of Kua'ikua in Wahiwā. Palena [-i-Haho] was born on the hill of Ka'uiki, in Hāna, at the site Hānanaikū; he rules and died on O'ahu; his remains and also his stone are at Ka-lua-o-Palena in Kalihi on O'ahu. Hānala'a-nui and Hā nala'a-iki were the twin sons of Hī-ka-wai-nui and Palena; they were born at Kahinihina'ula, at Mokae and Hāmoa, and a certain *moku'āina* land was named after these boys. Lana-ka-wai [son of Hā anala'a-nui] was born at the *kawa* of Kua'ikua in Wahiwā, O'ahu (Kamakau, 1991:101).

Malo (1971) also wrote about the connection between the *maka'ainana* and the chiefs. "Commoners and *ali'i* were all descended from the same ancestor, Wakea and Papa" (Malo, 1971:52). This is evident in the genealogies. Genealogies were very important to the chiefs, because ranking was very important. The genealogies not only indicated rank, they ascertained a link to the gods. The following excerpt explains the idea and importance of rank and the role of genealogies:

Position in old Hawai'i, both social and political, depended in the first instance upon rank, and rank upon blood descent—hence the importance of genealogy as proof of high ancestry. Grades of rank were distinguished and divine honors paid to those chiefs alone who could show such an accumulation of inherited sacredness as to class with the gods among men...a child inherited from both parents.... The stories of usurping chiefs show how a successful inferior might seek intermarriage with a chiefess of rank in order that his heir might be in a better position to succeed his parent as ruling chief...a virgin wife must be taken in order to be sure of child's paternity—hence the careful guarding of a highborn girl's virginity (Beckwith: 1990:11).

One could defend and/or prove their rank by knowing or having one's genealogist recite one's genealogy. "To the Hawaiians, genealogies were the indispensable proof of personal status. Chiefs traced their genealogies through the main lines of 'Ulu, Nana'ulu, and Pili, which all converged at Wakea and Papa (Barrere, 1969:24). Two well-known genealogy chants are the *Kumuhonua* and the *Kumulipo*.

**C-1-a. Kumuhonua.** The *Kumuhonua*, first published by Fornander in 1878, in *The Polynesian Race* Vol. I was based on information from Kamakau and Kepelino. Kumuhonua, the man, was of the Nanaulu line, and the older brother of Olopana and Moikeha (McKinzie 1986:14-15). However, the birth chant *Kumuhonua* has been a subject of controversy (Barrere, 1969: i). Some of the *Kumuhonua* legends were recorded by Kamakau and Kepelino between the years 1865 and 1869, however, the 'genealogy' of the *Kumuhonua*, published by Fornander, was given to him "to provide credibility to the legends...this 'genealogy' (was) constructed from previously existing genealogies—the *Ololo (Kumuhonua)* and the *Paliku (Hulihonua)* which are found in the *Kumulipo* chant (see Beckwith 1951:230-234) and interpolations of their own invention" (Barrere, 1969:1).

**C-1-b. Kumulipo.** A better example is the famous Creation Chant *The Kumulipo*. Feher (1969) has several notable Hawaiian scholars write passages in his *Kumulipo: Hawaiian Hymn of Creation-Visual Perspectives* by Joseph Feher. In the *Introduction* Momi Naughton states "The *Kumulipo* belongs to a category of sacred chants known as *pule ho'ola'a ali'i*, 'prayer to sanctify the chief,' which was recited to honor a new-born chief (Feher, 1969:1).

In her passage, Edith McKinzie states:

“The *Kumulipo* is a historical genealogical chant that was composed by the court historians of King Keaweikekahiali‘iokamoku of the island of Hawai‘i about 1700 AD in honor of his first born son Kalani-nui-‘I-a-mamao. This important chant honors his birth and shows the genealogical descent of both the *ali‘i* (chiefs) and the *maka‘ainana* (commoners) from the gods, in particular Wakea....” (Feher, 1969:1).

In a passage by Roger T. Ames, he corroborates this idea and states that “what is of particular humanistic interest is the way in which the *Kumulipo* as a repository of cultural authority served Hawaiian society in transmitting its cultural legacy and organizing its community. In doing so, it combines both a linear sense of temporal development and the richness of one particular moment in time” (Feher, 1969:3).

**C-1-c. Hawaiian Genealogies.** Edith McKinzie completed the first volume of *Hawaiian Genealogies* in 1883, based on genealogy articles translated from 19<sup>th</sup> Century Hawaiian newspapers such as *Ka Nonanona* and *Ka Nūpepe Kū`oko`a* in the late 19<sup>th</sup> century and early 20<sup>th</sup> century. These articles were in response to a call to preserve the Hawaiian heritage. Some of the information came from Malo’s (1838) *Hawaiian History*, and in Fornander’s (1880), *The Polynesian Race* (Book I) (McKinzie, 1983:1).

Using thirty years to account for one generation, McKinzie determined that Wakea was born in A.D. 190; Umi-a-Liloa in A.D. 1450; Keawekehahialiokamoku in A.D. 1650, Kalanihuiikupuapaikalanui Keoua in A.D. 1710; and Kamehameha I in A.D. 1740” (McKinzie, 1983:12). Volume Two of *Hawaiian Genealogies* was published in 1986 and consists of information extracted from genealogical lists published in thirteen Hawaiian language newspapers from 1858 to 1920. It compliments genealogies found in other works, such as Fornander’s (1880) *An Account of the Polynesian Race...* and David Malo’s *Hawaiian Antiquities* (McKinzie, 1986: v).

The following excerpt is from Kamakau’s article in *Ka Nūpepe Kū`oko`a* October 7, 1865, and was translated by McKinzie (1986). It illustrates some of the mid-19<sup>th</sup> century sentiment regarding genealogies:

To the commoners, a genealogy was of no value because their parents forbid (sic) it lest comparisons should occur and country children be born and rise up as chiefs. Therefore, the children of the commoners were not taught beyond father, mother, and perhaps grandparents.... To us, the people of this time, there is no value of this thing of a chiefly lineage; we have no great interest in it. But in our thoughts it is of great value. We have entered into discussion of it; the chiefs valued the chiefs and ancestors; and we also value our knowledge of it. Because it was forbidden to the commoners, they were not to know this. However, due to the rise of wisdom and skill of the children of the commoners, therefore, all of the ranking privileges were no longer restricted; it was only lifted. What remains of the ancestors is something of value (McKinzie 1986:18-19).

**C-2. Mo‘olelo.** Legends, stories or *mo‘olelo* are a great cultural resource as well as entertaining. Leib and Day (1979) state in their annotated bibliography of Hawaiian legends, that legends “are a kind of rough history.” They noted Luamala’s idea of the value of legend and myth in the serious study of a culture and her following quote. “To a specialist in mythology, a myth incident or episode is as objective a unit as an axe, and the differences and similarities of these units can be observed equally clearly and scientifically.” Leib and Day also expressed concern about authenticity, and sometimes found it difficult to determine if a legend was a primary or secondary source. The following definitions of terminology, including the Hawaiian classification of prose tales--*mo‘olelo* or *ka‘ao*, come from their work (Leib and Day 1979: xii, 1):

<i>Tradition</i>	used to refer to that which is handed down orally in the way of folklore
<i>Folklore</i>	a rather inclusive term, covering the beliefs, proverbs, customs, and literature (both prose and poetry) of a people



<i>Myth</i>	a story of the doings of godlike beings
<i>Legend</i>	deals with human beings and used interchangeably with 'myth'... because the collectors and translators of the tales often failed to make the strict distinction
<i>Ka'ao</i>	"pure fiction"
<i>Mo'olelo</i>	deals with historical matters and somewhat didactic in purpose... included tales of the gods, as well as tales of historical personages... many have recurring patterns, plots, and types of characters

**C-2-a. History of Mo'olelo Collecting.** According to Leib and Day (1979) a substantial number of legends were collected and written in Hawaiian, during the century following Cook's arrival in Hawai'i. A few accounts of the mythology were printed in the journals of missionaries and travelers, and a few of the Hawaiian lore were printed in languages other than English.

**C-2-b. Legends involving Kō`ula\*, Hanapēpē and/or Kona, Kauai.**

<b>Story of King Ola*</b>	<u>In</u> Thrum, <i>More Hawaiian Folk Tales</i> [RH 398.2 T, pp 94-97] (HSPLS-vII 1989:944).
<b>Legend of Kawelo*</b>	<u>In</u> Fornander, <i>Fornander Collection of Hawaiian Antiquities and Folklore v2</i> [RH 507 B4M, v5 pp 2-71] (HSPLS-vII 1989:927, 944).
<b>Legend of Kawelo*</b>	<u>In</u> <i>Selections from Fornander's Hawaiian Antiquities and Folklore</i> [RH 398.2 F, pp 32-113] (HSPLS-vII 1989:927, 944; vI 207).
<b>Kawelo</b>	<u>In</u> <i>The Hawaiian Romance of Laieikawai.</i> RH 398.2 L, pp 357-358] (HSPLS-vII 1989:92; vI 207).
<b>Kawelo's Conquest of Kauai</b>	<u>In</u> <i>Legend of Kawelo</i> RH 398.2 L, pp. 30-111] (HSPLS-vII 1989:927).
<b>Kawelo: The overthrower of the giant champion</b>	<u>In</u> Colum, <i>The Bright Islands</i> [RH 398.2 C, pp 45-65] (HSPLS-vI 1989:207).
<b>Legend of Kuapaka</b>	<u>In</u> Fornander, <i>Fornander Collection of Hawaiian Antiquities and Folklore v2</i> [RH 507 B4M, v5 pp 78-135] (HSPLS-vI 1989:207).
<b>Legend of Palila</b>	<u>In</u> Fornander, <i>Fornander Collection of Hawaiian Antiquities and Folklore v2</i> [RH 507 B4M, v5 pp 136-153] (HSPLS-vII 1989:207).
<b>Relating to the dead in ancient time</b>	<u>In</u> Fornander, <i>Fornander Collection of Hawaiian Antiquities and Folklore v2</i> [RH 507 B4M, v5 pp 570-577] (HSPLS-vI 1989:207).
<b>Ancient faiths of Kauai</b>	<u>In</u> Skinner, <i>Myths &amp; Legends of Our New Possessions &amp; Protectorate</i> [RH 398.2 S, pp 178-187] (HSPLS-vI 1989:208).
<b>Legends of Kawelo</b>	<u>In</u> Thrum, <i>More Hawaiian Folk Tales</i> [RH 398.2 T, pp 149-163] (HSPLS-vI 1989:208).
<b>Kawelo</b>	<u>In</u> Westervelt, <i>Legends of Old Honolulu</i> [RH 398.2 W, pp 173-188] (HSPLS-vI 1989:208).

**C-3. Mo`ōlelo and Genealogy of Ali`i nui of Kauai.** In the legends or *mo`olelo* collected by Fornander, Wichman, Knudsen, Kamakau, and others, we can get a glimpse into the lives of some of the *ali`i nui* or ruling chiefs. The history of the Kauai *ali`i* begins in Waimea where according to Wichman (2003) the first settlers to Kauai landed. From many of these *ali`i* one can understand why the genealogy of Hawai`i's chiefs and people on all the major Hawaiian islands share common ancestries. To reproduce any legend completely would take too long, therefore only excerpts are generally used for the following ancestors and descendants of the first settlers/*ali`i* of Kaua`i.

**Papa and Wākea.** Papa and Wākea or Wākea and their daughter Ho`ohoku-i-ka-lani are said to be the progenitors of all Polynesians. Hāloa is the name given to both sons of Wākea and Ho`ohoku-i-ka-lani. Kauai historians claim that a younger brother of Hāloa, Chief Ka-māwae-lua-lani-moku, son of Papa and Wākea, discovered and settled the island.

*Ka-māwae-lua-lani-moku and Kahiki-lau-lani.* Chief *Ka-māwae-lua-lani-moku*...traveled to this island with his wife, *Kahiki-lau-lani*, and her two paddlers *Kō-nihinihi* and *Kō-nahenahe*. Because of his great deeds, the great number of his descendants, and the prosperity of his reign, people called the island Kau-a`i (“*place of abundance*”).... Kaua`i is also the name of the youngest son of ancient voyager Hawai`i-loa. His wife was Wai`ale`ale, and her name was given to the lake beside the highest peak of the island. The word *Kaua`i* itself is older than Hawai`i-loa; its true meaning is lost in the mists of the cosmic night from which Kaua`i's ruling chiefs descended (Wichman 2003:5).

Whether *Ka-māwae-lua-lani-moku* and *Kahiki-lau-lani* ever lived on Kaua`i is unknown. It is certain that one day, not too many generations after Papa and well before the descendants of Nana`ulu came to Kaua`i, a voyaging canoe commanded by *Kū`alu-nui-kini-ākea* [also spelled *Kū`alu-nui-kini-ākea*] approached the island from the west. Nothing is known of him except his name and that he had a son...and a counselor *Pi`i-ali`i* (Wichman 2003:5).

*Kū`alu-nui-kini-ākea and Kalaimoku Pi`i-ali`i.* The first known settler to Kauai, *Kū`alu-nui-kini-ākea*, chose Waimea Valley for his new home. The shallow sea between Kauai and Ni`ihau teemed with fish, the river delivered fresh water and food, and even the climate was warm, ideal for growing crops, and comfortable to a people who wore a minimum of clothing.... The first settlers worshipped Kāne, god of sun and fresh water, and thus all living things. The few *kānāwai* (laws) concerned the preservation of agriculture and marine resources. All ceremonies in the *heiau* (temple) were simple and the audience participated in all the rites. *Heiau* were built so that all priestly ceremonies could be seen by the assembled people who participated in the rites. From the beginning, there was a lack of distinction among the Kauai *ali`i* (chiefs). The rank of the mother determined in large part the rank of her child (Wichman 1998:6-7).

*Kū`alu-nui-paukū-mokumoku and the Menehune.* *Kū`alu-nui-paukū-mokumoku* followed his father *Kū`alu-nui-kini-ākea* as *ali`i nui*. He sent back to his homeland for a people called *Menehune*, who were masters of stonework and engineering. The *Menehune* were an energetic, short but broad-shouldered, muscular people. They were organized in divisions based on their skills and work duties and were completely obedient to their leaders. They worked as a team and if a project was interrupted for any reason, they abandoned it and never returned to finish it. Under *Kū`alu-nui-paukū-mokumoku*, many *heiau*, fishponds, and irrigation systems for wet-land farming were built. These *Menehune* explored the island from one side to the other and left stories of their adventures in place-names that still remain (Wichman 1998:8).

*Kū`alu-nui-paukū-mokumoku, Ola and kailaimoku Pi`i.* The son of *Kū`alu-nui-paukū-mokumoku* was Ola. He opened the land between the ridges and the sea to agriculture. The land was considerably higher than the river, and separating the rich bottomland from freshwater was the cliff **Pali-uli**, “green cliff,” which rose directly from the riverbed.... Ola gathered the *Menehune* and asked that an irrigation ditch be built around Pali-uli (Wichman 1998:8).... The ditch was called *Kiki-a-Ola*, “container acquired by Ola.” The new farmland was named after their ancient homeland, *Pe`e-Kauai*, “hidden Kauai” (Wichman 1998:9).

Like his ancestor Hawai`i-loa, Ola also contended with cannibalism. For several nights in a row, Ola and Pi`i noticed a bonfire flickering on the shores of Ni`ihau where no one lived. He asked his friend *Ka-hao-o-ka-moku*, who was about to set off on a fishing expedition to Ka`ula islet, to stop by Ni`ihau and find out who was there. Two days later Kāne-opa, the head *lawai`a* (fisherman) of the expedition, returned alone with a harrowing tale. As they landed on Ni`ihau, the fishing party had been greeted by a man who offered them food, shelter, and women. This unknown man had then shown them into a house where, tired from fishing, one by one they fell asleep, all except Kāne-opa who was suspicious by nature and who had not liked the stranger's manner (Wichman 2003:13-14).

Kāne-opa was the only one to survive; he went back to Kauai and told Ola and Pi`i about the cannibals of Ni`ihau. They devised a plan and went back. Their plan worked and the cannibals were killed. "No mention of Ola's marriage or direct descendants has survived" (Wichman 2003:14).

**Kā-la-kāne-hina and Lohipono.** Sometime after Ola, *Kā-la-kāne-hina* became the *ali`i nui*. He lived at Lā`au-`ōkala, the eastern point of the Waimea river outlet. He married Lohipono, a chiefess of Wainiha valley. She left her infant son *Kāne-a-Lohi* with her brother *Ka-lālā-pōpō`ulu*, a bird catcher who brought up his nephew in the mountains and trained him in the art of catching birds whose feathers were greatly prized (Wichman 2003:14).

**Kāne-a-Lohi.** *Kāne-a-Lohi* exasperated his uncle a great deal, for he refused to eat most kinds of food and always demanded the flesh of small birds. To feed this prodigious appetite, *Ka-lālā-pōpō`ulu* moved to the cliffs above **Halulu** waterfall on the very edge of the immense cliffs of Wai`ale`ale. Here *uwa`u* (dark-rumped petrel) nested in deep holes dug into the sides of the cliffs. Each morning the *uwa`u* flew out to sea and each evening they flew home to their caves. The young...are good to eat (Wichman 2003:14).

A giant, *Ka-wai-pe`e*, from Pe`ape`a above Hanapēpē liked destroying the nests and killing the birds and throwing them away. *Kāne-a-Lohi* and his uncle set a trap for the giant and killed him as he came after a distressed bird. However, the Waimea chief *Kā-la-kāne-hina* also heard that men were eating his favorite *kapu* birds and set out for the mountains to catch and kill them. But *Kāne-a-Lohi* and his uncle destroyed his army and would have killed him too. But *Kā-la-kāne-hina* called out "Save me, in the name of your mother, Lohipono. I am your father." *Kā-la-kāne-hina* returned to Waimea and built a house and invited his son. They suspected a trap when all the chiefs' men were sitting in a circle next the wall while the mat in the middle of the room sagged. *Kāne-a-Lohi* barred the door and a rush to get out the chief and his men fell into the hold. *Kāne-a-Lohi* then set the house on fire. *Kāne-a-Lohi* became *ali`i nui* for a short time, married and had a son *Ka-lau-lehua*. He later took his mother and son back to the mountains he loved (Wichman 2003:15-16).

**Ka-lau-lehua.** *Ka-lau-lehua* later became *ali`i nui*. For reasons not mentioned in the legends, *Ka-lau-lehua* wanted to dig a ditch leading from Wai`ale`ale to the cliff's edge so that the pond would be the headwaters of the Wailua River. *Ka-lau-lehua* sailed to the mythical island of *Kāne-huna-moku* to fetch the *Mū-`ai-mai`a* (banana-eating people). He tricked four Mū men and three Mū women into coming with him from their homeland to build his ditch. They refused and asked to be returned home. *Ka-lau-lehua* wouldn't help them, instead he imposed a *kapu* forcing them to live in the Alaka`i swamp. They planted bananas wherever they found a suitable spot and slowly they grew in numbers. They were a shy people and even though they lived in the same area as the Menehune, they avoided them too, but watched unhappily as the Menehune sailed away from Kauai. The Mū had lost their knowledge of the stars that could lead them back to their homeland (Wichman 2003:16-17).

The landing on the west side of the [Waimea] river mouth was named *Ke-ahi-lele*, "flying fire," perhaps after a shooting star or a comet that marked their arrival. On the opposite side was *Lā`au-`ōkala*, "thorny tree...." Upriver of *Lā`au-`ōkala* is a small plain edged on one side by twenty-

foot-high cliffs. This is *Maha`iha`i*, “brittle.” On this plain *Ka-iki-pa`a-nanea*, a descendant of Ola, had a large sports field... *Ka-iki-pa`a-nanea* was so cruel that no Kauai woman would marry him (Wichman 1998:9-10).

**Ka-iki-pa`a-nānea.** Several generations later [after *Ka-lau-lehua*], *Ka-iki-pa`a-nānea*...became the *ali`i nui* of Kauai. His headquarters was on the small plateau on the eastern side of the Waimea river mouth. *Ka-iki-pa`a-nānea* had two major passions: sports and riddles. He was a champion wrestler and boxer who always tried to kill his opponent. Everyone feared and hated him...only his personal servant, *Kūkae`a* was ever in his company.... Worst still, when every chiefess on *Kaua`i* refused to marry him after the death of his wife, *Ka-iki-pa`a-nānea* sent his messengers to O`ahu, ordering them to bring him a wife (Wichman 2003:17-18).

*Ka-iki-pa`a-nānea`*s men kidnapped *Mākolea* who was surfing at *Waikīkī* and took her back to *Kaua`i* where she too refused to marry him. So he locked her up until a time when she would agree. *Mākolea* was already married to a Maui warrior *Ke-paka`ili`ula*. He sailed to *Kaua`i* and befriended *Kūkae`a*. Eventually *Kūkae`a* gave him the answers to the riddles. *Ke-paka`ili`ula* challenged *Ka-iki-pa`a-nānea* to a boxing match, which he won; and answered the riddles correctly. He then seized *Ka-iki-pa`a-nānea* and tossed him into a firepot. Earlier *Ka-iki-pa`a-nānea* had been so preoccupied with his riddles and athletics that he had allowed an ocean-traveler from *Marquesas*, *Puna-nui-ka-ia`āina* to settle with his entourage on the banks of the *Wailua* river where the *Menehune* had constructed their temples. Now there were two chiefdoms on *Kaua`i*--*Puna* and *Kona* (Wichman 2003:18-19).

**Nana`ulu and `Ulu.** More than three hundred years after *Papa-nui-hānau-moku* and *Wākea*, a chief from *Tahiti*, *Ki`i* and his wife *Hina-kō`ula*, became parents of two sons, *Nana`ulu* and *`Ulu*. When they were grown *Ki`i* asked them to go on voyages of discovery.... *Nana`ulu* sailed north in his canoe named *Manō-nui* (Great Shark) and found the islands of *Hawai`i*...voyagers came in increasing numbers. Meanwhile the descendants of *`Ulu* spread out over the South Pacific. Among them were extraordinary people who lived such wonderful adventures that storytellers had rich material to develop into entertaining sagas [e.g., *Maui*, *`Aikanaka-a-Mako`o*, *Puna* & *Hema*, *Kaha`i* & *Wahieloa* and *Laka*].... There were so many astonishing ancestors like these that the genealogists added them all into the *`Ulu* genealogy. Today there seems no way to reconcile the short *Nana`ulu* and very long *`Ulu* genealogies (Wichman 2003:20, 23).

**Puna-nui-ka-ia`āina and Puna-kai`olohia.** Two voyaging canoes set out from *Tahiti* fifteen generations after *Nana`ulu* and arrived on O`ahu and *Kauai*. *Maweke* and *Paumakua* settled peacefully on O`ahu and quickly became ruling chiefs of a district of that island. At that same time, *Puna-nui-ka-ia`āina*, whose genealogy has not survived, arrived on *Kauai*, having come, most likely from the *Marquesas Islands*. *Puna-nui-ka-ia`āina* arrived when the chief with the deadly riddles, *Ka-iki-pa`a-nānea*, was ruler of *Waimea*.... *Puna-kai`olohia* followed his father... as leader of his people along the banks of...*Wailua*. Nothing is known of him or his reign, except that he had a son [*Puna`ai-koā`i`i*].... *Puna`ai-koā`i`i* had only one child, his daughter, *Hina`a-ulu-ā*...they called her *Ho`oipo-malanai* (*sweetheart of the gentle breeze*) (Wichman 2003:23-24).

**Puna`ai-koā`i`i, Hina`a-ulu-ā & Mo`ikeha.** *Puna`ai-koā`i`i* (*Puna*) urged his daughter to marry, but she couldn't choose from the many suitors who came to court her from many islands--they were all equal to her. Finally *Puna* and his *kahuna nui* devised a plan--a contest of strength and speed. A *lei palaoa* would be taken to *Ka`ula* island and the first chief to retrieve it would win her hand. All were pleased with the contest rules. Then on the evening of the contest a stranger arrived in a voyaging canoe on the shores and said he was *Mo`ikeha* and asked to participate in the contest. The competing chiefs said as long as he could recite his genealogy and that it was equal to theirs. *Mo`ikeha* chanted his own genealogy: “*Nana`ulu* the husband, *Ulukou* the wife...*Kekupahaikala* the husband, *Maihi* the wife; *Maweke* the husband, *Naiolauke* the wife...*Muli`ele-ali`i* the father, *Wehelani* the mother; *Mo`ikeha* the man, *Hina-a`ulu-ā* the wife.” Everyone enjoyed the boast and the chiefs agreed to his participation (Wichman 2003:23-24).

The names of these chief's names and places of residence is slightly different according to Kamakau's (1991) version:

The chiefs of Kaua'i who lived at Kapa'a while Mo'ikeha was living there were **Puna-nui-kai-anaina**, **Puna-kai-'olohe**, and **Puna-ai-koa'e**. A beautiful daughter of the Puna chiefs, Ho'oipo-i-ka-malani - also called Hina-au-lua - lived at Waimahanalua because of the excellence of the surf of Makaiwa there Mo'ikeha took her to wife, and they were united in a lasting union. When their oldest son was born, Mo'ikeha gave him the name Ho'okamali'i, for the skin of 'Olopana [Mo'ikeha's older brother]. Their second son he named Haulani-nui-ai-akea for the eyes of 'Olopana, and their third son he named Kila for Lu'ukia, the wife of 'Olopana (Kamakau 1991:106).

**Mo'ikeha, La'amaomao and Haulani-nui-ai-akea.** Mo'ikeha's companion was La'a-maomao, his foster son and owner of a large calabash which contained all the winds of the world. Mo'ikeha was able to use the winds and beat the other contestants and win the hand of Hina-a-ulu-a. Later Mo'ikeha's youngest son went back to Raiatea to bring La'a-maomao to see Mo'ikeha before he died. La'a [also called La'a-mai-Kahiki because he came from Kahiki] went to O'ahu where he sired three sons by three different chiefesses at the requests of the *kahuna* of Kualoa as La'a was a descendant of Paumakua and they were afraid this line was dying out.

According to Kamakau (1991) "La'a-mai-Kahiki became an ancestral chief for chiefs and commoners of O'ahu and also for Hawai'i and Kaua'i. You will find his chiefly descendants in the *mo'o ku'auhau* of Nana'ulu, Puna-i-mua, and Hanala'a-nui" (Kamakau 1991:110).

Mo'ikeha's three sons went different routes; the oldest son Ho'okamali'i became the ruling chief of Kona, O'ahu; the second son Kila went to Waipio on the Big Island [Kila later went to Kahiki]; and the youngest son Haulani-nui-ai-akea stayed on Kauai where he became the *ali'i nui* after the death of Mo'ikeha (Wichman 2003:23-35).

**Haulani-nui-ai-akea, Ke-oloewa-a-Kamaui and Ka'ili-lau-o-ke-koa.** Haulani-nui-ai-akea was not a good chief so he was dethroned by Ke-oloewa-a-Kamaui a Molokai chief married to one of Maweke's granddaughters. However Ke-oloewa-a-Kamaui refused the throne and Kila was sent for in Raiatea, but he too refused wishing to stay with his [foster] brother La'a-mai-Kahiki. Ka'ili-lau-o-ke-koa, a granddaughter of Mo'ikeha was asked to rule and to marry *Ke-li'i-koa*, a Kona, Kauai chief. However she fell in love with someone else of Puna, Kauai. This created a riff between Puna and Kona. Ka'ili-lau-o-ke-koa's husband died after a few years and Ke-li'i-koa invaded Puna and the two armies fought at Kuamo'o ridge. With the help of the women, the Kona chief was killed and the army defeated. Ka'ili-lau-o-ke-koa died childless and the chiefdom of Puna was offered to Ahukini-a-La'a, a son of La'a-mai-Kahiki (Wichman 2003:36-39).

**Ahukini-a-La'a, Kama-hano and Lu'anuu.** Ahukini-a-La'a...and Ha'i-a-Kama'i'o had a son, Kama-hano. Kama-hano lived with Ka-aeua-o-ka-lani...they had a son, Lu'anuu. It was at this time that the first warrior hero of Kauai appeared. The war between Kona and Puna flared up (Wichman 2003:40-42).

**Akua-pehu'ale.** Akua-pehu'ale of Kona swept ashore at Wailua and the surprised Puna chiefs fled for the uplands. Akua-pehu'ale was considered a *kupua*, a supernatural being who could take two forms...that of a man and that of a giant sea monster. He was greatly feared and hated even by the men on his side. Once he vanquished the Puna forces he settled at the seashore (Wichman 2003:42).

**Ke'ahua, Ka-uhao, Lepe-a-moa and Ka-u'i-lani.** One of the exiled [Puna] chiefs, Ke'ahua, found refuge in a remote valley in the Wailua uplands, which today bears his wife's name, Ka-uhao, daughter of Hono'uliuli and Ka-pa-lama of O'ahu. Their first child was Lepe-a-moa, a

*kupua*, who could take the form of a beautiful woman or a ...feathered chicken. She was taken at birth to be raised by her O`ahu grandparents. Shortly after their defeat, Ka-uhao gave birth to a son...named Ka-u`i-lani (Wichman 2003:42).

When Ka-u`i-lani grew up he became a great warrior and defeated Akua-pehu`ale. After the victory feast he led the Puna people back down to the mouth of Wailua (Wailua-nui-hōano) river. He later sailed for O`ahu to find his sister, Lepe-a-moa whom he had never seen (Wichman 2003:42-44).

**Lu`anu`u and Palila.** Lu`anu`u, grandson of Ahukini-La`a, was named after the grandfather of Ki`i, father of `Ulu and Nana`ulu. He was a good chief and was greatly admired in spite of the continuing wars with Kona--references to him indicate a close relationship to Kona. During the time of Lu`anu`u there was a great warrior named Palila, son of Ka-lua-o-pālena and Maihi-iki. He was taken at birth and raised by his grandmother Hīna in a sacred temple of Alana-pō where he was trained very well. Later he helped his father defeat Kona chief Ka-maka-o-ka-lani on the plains of Koloa. Shortly after, a messenger from the ruling chief of O`ahu arrived asking for Palila's help. Palila had many adventures on O`ahu and Hawai`i and later became the ruling chief of Hilo (Wichman 2003: 44-47).

**Kūkona, Makali`i-nui-ku-a-ka-wai-ea, Mano-ka-lani-pō and Palekaluhi.** Kūkona [son of Lu`anu`u] inherited an island at war and left it united as one kingdom. From then on, the legends of the Kona kingdom were seldom told and the genealogies of the first settlers were forgotten.... Kūkona's *ali`i wahine* was Lau-puapua-ma`a and they had twin sons, Mano-ka-lani-pō and Palekaluhi. When Kūkona became *ali`i nui* of Puna, the Kona chief was Makali`i-nui-ku-a-ka-wai-ea. He had been at the royal court of O`ahu for many years and several times had fought in battles against Kama-pua`a.... Makali`i-nui-ku-a-ka-wai-ea had been sent by Kama-pua`a to the royal court with the bad news of defeat. Eventually Makali`i-nui-ku-a-ka-wai-ea returned home to Waimea and organized his own force. Makali`i-nui-ku-a-ka-wai-ea's army included the father and older brother of Kama-pua`a (Wichman 2003:47-48).

**Kama-pua`a, Limaloa, Kūkona and Makali`i-nui-ku-a-ka-wai-ea.** The Kona and Puna armies met at Koloa Gap and the war became a stalemate until Limaloa and Kama-pua`a joined the Puna army. Limaloa was a giant and had become friends with Kama-pua`a when he first came to Kauai. Kama-pua`a dared Limaloa and Kūkona to join him in one-to-one combat against any Kona champions. Kahiki`ula of Kona was the first to step forward and was struck down by Kūkona, but as he was going to give the finishing blow Kama-pua`a stopped him and said he would finish the job and to go and look for other opponents. Instead of killing the man, he whispered to Kahiki`ula, who was his father, to go back to his family in Kalalau. Limaloa was engaging another warrior, Kahiki-honua-kele, whom Kama-pua`a recognized as his older brother. When Limaloa struck him down, Kama-pua`a told Limaloa he would finish up. Instead he whispered the same thing to his brother. Then Kama-pua`a faced Makali`i-nui-ku-a-ka-wai-ea who did not recognize his former enemy. Kama-pua`a chanted a list of all the warrior's he ever defeated and when he was done Makali`i-nui-ku-a-ka-wai-ea replied that he was defeated (Wichman 2003: 48-49).

**Puna and Kona merger.** The two kingdoms were merged into one with Kūkona as the *ali`i nui*. To cement the new situation, Nae-kapu-lani, the daughter of Makali`i-nui-ku-a-ka-wai-ea, was married to Kūkona's son Mano-ka-lani-pō. Meanwhile, on the island of Hawai`i, Ka-lau-nui-o-Hua dreamed that his hand was possessed by the god Kāne-nui-akea...he dreamed that he would become the ruler of all the islands (Wichman 2003:49).

**Kūkona and Peace in the islands.** Ka-lau-nui-o-Hua successfully defeated Maui's Ka-malu-o-Hua, Molokai's Ka-haku-o-Hua and O`ahu's Hua-i-pou-leilei. He took the three chiefs with him on his invasion of Kauai where they landed at Māhāulepu, Pā`ā and Weliweli with no opposition. What he didn't know was that Kūkona knew of the invasion as the guardian watchers of Hā`upu had seen the fleet as it left O`ahu. Kūkona ordered everyone to leave their homes, take all their food with them, and go to the center of the island. He had all of his warriors hide among the trees on all the ridges overlooking

Māhāulepu to Lāwa`i. He also ordered every canoe on the island to gather at Hanapēpē bay. Kūkona surrounded the invaders by land and by sea. By nightfall Kūkona had all the rulers of the major islands as his prisoners. He took his prisoners on a tour of the island and while taking a nap had a dream that three of the four rulers tried to plot his death, but Ka-malu-o-Hua of Maui rejected the plan saying that Kūkona had been good to them instead of killing them all and taking over all the islands. Kūkona woke up to discover that his dream was true, but instead of putting them to death he said he only wanted peace. He freed the rulers except for Ka-lau-nui-o-Hua whom he kept for ransom, and made them swear that they or their descendants would never invade Kauai again. Kūkona ordered the *heiau Ka-unu-o-Hua* built near Alaka`i swamp and it was here that the rulers all swore to uphold their promise not to invade Kauai. This peace was called *Ka-lai-loa-ia-Kamaluohua* (The Long Peace of Kamaluohua), which lasted over five hundred years. The royal court was kept at Wailua, but a permanent home was also maintained at Waimea (Wichman 2003: 49-52).

**Golden Age of Mano-ka-lani-pō and Nae-kapu-lani.** The reign of Mano-ka-lani-pō was considered the “Golden Age” because it was so peaceful that warriors became athletes and people lived to an old age. Mano-ka-lani-pō and Nae-kapu-lani had three sons: Kau-maka-a-Mano, Nā-pu`u-a-Mano and Ka-ha`i-a-Mano. During the reign of Mano-ka-lani-pō, he eventually allowed the *Mū`ai-mai`a* people to return to their homeland, Kāne-huna-moku, which was seen by their *kilo kilo* offshore of Miloli`i valley. They left Kauai as the *Menehune* before them had done. Also during his reign, three goddess sisters came to Kauai from the west after visiting Nihoa, Necker and Ni`ihau, in huge voyaging canoes from their homeland in Sāmoa; Kapō`ula-kinau, who was the first to arrive on Kauai, followed by Pele and Hi`iaka-i-ka-poli-o-Pele. Kapō`ula-kinau married off some of her women attendants to the men of Kauai, such as Limaloa the giant and Kau-maka-a-Mano, son of Mano-ka-lani-pō, then she left Kauai in search of a husband for herself. Pele also landed at Mānā, seeking a new home and safety from her sister Nā-maka-o-ka-ha`i. As Pele toured the island she met Kama-pua`a and they traded insults. Kama-pua`a tried to rape Pele, but she was saved by her sister Kapō`ula-kinau. Pele then went on to Kē`ē, Hā`ena where she met Lohi`au, the brother of Limaloa, and fell in love with him (Wichman 2003: 55-59).

**Kau-maka-a-Mano.** Kau-maka-a-Mano reigned after his father Mano-ka-lani-pō died. He married Kapō-inu-kai and they had only one child, Ka-haku-a-Kāne. Nothing was known of the other sons of Mano-ka-lani-pō, Nā-pu`u-a-Mano and Ka-ha`i-a-Mano. Ka-haku-a-Kāne was named after one of the four sons of Mo`ikeha, the voyager from Ra`iātea (Wichman 2003: 59-61).

**Ka-haku-a-Kāne.** Ka-haku-a-Kāne, like so many of his ancestors, made a grand tour of the windward islands. He was...*ali`i nui* of Kaua`i and had an impeccable genealogy. When he reached Maui, Kapō-nae-nae, sister of the ruler, the first Kahekili, married him. They had two children, Kahekili-a-Kāne and Kū-o-nā-mau-a-ino. When Kahekili-a-Kāne’s granddaughter married Lono-a-Pi`i, the *ali`i nui* of Maui at that time, Maui chiefs were able to connect themselves to the ancient Kaua`i line leading backwards to La`a-mai-Kahiki. When Ka-haku-a-Kāne left Maui and returned to Kaua`i, he married Mano-kai-ko`o, like himself a grandchild of Mano-ka-lani-pō. They had a son, Kū-walu-paukū-moku (Wichman 2003: 61-62).

**Kū-walu-paukū-moku.** His name indicates that the genealogy of the Kona kingdom had not been lost before this time. He was named after an ancestor, the son of Kū-walu-kini-akua, the first settler on Kauai. This Kū-walu genealogy had been joined to that of La-a-mai-Kahiki when Kū-walu-paukū-moku’s great-grandfather Mano-ka-lani-pō married Nae-kapu-lani, daughter of Makali`i-nui-kū-a-ka-wai-ea, last ruling chief of Kona. Kū-walu-paukū-moku was a good, wise, and liberal ruler...married Hame-a-Waha`ula, a cheifess whose genealogy has been lost... Waha`ula was the first *heiau* built by Samoan priest Pā`ao after he made his first landfall in the district of Puna on Hawai`i island.... Pā`ao left his homeland and brought his god Waha`ula to Hawai`i.... Within Waha`ula’s enclosure was a sacred grove of trees said to contain one or more specimens of every tree growing on all the Hawaiian islands. One of these trees was a *hame*, a medium-size tree with grapelike clusters of sour but edible fruit used to dye tapa; its hard wood was used for anvils for beating *olonā* fiber (Wichman 2003: 62-63).

**Ka-haku-maka-paweo and Ka-haku-a-kukua`ena.** There are no legends concerning the quiet and peaceful rule of Ka-haku-maka-paweo.... His wife was Ka-haku-a-kukua`ena, of whom nothing is known, although the name indicates they must have been closely related. They had three sons: Kaile-lalāhai, `A`a-nui-kani-a-weke, and Ka-lani-kukuma. Nothing is known of the two older brothers (Wichman 2003: 63).

**Ka-lani-kukuma, Kū-a-Nu`uanu and Pāka`a.** During the time of Ka-lani-kukuma, two Kaua`i heroes, Pāka`a and Pikoi-a-`Alalā lived, and their adventures became popular tales of the storytellers. When Keawe-nui-a`Umi, son of `Umi-a-Liloa of Hawai`i, was born he was placed in the care of Kū-a-Nu`uanu who was entrusted as the *kahu* (guardian) to raise and educate the royal youngster.... Kū-a-Nu`uanu became the close advisor of his chief.... After many years, Kū-a-Nu`uanu toured all the islands, leaving his charge behind. Kū-a-Nu`uanu eventually came to Kapa`a where he met La`a-maomao, a descendant of the navigator of the same name who had helped Mo`ikeha, the traveler from Ra`iātea, win his wife many years before. La`a`maomao had inherited the calabash of winds as well as the name of her ancestor. Kū-a-Nu`uanu and La`a-maomao settled down on a bluff overlooking the sea between Kapa`a and Ke`ālia. After six months, word came from Hawai`i that Keawe-nui-a`Umi wanted Kū-a-Nu`uanu to return and take up his duties once again. Before he left Kapa`a, Kū-a-Nu`uanu gave his pregnant wife a white *malo* and a cape woven of *kalukalu*, a grass that grew only at Kapa`a.... After Kū-a-Nu`uanu left, La`a-maomao and her brother Mā`ilou, a bird catcher, raised her son. His name was Pāka`a.... When Kū-a-Nu`uanu died, Pāka`a took his place as the favorite friend of Keawe-nui-a`Umi (Wichman 2003: 63-64).

**Ka-haku-maka-lina and `Ili-hiwa-lani.** The wife of Ka-lani-kukuma was Kapo-lei-a-kuila, a direct descendant of Haulani-nui-ai-ākea, the oldest son of the seafaring Mo`ikeha. This union of the two lines after ten generations increased the *mana* and aristocratic rank of their two sons, Ka-haku-maka-lina and `Ili-hiwa-lani. Ka-haku-maka-lina became the *ali`i nui* after his father, but within a few generations, the *ali`i* of Kaua`i successfully searched for a ruler among the descendants of `Ili-hiwa-lani. Unknown and unannounced to...Ka-haku-maka-lina, a well-known chief of Hawai`i island, Lono-i-ka-maka-hiki, arrived on Kaua`i. He had just defeated Kama-lālā-walu of Maui.... Lono-i-ka-maka-hiki landed at Waimea.... [Later] Ka-haku-maka-lina made a grand tour of the windward islands. Everywhere he was greeted warmly. When he reached the island of Hawai`i, he was feted by `Akahi-`ili-kapu, a daughter of `Umi-a-Liloa. When it was time for him to return home, `Akahi-`ili-kapu sailed to Wailua with Ka-haku-maka-lina. There she gave birth to two children, Ke-li`i-ohiohi, a son, and Koihalauwailua, a daughter. `Akahi-`ili-kapu returned to Hawai`i with her children, and eventually they married into the Hawai`i *ali`i* line, thus adding the Kauai genealogical *mana* to the descendants of `Umi-a-Liloa. (Wichman 2003: 67-70).

**Kama-kapu, Kā-kuhi-hewa and Ka-hā-malu-`ihi.** Ka-haku-maka-lina also married Ka-haku-mai`a, a Kaua`i chiefess, whose name indicates that she too was a descendant of Ka-haku-maka-paweo. They had a son, Kama-kapu. [Kama-kapu married Pā-wahine and they had Kawelo-mahamaha-`i.a.] When Kama-kapu became *ali`i nui* of Kaua`i, the ruler of O`ahu was Kā-kuhi-hewa, who had earned a fierce reputation as a warrior, statesman, and keeper of the most glorious court in all the islands. By this time he was an old man. For his fourth wife, he chose a young Kaua`i chiefess, Ka-hā-malu-`ihi. She had an impeccable genealogy descending, on her mother`s side, from `Ili-hiwa-lani, second son of Ka-lani-kukuma. From her father, Kawelo-`ehu, she was a direct descendant of Ahukini-a-La`a, this giving her a double-looped genealogy, making her *mana* the strongest on Kaua`i. She owned three powerful *kumukānāwai*.... Ka-hā-malu-`ihi came from the sacred sands of Waimea...and her lands there became a *pu`uhonua* (place of refuge) for those who had broken her laws (Wichman 2003: 70-71).

**Ka-hā-malu-`ihi and Kūali`i.** Kā-kuhi-hewa died shortly after his marriage to Ka-hā-malu-`ihi, then she married Kāne-kapu-a-Kā-kuhi-hewa, his son. They had Ka-ho`owaha-o-ka-lani. Her great-grandson Kūali`i later became *ali`i nui* of Kaua`i (Wichman 2003: 71).



**Kawelo-mahamaha-i`a and Ka-pōhina-o-ka-poko.** It was Kawelo-mahamaha-i`a, son of Kama-kapu and Pā-wahine, who made the fateful decision to create once again a child who bore the *ni`aupi`o* rank..... Kawelo-mahamaha-i`a and his wife Ka-pōhina-o-ka-poko had six children. Their last two were a boy, Kawelo-maka-lua, and a girl, Ka-`āwihi-a-ka-lani, both still young and still virgin.... As soon as it was possible, the youngsters were mated (Wichman 2003: 73).

**Kawelo-pe`e-koa, Kawelo-`ai-kanaka and Kawelo-lei-makua.** When Ka-`āwihi-a-ka-lani felt the first pangs of labor she was taken to the sacred enclosure of Holoholokū. Ka-`āwihi-a-ka-lani had twins; her first born, Kawelo-pe`e-koa was taken by the priests to be raised in seclusion as the supreme *ali`i kapu*. The second born was Kawelo-`ai-kanaka, who was raised to be a ruler. As the children grew, the island prospered under Kawelo-mahamaha-i`a's rule and peace prevailed. Kaua`i became an island of plenty and its hospitality was renown throughout the islands. Kawelo-mahamaha-i`a had two *luakini heiau* constructed in Anahola where human sacrifices were offered. Rumors began to grow that Kawelo-mahamaha-i`a was part shark and as deaths continued and sacrifices grew, fear turned into anger. One day as Kawelo-mahamaha-i`a traveled back from Anahola he was stoned to death. Kawelo-maka-lua, father of the twins, was a thoughtful and considerate ruler in contrast to his father, Kawelo-mahamaha-i`a and his son, Kawelo-`ai-kanaka, but he didn't live long as a ruling chief. Kawelo-`ai-kanaka or `Aikanaka was afforded awesome power because of his *ni`aupi`o* rank, but his cousin Kawelo-lei-makua (Kawelo) was not impressed. The rivalry between the cousins continued until Kawelo and his younger brother Kamalama decided to leave Kaua`i and join relatives on O`ahu. They settled on land given them at Halemanu where they often crossed the pass [Kolekole] into Wai`anae to enjoy the ocean. While on O`ahu Kawelo trained in many arts. One day Kawelo had a vision of his parents under duress. The following day two men from Kaua`i brought him a message saying that his cousin `Ai-kanaka had stripped his parents of everything and thrown them from the top of the mountain where they had sought refuge (Wichman 2003: 73-78).

**Kawelo and Kāne-wahine-iki-aoha.** Kawelo borrowed a war canoe and twenty-four warriors from O`ahu ruling chief Ka-ihikapu who waved payment and sailed to Kaua`i with his wife Kāne-wahine-iki-aoha, his brother, his two foster sons, his uncles who had delivered the message, twelve Ulu warriors and his war god Kāne-ika-pua-lena. A great battle ensued and all the champions of `Ai-kanaka were killed and he fled. Kawelo had avenged his parents and now Kaua`i belonged him. He divided the island between his wife, brother, and his foster sons. His brother Kamalama presided over the Kona district and Kawelo the Puna district with the help of one foster son, Ka-`ele-hā-o-Puna. Peace came to Kaua`i again (Wichman 2003: 78-84).

**`Ai-kanaka and Kawelo.** One day Ka-`ele-hā-o-Puna decided to visit Mānā. He arrived at Wahiawa in the evening and was invited to spend the night. His host had another guest, none other than `Aikanaka who had gone into hiding at Kō`ula valley. `Ai-kanaka immediately recognized Ka-`ele-hā-o-Puna and invited him to spend the night in the company of his daughter Kawelo-`eha. Ka-`ele-hā-o-Puna fell in love with Kawelo-`eha and the two were quickly married. Ka-`ele-hā-o-Puna had little to give `Aikanaka for his kindness and eventually gave him information that Kawelo did not learn to defend himself against an attack by stones. Huge cairns of stones were piled on the plains of Wahiawa. Kawelo heard rumors and asked his brother Kamalama to investigate. His brother did, an altercation broke out and Kamalama was killed by Ka-`ele-hā-o-Puna stabbing him in his back. Upon hearing this news of his brother's death, Kawelo sent for his other foster son and his wife, but left before they arrived. He met up with Ka-`ele-hā-o-Puna and `Ai-kanaka who stoned him. He recovered three times, but the fourth time he laid stunned, assumed dead. His body was wrapped in banana stalks and taken to Maulili *heiau* in Koloa to be sacrificed the next morning. The guardians of the *heiau* were Kawelo's sister and her husband. During the night they revived him and when `Aikanaka came to the *heiau* he was killed by Kawelo. However, he spared his foster son Ka-`ele-hā-o-Puna. His wife and other foster son arrived with their forces and killed the fleeing warriors of `Aikanaka. They gather the body of Kamalama and demanded the death of Ka-`ele-hā-o-Puna. Kawelo still refused until he was shown that his brother had been stabbed in the back. He killed Ka-`ele-hā-o-Puna with one blow. The legends are not clear at what

happened to Kawelo; one possibility was that he had been thrown off the cliff at Hanapēpē by his men who feared his obsession to go after all of `Ai-kanaka's relatives. However, not much time had passed between the death of `Ai-kanaka and the arrival of Kūali`i as *ali`i nui* of Kaua`i, breaking the direct line of twelve generations of ruling chiefs from father to son beginning with Ahukini-a-La`a (Wichman 2003: 84-86).

**Kū-ali`i and Pele-io-holani.** In order to get warriors and a canoe, Kawelo had agreed to cede Kaua`i to Kū-ali`i in case both he and `Ai-kanaka should die in the impending war. Kū-ali`i had as good a claim on Kaua`i as any other *ali`i* as his grandmother was the Kawelo-lau-huki, daughter of Kawelo-mahamaha`i`a. He had inherited the *kumukānāwai* of his great-grandmother Ka-hā-malu-`uhi who had been wife to both Kā-kuhi-hewa and his son Kāne-kapu-a-Kā-kuhi-hewa. As a young man Kū-ali`i went to Kaua`i to gather *kaui* wood for weapons and a war club and Kawelo-lei-makua (Kawelo) had been his guide. When Kū-ali`i, who was now ruling chief of O`ahu, heard that `Ai-kanaka had been killed by Kawelo and he himself killed, Kū-ali`i rushed to Kaua`i to declare himself the *ali`i nui*. He installed his son Pele-io-holani as governor. Under Kū-ali`i Kaua`i supplied men and arms to the wars that spread over the windward islands as Kū-ali`i and his son Pele-io-holani established a multi-island kingdom with Kū-ali`i *ali`i nui* of Molokai, Lana`i, and Maui. Kū-ali`i lived to a very old age [some say 175] and at his death his oldest son, Ka-pi`o-ho`okā-lani became ruling chief of O`ahu and Pele-io-holani of Kaua`i (Wichman 2003: 89-90).

**Pele-io-holani, Ka-naha-o-kalani and Ka`apuwai.** Ka-pi`o-ho`okā-lani immediately invaded Molokai. Alapa`i-nui heard this and went to Molokai to avenge his relatives there and killed Ka-pi`o-ho`okā-lani whose army fled back to O`ahu where his son Ka-naha-o-ka-lani was now ruling chief. He sent a message to Kaua`i to ask his uncle Pele-io-holani for help. Pele-io-holani left his daughter Ka`apuwai in charge while he was gone. The impending war on O`ahu was averted as the cousins Alapa`i-nui and Pele-io-holani decided to settle peacefully. Pele-io-holani remained on O`ahu as ruling chief and his daughter remained as governor. Ka`apuwai was married to Ka`ume-he-iwā--they were both descendants of Ka-lani-kukuma, giving their daughter Ka-maka-helei stronger *mana* than her parents. Ka`apuwai died before Pele-io-holani and the government went to her daughter Ka-maka-helei (Wichman 2003: 91-92).

**Ka-maka-helei, Kiha, Ka-neoneo and Ka`eo-kū-lani.** Ka-maka-helei ruled Kaua`i with allegiance to her grandfather. She married a Kaua`i chief Kiha and they had three children: two daughters, Lele-māhoa-lani and Ka-lua-i-pihana, and a son Keawe. Pele-io-holani sent his grandson Ka-neoneo to Kaua`i to check on things and Ka-maka-helei put aside Kiha for Ka-neoneo; they had a daughter Ka-pua`a-moku. Kiha fled to Ni`ihau and gathered a small army and raided Kaua`i. He was subsequently killed. Pele-io-holani sent for his grandson to help him with problems with Kahekili [II], leaving Ka-maka-helei vulnerable against her uncle Kūmuhana. Seizing this opportunity Kahekili sent his brother Ka`eo-kū-lani to Kaua`i to neutralize the kingdom and woo Ka-maka-helei, who named her son Keawe her heir. It was during this period that Captain Cook landed at Waimea in 1778. Ka-maka-helei presented Cook with gifts of hogs, chickens, bananas, taro, sweet potatoes, sugarcane, yams, fine mats, and tapa cloth. In return Cook presented her with cloth, iron, a sword, knives, bead necklaces and mirrors. Then Ka-maka-helei offered Cook her daughter Lele-māhoa-lani (Wichman 2003: 92-96).

**Ka-maka-helei, Ka`eo-kū-lani and Ka-umu-ali`i.** Ka-maka-helei gave birth to a son, Ka-umu-ali`i in 1780 and shortly after, Kahekili sent for his brother Ka`eo-kū-lani to help with problems on Maui. His son Ka-umu-ali`i was declared heir to Kaua`i with Inamo`o as regent. Kahekili died on O`ahu in 1793 and Maui, Molokai and Lana`i came under the rule of Ka`eo-kū-lani, who ruled for a year before becoming homesick for Kaua`i. On his way back he stopped on O`ahu. His nephew, Kalani-kū-pule, thought he was invading O`ahu and a battle ensued. The battle was called off and Ka`eo-kū-lani continued on his journey to Kaua`i. While in Wai`anae he discovered that his counselors were plotting to throw him overboard in mid-channel and return to O`ahu to conquer the island. Ka`eo-kū-lani decided to go into battle with them against Kalani-kū-pule rather than die alone at sea. Ka`eo-kū-lani was killed in

ʻAiea in 1794 by rounds of gunfire from two foreign ships hired by Kalani-kū-pule; only the two treasonous counselors escaped back to Kauaʻi. The following year Kamehameha I invaded Oʻahu and Kalani-kū-pule ended as a sacrifice to Kamehameha's war god (Wichman 2003: 96-98).

**Ka-umu-aliʻi and Keawe.** Ka-maka-helei's oldest son Keawe attacked Wailua and captured his younger half-brother Ka-umu-aliʻi, who was made a privileged prisoner free to wander Wailua, but couldn't leave without Keawe. Keawe then declared himself *aliʻi nui*. Kiʻi-kikī, one of the treasonous counselors and *konohiki* of Wainiha, joined Keawe. Kiʻi-kikī's brother Kāne-ʻehu was *konohiki* of Hanapēpē. Keawe did well for a year. He collected all the muskets, guns and ammunition on the island as a symbol of power and put his trust in the brothers Kiʻi-kikī and Kāne-ʻehu, as no one had returned from Oʻahu to warn him of their treachery. They convinced him to take a tour around the island and meet his subjects. In Kapaʻa Keawe went to bathe in the famous pool *Kupa-nihi*. While there Kiʻi-kikī got a rifle and shot Keawe. Kāne-ʻehu advised his brother to return to Wailua and kill Ka-umu-aliʻi, but Kiʻi-kikī refused saying he could control the young chief. Kiʻi-kikī took all the guns and went to Polihale, while Kāne-ʻehu went back to Hanapēpē (Wichman 2003: 99).

**Ka-umu-aliʻi, Nā-kaikuaʻana and Kamehameha.** Although now free from his brother Keawe and his regent Inamoʻo, Ka-umu-aliʻi knew that Kiʻi-kikī and Kāne-ʻehu were very dangerous, so he turned to Nā-kaikuaʻana, a member of his court and a close friend of Kiʻi-kikī. Ka-umu-aliʻi bribed Nā-kaikuaʻana with his wives. After some time Nā-kaikuaʻana realized that he could also be in danger of losing his life so he swore allegiance to Ka-umu-aliʻi. To prove his loyalty he offered a plan to regain the guns. When Kiʻi-kikī was out surfing one day at Ka-ua, Makaweli, Nā-kaikuaʻana seized the guns. Kiʻi-kikī hurried to Hanapēpē to his brother; both of them fled to ʻEwa, Oʻahu, but Nā-kaikuaʻana followed them and killed them. However, Nā-kaikuaʻana returned to Kauaʻi with disturbing news; Kamehameha, now ruler of the windward islands, was preparing to invade Kauaʻi. After two failed attempts, Kamehameha sent a message to the young chief to recognize him as his sovereign. Ka-umu-aliʻi realized that it was a matter of time and he didn't have the resources to beat Kamehameha, so he accepted. However, he refused the many invitations to go to Oʻahu and make a public oath fearing the same fate as Keōua. After many more invitations an order came that he could not refuse. Ka-umu-aliʻi left Kauai to meet Kamehameha on Oʻahu. Kamehameha turned down the offer of the lands of Kauaʻi and invited him to land where he was royally entertained. A few days later, members of Kamehameha's court invited Ka-umu-aliʻi to a feast. On the way there he stopped to visit Isaac Davis who warned him that they were plotting to kill him there. Ka-umu-aliʻi changed his plans. Before leaving he stopped by to see Kamehameha and Ka-lani-moku who told Ka-umu-aliʻi to "take care of the chief Liholiho who belongs to you and to your cousin Ka-ʻahu-manu. Liholiho shall be the heir" (Wichman 2003: 99-104).

**Ka-umu-aliʻi, Liholiho and Ka-ʻahu-manu.** Ka-umu-aliʻi could only agree--he went to Oʻahu as a ruler and returned to Kauaʻi as a vassal, but he saved his kingdom from a bloodbath. Shortly after returning to Kauaʻi he received word that Isaac Davis, had himself been poisoned. The young chief's world was continuously changing as more and more ships came; whalers, merchants, including sandalwood merchants, and traders. The traders built a trading post at Waimea and a fort shortly after. With his new-found income, Ka-umu-aliʻi purchased guns, ammunition and ships with hopes of some day getting out of the stranglehold of Kamehameha. This was never to be; in 1819 Kamehameha died and his son Liholiho and queen Ka-ʻahumanu as his regent, took over.

They radically and forever changed the social structure of the Hawaiian society by extinguishing the *kapu* system. The following year Calvin Congregational missionaries arrived in Hawaiʻi to a society with a structural/religious void, as well as Humehume, oldest son of Ka-umu-aliʻi who had been given up as lost. He had been placed in the care of a Yankee captain when he was seven, to be educated. The captain died and Humehume was turned out into the streets. He was later sent to the Congregational school in Cornwall, Connecticut where several other Hawaiian youth were. When the first missionaries left, they

took Humehume (George) with them. Humehume and the missionaries were welcomed by Ka-umu-ali`i who gave the missionaries land to build a church and school. Ka-umu-ali`i was later converted.

In 1821 after spending over a month enjoying Kaua`i hospitality, Liholiho invited Ka-umu-ali`i to his brig for dinner. He quietly gave the order to set sail with Ka-umu-ali`i as his prisoner. Later that year he was “compelled” to marry Ka`ahumanu; she also married his son and heir. From then on the Kaua`i chiefs were kept at her side. In 1824, as Ka-umu-ali`i lay dying, his family were allowed to come to O`ahu, but they were not allowed to see him before he died. He was taken in state to Maui where he was buried next to Ke-ōpū-o-lani, sacred queen of Kamehameha. (Wichman 2003:104-110). He was the last king of Kaua`i

**C-4. `Ōlelo No`eau.** *`Ōlelo no`eau* or proverbial/traditional sayings usually had several layers of meanings. They reflected the wisdom, observations, poetry and humor of old Hawai`i. Some of them referenced people, events or places. The following *`ōlelo no`eau* were compiled by Pukui between 1910 and 1960 with both translations and an explanation of their meaning (Williamson, et al. in Pukui, 1983:vii), which are often more *kaona* (hidden or double meaning) than obvious; they refer to places or *alii nui* associated with Kona, Kauai.

<i>`Ōlelo no`eau:</i>	<i>Kakui-lau-nui-o-Kona</i>
Translation:	Thickly leafed <i>kukui</i> of Kona.
Meaning:	A thick cloud that shuts out the light of the sun, like a heavily leafed <i>kukui</i> tree. This expression was used in the Kona district of Kauai (#1905, p 205).
<i>`Ōlelo no`eau:</i>	<i>Ke one kapu o Kahamalu`ihi.</i>
Translation:	The sacred sand of Kahamalu`ihi.
Meaning:	A city of refuge for those of Waimea, Mānā, and the Kona side of Kauai (#1774, p 190).
<i>`Ōlelo no`eau:</i>	<i>Kauai a Manokalanipo</i>
Translation:	Kauai of Manokalanipo
Meaning:	Manokalanipo was a chief of Kauai in ancient times (#1556, p 168).
<i>`Ōlelo no`eau:</i>	<i>Ka moku kā`ili lā o Manokalanipo</i>
Translation:	The sun-snatching island of Manokalanipo
Meaning:	Kaua`i, the northwestern most island of the group, beyond which the sun vanishes at dusk. Manokalanipo was an ancient ruler of Kauai (#1488, p 161).
<i>`Ōlelo no`eau:</i>	<i>I ke kaua e `ike `ia ai a hoaloha a me na kānaka koa.</i>
Translation:	It is in war that one learns who his friends are and who among them is brave.
Meaning:	One learns who one`s friends are when one faces trouble. Said by Ka`eo to the chiefs of O`ahu, who were fighting against Kalanikūpule (#1210, p 131).
<i>`Ōlelo no`eau:</i>	<i>`Akāhi a komo ke anu ia`u, ua nahā ka hale e malu ai.</i>
Translation:	Cold now penetrates me, for the house that shelters is broken.
Meaning:	Fear enters when protection is gone. Said by `Aikanaka of Kaua`i when two of his war leaders were destroyed by Kawelo (#90, p 12).

**C-5. Place Names.** Hawaiians of old generally named everything; from winds and mountains, to rocks, canoes, taro patches, fishing stations, and “the tiniest spots where miraculous or interesting events are believed to have taken place” (Elbert in Pukui et al., 1974:x). They all represented a story, some known only locally, while others became legendary. The list below (Table 2) represents place names with an association to project lands in Kō`ula `ili of Hanapēpē Ahupua`a and vicinity of Waimea Moku.

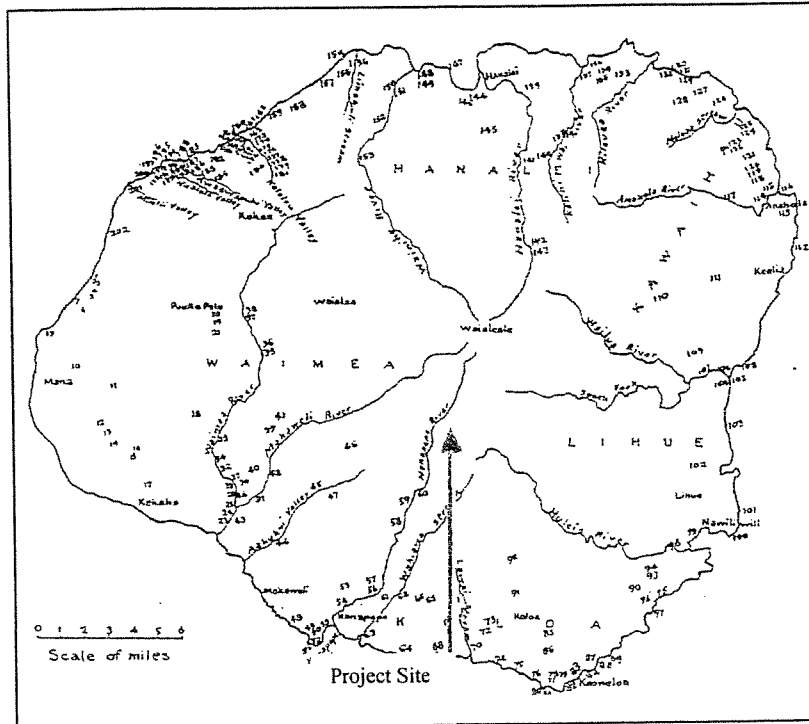
Table 2. Place names (\*selected) and in the vicinity of Manawaiopuna Falls, Kō`ula their significance.

<b>Halulu</b>	“rumbling” – (escarpment) named for the noise of the waterfall (Krauss & Gleasner 1998:27). Probably named for the legendary man-eating bird <i>halului</i> (Pukui et al 1974:39).
<b>Hanapēpē</b>	“crushed bay” – named from the appearance of the cliffs from the sea. (See also <b>Hanapēpēhi</b> ). <i>Hanapēpē</i> was also the name given to a honeycreeper, called <i>nukupu`u</i> on other islands (Krauss & Gleasner 1998:30); Land section, town, bay, ditch, falls, stream, valley, and ancient surfing place, southern Waimea district, Kauai`i. <i>Lit.</i> “crushed bay” due to landslides (Pukui et al 1974:41).
<b>Hanapēpē River</b>	The Hanapēpē River is the third longest on the island and is bordered on both sides by steep canyon walls and flows into a bay. The river begins on the slopes of <b>Kawaikini</b> and cascades into <b>Ka-pali-emo</b> , a gulch where the walls on both sides almost touch each other overhead. Below that is <b>Haulili</b> , a valley where there was once a celebrated <i>kava</i> grove. The combined streams flow over <b>Halulu</b> , named for the noise of the waterfall echoing over the cliffs. Within sight and sound of Halulu is <b>Maka`opihī</b> , where there is a cave in which <i>Kawelo-`ai-kanaka</i> lived after he was defeated by his cousin <i>Kawelo-lei-makua</i> . A large stone at the river crossing was <b>Pā-pōhaku-huna-`ahu`ula</b> , a place where `Ai-kanaka hid his symbol of rank. `Ai-kanaka plotted his revenge as he hid here with his wife and daughter. Now the stream and valley take the name of <b>Kō`ula</b> . Anywhere an area as small as ten square feet could be walled, it was turned into farmland. Houses were built on stone platforms to be above the floods. At the lower end of Kō`ula is a waterfall some considered the most beautiful of all: <b>Mana-wai-o-puna</b> . Two streams flow over the top of the cliff and join together about halfway down and drop the last hundred feet in a wide flow (Krauss & Gleasner 1998:27)... Streams from <b>Kō`ula</b> and <b>Manu`ahi</b> valleys join to form the Hanapēpē River (Krauss & Gleasner 1998:28).
<b>Hanapēpēhi</b>	“killing bay” –some say the correct name for <b>Hanapēpē</b> (Krauss & Gleasner 1998:30).
<b>Haulili</b>	“entangled”-- a valley where there was once a celebrated <i>kava</i> grove (Krauss & Gleasner 1998:27).
<b>Holo-iwi</b>	“traveling bones” -- a cliff on the west side of Hanapēpē Valley where three legends say a chief was thrown over by disgruntled attendants, most likely <i>Kawelo-lei-makua</i> in 1700 A.D. (Krauss & Gleasner 1998:29).
<b>Ka-leina-a-ka`uhane</b>	“leaping place of the soul” – On the eastern cliff of Hanapēpē Valley (opposite Holo-iwi) where the should of the dead gathered at this place and leaped over the cliff to the valley floor, where they embarked on canoes that took them to Pō, the land of the dead that lies deep in the ocean off the west end of the island (Krauss & Gleasner 1998:29, 30).
<b>Ka-pali-emo</b>	“slow cliff” – a gulch (Krauss & Gleasner 1998:27).
<b>Ka-wai-kini</b>	“multitudinous water” -- highest peak in Kona district 5,243’-- ridge going south from Mt. Waialeale—heaviest rain fall on Earth (Krauss & Gleasner 1978:6, 59). Source of stream that merges with Kō`ula Stream to make Kō`ula River which flows into Hanapēpē River (Wichman 1998:27). Highest peak (5,243 feet) on Wai`ale`ale, central Kauai`i, <i>Lit</i> “the multitudinous water” (Pukui et al 1974:98).

- Kō-`ula** “red sugarcane” -- Stream and valley of Kawaikini Ridge. Kō-`ula Stream is the source of Mana-wai-o-puna Falls (Krauss & Gleasner 1998:27). Valley and stream, Waimea and Kō-loa districts, Kaua`i. The tyrant `Ai-kanaka, frightened of the hero Ka-welo, fled here from Nounou Hill (Pukui et al 1974:118).
- Maka-`opihi** “eye of the `opihi” – a cliff cave made famous in the legend of Ka-welo (Krauss & Gleasner 1998:27).
- Mana-wai-o-puna** “stream branch of Puna” – Famous waterfalls about 100 feet. “The mist keeps the lichens and ferns green and moist” (Krauss & Gleasner 1998:27).
- Manu-ahi** “fire bird” (the *alae*, the endemic gallinule, which had the secret of fire) – a valley that joins Kō`ula valley several miles from the sea. The valley was well inhabited...every watercourse, every flat area along the stream that could be farmed, was...and almost every large stone had a name (Krauss & Gleasner 1998:27, 28). Stream and valley, south Kaua`i (Pukui et al 1974:146).
- Pā-pōhaku-huna-`ahu`ula** “stone wall in which a feather cape was hidden” -- hiding place of Chief Kawelo-`Ai-kanaka (Krauss & Gleasner 1998:27).
- Pōhā-kani** “sounding stone” – It was a large boulder with a hole through it in Manu-ahi Valley. When it was struck with a stalk of *kī* (ti plant) it sounded like a drum and was used to signal from one *heiau* to another. After the rebellion of 1842, Ka`ahumanu sent Huleia, a former priest now converted to Christianity, to destroy every vestige of the old religion and Pōhā-kani was on the list and Huleia broke off a part of the inside of the hole...now it only whispers (Krauss & Gleasner 1998:27, 28).
- Wai-mea** “red water” – named for the color of the dirt carried by the river in flood. The first settler to Kauai, *Kū`alu-nui-kini-ākea*, chose Waimea Valley for his new home. These first settlers worshipped Kāne, god of sun and fresh water, and thus of all living things.... *Kū`alu-nui-paukū-mokumoku* followed his father as *ali`i* – he sent back to his homeland for a people called the *Menehune*, who were masters of stonework and engineering (Krauss & Gleasner 1998:6). Town, bay, canyon, district, school, ditch, plantation, landing, river, road, and land division, southwest Kaua`i, where Captain Cook first landed (1778) (Pukui et al 1974:225).

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\* Ili place names are too numerous therefore not listed here, with the exception of Kō-`ula.



Map of Kauai Sites; arrow indicates project area [from Bennett 1931:98]

**C-6. Heiau/Sites of Kō`ula and vicinity.** [References found in Bennett (1931:113-114; recorded by Thrum in 1907)]

Site No.	Heiau/Site	Location	Comment (See map of sites above)
58	Taro Terraces House sites	Manuahi Valley	This site is completely terraced for taro and contains similar house sites to those in Hanapepe Valley (Bennett 1931:114).
59	Moloku Heiau	Hanapepe	Near peak of Kuopoo ridge at its junction with Kahalau. Described by Thrum as, "An open platform heiau, in fair condition." (Bennett 1931:114).
60 some	Taro Terraces House sites	Hanapepe Valley	Taro terraces are everywhere that the land is irrigable. On the walls are 3 feet high. House sites are the usual types. Low caves are utilized by building up in front. There is evidence of people living in every turn of the valley. The valley is narrow in most places. Farther on toward the sea the valley broadens and along the sides there are still house sites built up. One house site of stone was 20 by 30 feet and well built. It was walled 4 to 8 feet in front to make the platform level on a steep, rock slide. It was walled in back 3 feet against this slide. On the sides are walls 2 to 3 feet high in back, and the same in width, though in the front they are much lower (Bennett 1931:114).
54, 55, 56	Heiau		All three sites are heiau, however they are quite a ways south west of the project area (see map above).

## D. Historic References.

By and large “Historic References” pertain to notable historic events, overviews of important place names and land tenure within the project area and districts. One of the most significant practices in the history of the Hawaiian people was their concept of stewardship of the land. However, over time, these practices were replaced by more western methods of land tenure and use, as the lands of Kauai went from the domain of the monarchy to various individuals and corporate entities.

**D-1. History of Land Divisions.** It was during the time of Kūkona (ca. 1400s), father of Mano-ka-lani-pō (ca. 1405-1455) that the division of lands is said to have taken place (Wichman 2003:53-54). The islands were portioned into districts, sub-districts, and smaller divisions, each ruled over by an agent appointed by the landlord of the next larger division, and the whole under control of the ruling chief over the whole island or whatever part of it was his to govern (Beckwith 1970:383). Each island was divided into *moku* or districts that were controlled by an *ali'i 'ai moku*. Within each of the *moku* on each island, the land was further divided into *ahupua'a* and controlled by land managers or *konohiki*. The boundaries of the *ahupua'a* were delineated by natural features such as shoreline, ridges, streams and peaks, usually from the mountain to the sea, and ranged in size from less than ten acres to 180,000 acres (Moffat and Kirkpatrick 1995:24-29, see also Chinen 1958:3). But sometimes “only the line of growth of a certain tree or grass marked a boundary; and sometimes only a stone determined the corner of a division” (Chinen 1958:1). The ideal *ahupua'a*, from mountain to the sea, enabled a chief and his followers to obtain fish and seaweed at the seashore, taro, sweet potatoes and bananas from the lowlands, and forest products from the mountains. However, this more often than not, was not the case (Chinen 1958:3).

Each *ahupua'a* was often divided and sub-divided several times over (i.e., *`ili*, *kuleana*, *mo'o*, *pauka*, *koele*, *kiha pai*), answerable to *ali'i* where the lesser division was located. However the *ili kupo* or the *ili ku* was “completely independent of the *ahupua'a* in which it was situated...tributes were paid directly to the king himself” (Chinen 1958:4). Some *ahupua'a* did not have any *`ili*, while others had as many as forty, “each with its own name and carefully defined boundaries” (Chinen 1958: 3). *Mo'o* or *mo'o`āina* were the next size of land division; these were set for cultivation purposes only. *Mo'o* were subdivided into *pauka* which were also for cultivation only. Patches of land cultivated by tenants for their chiefs were called *koele* or *po`alima* because they were worked only on Fridays. A *kihapai* was cultivated only for the tenant and his family. Rights to lands were mutable or revocable; a ruling chief or any “distributor” of lands could change these rights if displeased, or as favors--usually after a victorious battle, and after the death of the *ali'inui* (Chinen 1958:5).

During the period between 1839 and 1855, several legislative acts transformed the centuries-old Hawaiian traditions of *ali'inui* land stewardship to the western practice of private land ownership. In the first stage King Kamehameha III (Kauikeaouli) divided up his lands among the highest ranking *ali'i* (chiefs), *konohiki* (land managers), and favored *haole* (foreigners) (Chinen 1958:7-14; Moffat and Fitzpatrick, 1995:11, 17). This historic land transformation process was an evolution of concepts brought about by fear, growing concerns of takeovers, and western influence regarding land possession. Kamehameha III, in his mid-thirties, was persuaded by his *kuhina nui* and other advisors to take a course that would assure personal rights to land.

In 1846 he appointed a Board of Commissioners To Quiet Land Titles, commonly known as the Land Commission, to “confirm or reject all claims to land arising previously to the 10<sup>th</sup> day of December, AD 1845.” Notices were frequently posted in *The Polynesian* (Moffat and Kirkpatrick, 1995). However, the legislature did not acknowledge this act until June 7, 1848 (Chinen 1958:16; Moffat and Kirkpatrick, 1995:48-49), known today as *The Great Mahele*. “The mahele did not actually convey title to the various *ali'i* and *konohiki*; it essentially gave them the right to claim the lands assigned to them--these lands became known as the *konohiki* lands. The *konohiki* chiefs were required to present formal claims to the



Land Commission and pay a commutation fee, which could be accomplished by surrendering a portion of their land to the government.” The government could later sell these lands to the public. Upon payment of the commutation fee, the Minister of Interior issued a Royal Patent to the chief or *konohiki*. The last one-third was originally designated to the *maka‘ainana*, but not acted on--instead it was set aside to the government, “subject always to the rights of the tenants” (Moffat and Kirkpatrick, 1995:41-43; see also Chinen 1958:15-21). *Ili kupono* were the only *ili* (parcel) recognized in this process, all the *ili* and lesser divisions were absorbed into the *ahupua‘a* claim (Chinen 1958:20).

In 1892 the legislature authorized the Minister of Interior to issue Royal Patents to all *konohiki* or to their heirs or assignees where the *konohiki* had failed to receive awards for their lands from the Land Commission. The Act further stipulated “that these Royal Patents were to be issued on surveys approved by the Surveyor General of the kingdom” (Chinen 1958:24; Moffat and Fitzpatrick 1995:41-43). Kamehameha III formalized the division of lands among himself (one-third) and 245 of the highest-ranking *ali‘i* and *konohiki* (one-third) between January 27 to March 7, 1948. He acknowledged the rights of these individuals to various land divisions in what came to be known as the *Buke Mahele* or ‘sharing book.’ These lands, however, were all “subject to the rights of native tenants” or *kuleana* lands, with reversionary rights to *ahupua‘a* and *ili kupono* claimants if the tenant died without heirs (Chinen 1958: 29-30). The *Great Mahele* marked the end of the feudal system in the kingdom (Chinen 1958:15).

The Manawaiopuna Falls project is in Kō-ula, an *ili* of the *ahupua‘a* of Hanapēpē, currently owned by the Robinson family. During the Mahele *konohiki* distribution of lands, one-half of the lands of Kō-ula were given to Paniāni (1848) by Kamehameha III (Baker 1989:115); was the *konohiki* of Kō-ula at this time, according to LCA native testimony by Moki (No. 10457, N.R. 289v9) in Hanapepe on January 26, 1848 (Waihona 2000) [Appendix F]. The other half was placed into “Kingdom Lands” sometimes referred to as “government lands” (Baker 1989:151, 175). Several other people claimed parcels of land in Kō-ula, but only two others were awarded: LCA #8035 to Alaiki (*mo‘o* lands) and LCA #10457 to Namoki/Moki (*mo‘o* lands) (Waihona 2000). The *ahupua‘a* of Hanapēpē was set aside as personal lands or “Crown lands” for Kamehameha III (Baker 1989:22).

**D-2. Sinclair-Gay-Robinson History.** The following overview of the Sinclair-Gay-Robinson history is based primarily on research by Zulick et al (1999:21-26, 135) [see also Joesting 1984:189-197].

Elizabeth (Eliza) McHutchinson was born in Glasgow, Scotland in 1800. In 1818 she accompanied her father on a business trip where she met her future husband Captain Francis Sinclair of the Royal Navy. They were married a year later and Sinclair resigned from his post, taking a job at the Inland Revenue Office in Edinburgh where their six children were born. Later the couple heard that the Royal Navy was offering large portions of land in New Zealand to retired officers and the Sinclair family left in 1839. They arrived in 1841 only to find that disputes with native Maori prevented them from gaining access to the land. They settled in Wellington where Captain Sinclair built a ship and traded along the coast. In 1843 they relocated to Pigeon Bay where they built a home, raised cattle and sheep and also built ships. Tragedy struck in 1846 when the captain, his oldest son and daughter’s fiancé were lost at sea with all of the family’s savings.

Eliza Sinclair was able to make a comeback. Her daughter Jean married Captain Thomas Gay, a whaling captain in 1848. Daughter Helen married Charles B. Robinson of Akaroa in 1850; leaving him two years later, and taking their son Aubrey to live with her family; daughter Annie later married Vlademar Knudsen in 1867 and they lived in Waiawa (Joesting 1984:193). In 1863 the family decided to leave New Zealand and set sail for Hawaii, where Kamehameha IV offered to sell them the island of Ni‘ihau. After inspecting the island, which happened to be lush at the time due to unusually heavy rainfall, they agreed to purchase it for \$10,000 in gold. However, Kamehameha IV had died before finalizing the sale, so Lot Kamehameha V signed the sale documents. They later purchased other lands on Kaua‘i such as the *ahupua‘a* of Makaweli (awarded to Victoria Kamamalu in 1848) where they decided to live, and the *ili*

of Kō`ula (1873). In 1885 Aubrey Robinson married his cousin Alice Gay. Brothers-in-law/cousins Francis Gay and Aubrey Robinson formed *Gay & Robinson*, a family partnership to manage Makaweli Ranch and Makaweli Plantation which, Kō-ula project land owner Warren Robinson is the current President.

#### **E. Previous Archaeological and Other Studies: Kō`ula and vicinity.**

As early as 1931 Bennett voiced his observation: “Unfortunately the continuity of culture on the Island of Kauai is broken. The older natives who still remember heiaus (temples) are fast dying, and the younger generations are no longer interested” (Bennett 1931:3). While there are no known archaeological studies for the `ili of Kō-ula, archaeological studies have been conducted in the *ahupua`a* of Hanapēpē. Each contributes to the history of cultural properties and practices, and land, water and marine resources and use in the project area of Kō-ula. The following are summaries of studies, or notations that a study was undertaken, in the vicinity of the project area or of Kauai in general, as noted by Bennet (1931).

**Cook (1784).** *A Voyage to the Pacific Ocean.*

**Vancouver (1801).** *A Voyage of Discovery to the North Pacific Ocean and Around the World.*

**Gay (1873).** *Kaua`i Place Names in Laauokala, Mahinauli, and Ukula Plau Old Kamaainas in Hanapepe Plus Punalau and Kaawanui (Place names copied from old books).*

**Thrum (1907).** “Tales from the temples.” *Hawaiian Annual for 1907.* Thrum recorded three *heiau* in Hanapēpē: Makole (#54-small platform *heiau*, destroyed), Pualu (#55-partly walled, paved *heiau*) and Moloku (#59-open platform *heiau*) cited above on page 41.

**Stokes (1908, 1909, 1927).** Various studies.

**Bennet (1931).** *Archaeology of Kauai.* Bennett conducted his field work of Kauai archaeology in 1928-1929, “supplemented by a study of available collections, of published literature, and of manuscript notes on file in Bernice P. Bishop Museum” (Bennett 1931:3). Bennet (1931:60-69, 95) notes that various artifacts found are unique to Kauai such as the curved adze, gouged stone implements, polished stone knives, and Kauai pounder (ring, stirrup, and block), block grinders, the broad tapa anvil, *makaloa* sedge mats (Ni`ihau and Kauai), and decorated gourds or *ipu* (Ni`ihau and Kauai). Sites in the vicinity of the project area were noted above on Page 41.

**Handy & Handy (1972).** *Native Planters in Old Hawaii: Their Life, Lore, and Environment.* Study of Hanapēpē Valley in 1964.

**Hammatt (1990)** “Archaeological Reconnaissance of 72 Acres, Hanapepe, Kauai TMK 2-1-001 and 2-1-001-027.”

**Creed et al (1994).** “Archaeological Inventory Survey of a Houselot at Hanapēpē, Kauai TMK 1-9-10:2 and 3.” Creed et al. mention some items that have some pertinence to the project area.

- ❖ Francis Gay records 17 waterfalls by name in the `ili of Kō`ula” (19-20).
- ❖ Vlademar Knudsen is appointed *konoiki* of Hanapēpē in 1864 (31).
- ❖ Knudsen leases Hanapēpē in 1865 from the King for \$500/year for 25 years (31).
- ❖ Annie Sinclair marries Vlademar Knudsen (32).
- ❖ Eliza Sinclair buys the *ahupua`a* of Makaweli for \$10,000 from Victoria Kamamalu in 1865 (32).
- ❖ Sinclair-Gay-Robinson’s buy the Hanapēpē district (32).
- ❖ By 1873 the entire Kona district were owned by the Sinclair-Gay-Robinson’s (32).

- ❖ Francis Gay notes Papoahaku Cave in the `ili of Kō`ula (33)
- ❖ Francis Gay (1873:28) describes the uplands of Hanapēpē and mentions “the three bird lands of Makaweli, Manuahi and Koula” (33). (see Kauai Boundary Commission report-1873, Appendix G)
- ❖ Kilo-manu (watch for birds) – a stone lookout for birds. Top of ascent on Manawai ridge. Puhi is the mauka part of Manawai ridge to Puuonanahu (Koula) (35).
- ❖ LCA #8035 *mo`o* land claim to Alaiki in Koula toward Halulu Falls (40).
- ❖ Mahele award #55 to Paniani (from the Big Island) (41).
- ❖ (Handy 1985) mentions that natives go to get duck when molting at Kahaiki in Paliemo (Koula) (49).
- ❖ Halelauoho, the hair house in Koula (49).
- ❖ Papohaku-caves of Keanaloa and Kupapau in Koula (49).
- ❖ Kauai Rebellion of 1824, Hanapēpē scene of devastating battle (62).

### **Mahele Award #55 - Paaniani.**

J. Kauai and Kamaku, his wife, and Waialoa her mother...they came from Kona, Hawaii. That is Waialoa was born in Kona of Awahua (k) and Nukee (w) and came to Honolulu as a child and was raised by the chiefs and married Paaniani (k) and came to Koula with their daughter, then married to J. Kauai of Hana, Maui.... Paaniani was given the ili of Koula which brought them to Kauai...a tall good looking man called Pamaiaula...His wife, Walia, was with him, a tall good looking woman from Laaloa, Hawaii. She died not long after their return to Laaloa and he married again the widow of Makahiaa, Umi (w) (Gay 1873; In Creed et al 1994:42).

[Paaniani or Paniani was the *konohiki* of Kō`ula according to native testimony by Moki in Hanapēpē on January 28, 1848; during this time Kanoa was the governor of Kauai (Waihona 2000: No. 10457; N.R. 289v9). Perhaps Paniani became the *konohiki* of Kō`ula after being given the land, as it appears he may have been from Honolulu (see above). Moki was given Waiaka, an *ili kupo* of Kō`ula (Waihona 2000: LCA No. 10457; N.R. 289v9). This was located south of Manawaiopuna Falls between the Hanapēpē River and Wahiawa. According to foreign testimony (F.T. 218-219v11supp.) by Kuapuu, Moki received this parcel, a “sub*mo`o*” called Kanuilima (10 *loi* and a pasture), in the *mo`o* of Waiaka, in the *ili* of Kō`ula from a previous *konohiki* named Kalunu during the time of Kaikioewa (Waihona 2000: LCA #10457). There were two *loi* in this *mo`o* which Moki gave to Alaiki, although Alaiki had other lands (14 *loi*) since the time when Kaikioewa was governor and Kalunu was *konohiki* (Waihona 2000: LCA #8035).]

**Mills (1996).** *Transformations of a Structure: The Archaeology and Ethnohistory of a Russian Fort in a Hawaiian Chieftdom, Waimea, Kauai.* PhD dissertation about the Russian Fort Elizabeth in the context of the socio-political history of Kaua`i.

## PART IV: ETHNOGRAPHIC SURVEY

The Ethnographic Survey (oral history interviews) is an essential part of the Cultural Impact Study (CIS) and Assessment because they help in the process of determining if an undertaking or development project will have an adverse impact on cultural properties/practices or access to cultural properties/practices. The following are initial consultant selection criteria:

- ❖ Had/has Ties to Project Area
- ❖ Known Hawaiian Cultural Resource Person
- ❖ Referred by Ku`iwalu Staff

The consultants for this Cultural Impact Study/Assessment were selected because they met the following criteria: (1) consultant grew up, lives or lived in the vicinity of the project area; (2) consultant is familiar with the history and *mo`olelo* of Kō`ula in general; (3) consultant is a known Hawaiian Cultural Practitioner in the project area/vicinity; and/or (4) consultant was referred by Staff of Ku`iwalu. Copies of signed “Consent” and “Release” forms are provided in Appendices D.

### Research Themes or Categories

In order to comply with the Scope of Work for this cultural impact study and assessment, the ethnographic survey was designed so that information from consultants interviewed would facilitate in determining if any cultural sites or practices would be impacted by the implementation of the proposed *Manawaiopuna Falls* project. To this end the following research categories or themes were incorporated into the ethnographic instrument: Consultant Background, Land Resources and Use, Water Resources and Use, Marine Resources and Use, Cultural Resources and Use, and Anecdotal Stories. Except for the ‘Consultant Background’ category, all the other research categories have sub-categories or sub-themes that were developed based on the ethnographic raw data or responses of the consultants. These responses or clusters of information then become supporting evidence for any determinations made regarding cultural impacts.

#### A. Consultant Background

Each consultant was asked to talk about their background; where they were born and raised, where they went to school and worked, and a little about their parents and grandparents. This category helps to establish the consultant’s connection to the project area, their area and extent of expertise, and how they acquired their proficiency. In other words, how the consultant met the research consultant criteria.

The consultants either have family ties to the project vicinity and/or have been to the project area and are familiar with the history of the area. Both consultants grew up in West or Kona, Kauai. One consultant is a member of a family that has owned the project lands for several generations. Both consultants have personally been to the Manawaiopuna Falls project area.

There is always a danger of not allowing the consultant’s “voice” to be heard; of making interpretations that are not theirs; and of asking leading questions. To remedy this, the “talk story” method is used and allows for a dialogue to take place, thereby allowing the consultant to talk about a general topic in their own specific way with their own specific words. All of the excerpts used are either in the exact words of each consultant or paraphrased to insert words that are “understood” or to link sentences that were brought up as connected afterthoughts or additions spoken elsewhere in the interview. The following excerpts in “Consultant Background” provide a summary of each consultant, as well as information about their parents and grandparents. Last names are used to identify quotes for both consultants.

**A-1. Aletha Kaohi.** My name is Aletha Kaohi. My parents are William and Margaret Goodwin. My grandparents are Lizzie Kapenaolaokalani Cox and my great grandparents, was who my father was raised by, was Kapaukaneolono and I forget sorry. Kekuakepaleiliahikaoakalani. I was reared in Waimea about a mile and a half from the town called Paliuli.... [My mother's ohana] is Kama'i, K-A-M-A-I. And her father, I'm not sure, I don't know much about where he came from. Some say he came from the island of Hawai'i, some say he came from Maui, I'm not sure. His name was Paulo or Paul Kama'i. My mother was Ka'onohi Luka Pehu. I've never traced my grandfather. I really don't know that much about my mother's side. I have other genealogy of my grandmother on my mother's side because she was from Waimea. Actually she was from Makaweli, which is Waimea valley, you get Waimea and you get Makaweli, and so she was Makaweli valley she came from. And they lived on the peninsula between the two rivers, that's where.



[On my father's side.] Very briefly, my great grandmother Kekuakepaleiliahikaowakaokalani, one name, was a *kahuna* in her later years. She married her husband Kapahukaneolonookainahou, who was a grandson of Kaumuali'i, they were barren. They didn't have children. And he's the youngest of four children, my great grandfather. Although he is not biologically my great grandfather he raised my grandmother yeah. There were four children in my great grandfather's family and the eldest son died and so the fourth child was named after him. So the first child is named Kapahukaneolononui and the fourth child is name Kapahukaneolonoli'ili'i, they add the name 'O Kainahou because Kainahou was the high chief, they belonged to Kainahou, you know Hawaiians yeah, that's where their roots are, from Kainahou. They were brought up by a man by the name of Kapuniai and not by their parents because he was a retainer of the court. A retainer would be like Kamehameha's court, Kapuniai. And there were other youngsters that were raised by Kapuniai from the community. And there were three boys but one had died already so there were two left and a sister. And when their sister had a child, she was going to have her second child but she died in child birth. And the child died with her. Her brother, who was the second eldest Kalamakani, adopted her because the father felt that he could not raise the child and needed two parents yeah? And they were barren and so they adopted Louise Apokohana who later became Mrs. Charles Gay.

On the other hand my great grandfather, they also were barren, no children. And so they go to a place called Kaunalewa and they petition Ke Akua for a child and so they had to go see the *kahuna*. And there's a high oracle and the *kahuna* is up on the top of the oracle and they're bringing their *ho'okupu* and he looks out and he says to my great grandparents that a ship is coming to Hawai'i and you will be a guest on this ship. And we'll see about maybe you might be lucky enough there will be a baby. So you know if that's what the *kahuna* said that's what they did. My great grandmother was a gift to the sea captain and within a year she had a child. Of course my great grandfather says it's his child. But *haki`a. Haki`a.* And years later I guess she grew up thinking that she belonged to them and my great grandmother died and she was alone with my great grandfather and he finally said that your biological father is a sea captain and his name was Goodwin. Evidently he knew there was a child but never visited. But each time that he came from the Far East he dropped off a trunk of fine silks. So my grandmother was one of the best dressed women in the community, in the village. So that's the white part okay? And of course the Hawaiian part that he really has biologically is from his great grandmother. And as I said she was a *kahuna*. She claims that her family were the Marquesans that came. They were the first settlers here. So there's really no genealogy. There's very little we can only go back four or five generations. Other than that.... You know it's a very unusual name because Kekuakepaleiliahikaowakaokalani is really a message that comes to you in red. And the red is the supposedly as you look up into the sky, it's the royalty. So she was already, well 'cause you know grandma was born 1848 or 1850, that's when she was born. So already you have missionary influence, already and so. But they never became, she never embraced the Christianity, never did.

And Kekuakepaleiliahikaowakaokalani... the meaning that we have is that a message, the message comes to you in red from above because that's *lani* yeah to them, never had heaven, especially if they never embraced Christianity yeah.

Hard Hawaiians, you give one name, Lizzie Kane or Lizzie Kapahukane, the Hawaiian names were not popular. So when she [father's mother] changed her name, so that's when my dad changed his name to Goodwin too. My dad was an artist. So his paintings would have on Willie Kane. And all the people in the community would call me "Eh Willie Kane girl." That was my name, 'Willie Kane girl'. "You're just like your father, Willie Kane, girl." And on his paintings he signs as Willie Kane.... He said it was difficult when he grew up to be Hawaiian. Very difficult. He was born in 1890 you know. He was born up in Paliuli, born in a *pili hale*. He grew up, he was a man that grew up in the ancient way and had to embrace the new ways. He didn't learn English 'til he was about 7, spoke only Hawaiian and then he was sent to school here in Waimea and was taught by Lucy Wright, who was the first Hawaiian that taught English in the schools. And then, by 11 he was at Kamehameha. And then he went on to St. Louis, his mother moved him to St. Louis. Better discipline she said, that's what he told me.... My dad was, yeah he knew all the mountains, lived with Hawaiians you know. He was this haole looking chief. [Because of his knowledge, he was a guide/consultant for Bennett when he did his archaeological survey of Kauai.]

Over the years my father had shared with us place names and people. So, much of the knowledge that I have acquired is really from my father. And a few other kupunas in the community-- James Alukanakapa'ahu and also I was a student of Gabriel Ni, who was an educator in the Department of Education. I attended Waimea Elementary school from 1<sup>st</sup> grade to 7<sup>th</sup> grade. My young days was not only in Waimea but also on the Napali and also, after I got older, my father was also the caretaker for the County at Pu'u Kapele. So we frequently went to Koke'e, not only to visit him but also to just learn about the mountains, and to respect. Like don't go swimming in the ditch-- it meant no swimming in the ditch, although you were very tempted to, because somebody was drinking that water. In the valley itself, my parents, I have to say that my parents were sheltered. I didn't play much with the Hawaiian children in the community. My friends were mainly Japanese and haole kids. And it was quite a contrast because they were plantation manager's children and then there were farmers because they were my neighbors.

And one of the things that I remember my mother telling us that she didn't want us to grow up just sitting around playing *ukulele* and that's why I don't play the 'ukulele. That we had to be industrious and you know and 'cause education was stressed. I cut my teeth on the Book of Knowledge. By the time I went to school, I was already reading. But this was all part of, because we didn't play with other children. And the Japanese farmer children were the smartest and the best. And so they helped me..., it was a fun time for me.... I was a librarian, public librarian. Retired. But my first interest was to be an Anthropologist--that was what I really wanted to be. But my mother, "you no go handle, you no go in caves, you don't want to handle the *iwi*" you know. And so by the time I grew up you respect and you do what your parents want you to do.

In many ways it was Hawaiian culture -- making us aware of it and not in a school setting but it was like everyday. Of course my parents planted taro, and when we had over abundance, we never sold it. So it was shared with the family. When people say that they're going to visit my parents, they never say they're going to the Goodwin residence. They're going to Paliuli. Paliuli was kind of like a, like a magic place because it had...my mother was a great gardener, and the yard was always manicured and you know it's not 10,000 square feet but it's 10 acres, you know. And she managed, you know, the taro fields, and the garden, and she wasn't quite the vegetable garden person but her plants--I think that's typical of Hawaiians.

\* \* \*

**A-2. Warren Robinson.** I'm Warren Robinson and I was born on Kaua'i. I was born on October 21, 1928. So I've been here for 76 years. As far as my schooling, I got a little mixed up with Pearl Harbor deal and I had to work when I was 13 because the school got messed up. I worked for a year as a cowboy when I was 13. And then I was able to get a passage on a convoy going to the mainland. Then I did my high school up there. I only went to high school two years up there; I had to take an accelerated course. So I graduated when I was 15. So I came home and I worked for another year on the ranch. Then I went to the University of California after that year...economics and business. I graduated from the University of California, and then went into the army for two years after college, from 1951 to 1953. After that, I've been back here ever since working....as a cowboy, as a manager of the ranch, as a manager of the company, now I'm president of the company, and the Chairman of the Board of the company. So that's my history.... I got my agriculture from practical experience; you know I think it helped me a lot because it helped me with work as a farmer because you can't learn that in a book.... I've been around an awful long time and I know an awful about our land.



Okay the family moved here in 1863. They bought Niihau in 1863, I guess it was. And then they bought the Kalae property in 1865--Liza Sinclair. One of her daughters was married to a Robinson [great-grandfather] and my grandfather was 15 years when he arrived. And then he and Francis Gay--he was a ship captain and I think Francis Gay married one of the Sinclair girls too. They took the property to start a ranch. And then eventually ended up with sugar and cattle. And that's where we stand right now.

You've got the Gay's--they are no longer part of *Gay and Robinson*. From what I understand Gay's were given most of Lana'i as an exchange for their rights in *Gay & Robinson*. And so it's mostly just the Robinsons. There aren't too many, several of the ladies, the women have married and moved to elsewhere. From Kaua'i...my cousins Bruce and Keith and myself, and one of my children works here. And Bruce's children are not old enough to work yet. Oh no excuse me one of his daughters is working there, the older daughter. But we do not have a large family [Robinson].

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Photo 10. Offices of *Gay & Robinson* in Kaumakani.



Photo 11. One of several sugar fields in West Kauai.

## B. Land Resources and Use

Land resources and use change over time. Often evidence of these changes are documented in archival records. Occasionally cultural remains are evident on the landscape and/or beneath the surface. However oral histories can give personal glimpses of how the land was utilized over time and where the resources are or may be. Oral histories also provide indications of cultural practices. The project area belongs to the Robinson family. The most dominant historic use of the land in the project area was to dig an irrigation ditch supported by a berm [more in the next section]. Since the project lands were a relatively small part of where both consultants grew up, more of their land resources and use descriptions were about greater West Kauai.

**B-1. Life in West Kauai.** West Kauai refers to the most western side of the island, which is part of the Kona or Waimea District. It is also referred to by locals as the dry side of the island. Both of the consultants grew up in West Kauai; they both talked about life growing up there.

Much of my life, we lived in Paliuli which is rather a secluded area. Our neighbors were the Gays and they were like you know, two horse pastures away. And we were surrounded by taro fields at one time and then rice fields and then later sugar-- sugarcane. My father was an avid hunter and he was also a historian. And so we were taken into Waimea Canyon, just to accompany him. One of the things that he did was he went to burial caves; [first he] gathered a particular kind of herb which unfortunately I don't know what it was and he would bring it down to the river because he needed water and he would get a stone from the river and he would pound it and with the water he would sprinkle the water at the doorway of these burial caves which later I found out it was our family burial caves. And we were told that that was to keep people from robbing the caves. And over the years that did not happen until the hurricane when it blew much of the trees away and exposed the caves and remains were removed by the police department. Someone had reported that they saw some, looked like bodies that were wrapped in ah-- they were in sleeping bags. Well it turned out it wasn't and actually they were wrapped in *makaloa* mats and they were my 'ohana. There were five burials in the cave and they had all died in the influenza and family thought that if they were buried far away from the family that they, whatever they had at that time would safeguard the other members of the family.... And then the war broke out in 1941. And I was allowed to ride my horse. And my neighbor, who Barbara [snip], they're 'ohana for us, we both were horse people and we would ride into the canyon and it was very safe. My parents knew that if I was on the horse that I was safe. That I was safer on the horse than I was walking because I could walk anywhere and meet anybody but on a horse that somehow I had that freedom. And we would just wander into the canyon and just kind of poke around. And so that was really what my lifestyle was [Kaohi].

As a youngster, I also, a very rare opportunity of two children, I was not quite 9 and my brother was 5 or 6. And my dad took us into Miloli'i, which is on the Napali coast by boat and this was a little skiff that was only 15 foot high with a 10 horsepower, outboard motor. And as we started out passing Polihale, it got very rough and my father took us ashore and gave us each a burlap bag with water and something to eat and he told us that we needed to walk until we came to the stream, which was Miloli'i. I have no idea how far that is. We were cautioned not to go into the water and that he would be there waiting for us. And later when my brother and I reflected on that experience we said we had no doubt that my dad was going to be there waiting for us. But we got there before him. And the trust that he had in us... that we would not go into the water, it had never dawned on us, why he didn't show up. So I was brought up in an environment of a positive environment rather than what if he doesn't show up. We spent many weeks in there; I think it was like three weeks. Different boaters came in, I got tired of eating fish, and butter was like liquid. My dad hunted so we had goat and the first time I ever ate turtle. My brother and I helped him catch the turtle. And we learned that turtles will pull their heads in if something gets caught in their neck. And so the hook goes into their shell and then my brother and I would wind the rope around the boulder so that the turtle will keep surfacing on the surf there rather than going underneath of the reef. It was just new kinds of experience. And shell picking and learning to throw a net [Kaohi].



**B-2. Gay & Robinson.** The Gay and Robinson families at one time owned much of the lands of West Kauai. They were ranchers, as well as sugar growers. Mr. Robinson talks about the establishment that became known as *Gay & Robinson*.

It started out as a cattle ranch. And you know Makaweli is very dry. Captain Cook noticed sheets of red dirt floating off of the Makaweli land. When the family came here there's no water in Makaweli really except for inland and so the ranch was more *ma uka*, in the mountains. And as the sugar era came along the ditches were built...before the cattle came in from Hanapēpē canyon to Olokele valley...and brought in to our lands here. And it's probably the most fertile lands in the state [Robinson].

We brought our sugar here, Kaumakani Sugar Company, which was originally A&B and then C. Brewer bought them out at the end of the Second World War. In 1994, *Gay & Robinson* bought out the assets of Kaumakani Sugar Company, which includes the Mill and all this property and everything. And at that time the lease reverted back to Gay --our lease anyhow. We did that final and then from then on it was *Gay & Robinson* [Robinson].

**B-3. Kō`ula.** The project site is located in a small steep valley, within the larger valley of the *ili* (land division) of Kō`ula, which is in the *ahupua`a* of Hanapēpē in the *moku* or district of Kona or Waimea. The land has belonged to the Robinson family for at least a hundred years.

**Koula Valley.** Without drawing a picture for this tape recorder, which is rather difficult. But the main valley is, the upper portion of the valley, I think, from where Manawaiopuna water and your lower water drawing is called Hialoa Valley. And that's to the left fork of the river. Manawaiopuna is questionable how many yards, we've tried to figure it out, maybe three hundred-303 yards or so, up into a small little pocket and the falls comes from above into the valley [Robinson].

**Koula Boundaries.** From the project area it crosses the river and climbs up and it reaches Mt. Kahili, the upper portion of Mt. Kahili is our boundary that goes up to Waialeale. So it goes to that area. So it's completely-- we own the complete area of that area [Robinson].

**Jeep Road.** There's a [jeep] road. Yeah we went up, four wheel drive, it can take you up. And we went from up about from Kō`ula from up on the top from Ele`ele go down. Before you get to Wahiawa...the open space there that's where we went [Kaohi].

**Falls Rope Ladder.** And from what I understand at one time there was a rope ladder that you could go up and climb up the rope ladder and get on top of the falls you know. But in my lifetime I've never seen it. So some of the old timers said that they used to have a rope ladder that went up there you know, but I've never seen that. It's [the sheer cliff is] as high as the falls you know then it drops down into Hialoa [Robinson].

**Spielberg Helipad.** I don't know what happened, I don't know how Mr. Spielberg, what kind of permits he had to get, I don't know whether he had to go through this whole rigmarole here, it's where they filmed the beginning of the Jurassic Park movie. The helicopter landed right in the river at the base of the falls. And there's still a little stairs that they climbed up from helicopter to get into their cars to drive away. It still remains there. So Spielberg had a helipad there. We built a helipad for him. And then when we had no more use for it we destroyed it so it would not create a problem in the river.... Spielberg was the first guy that had a helipad [here] and his was at the base of the falls and we don't want to do that.... Obviously they authorized Spielberg you know and I would think that they could authorize us as the owners of the land to do the same thing you know [Robinson].

**Project Area: Landing Site and Berm.** The area between the landing site and the falls is strictly ditch bank. That area is not like walking up a valley you know. It's just a bank of the river, the ditch you know. And therefore there's nothing there. They have no cultural stuff there or

anything. It's just, you know, originally I guess it would probably when it was built it was whittled out of the side of the valley you know. And there is the bank and that's the area that we're talking about right now is essentially is the bank of that ditch you know [Robinson].

**Koula Ag Zone & Cattle.** It's zoned agriculture and agriculture because we have cattle. Our cattle can go up and enjoy the falls. And also because it is connected with our ditch system, you know, that takes care of our farm.... To be perfectly frank with you, it's seldom that the cattle ever get up there. I mean it's too wet up there you know and it's not pleasant for them to live. They live mostly in the low lands. Every now and then they take a trip up and they eat some of the grass around there and then they go back down again where its drier you know. So if he [helicopter pilot] landed on a cow that wouldn't be too nice. But the cattle if they happen to be on the helipad, if they did, which I doubt they ever will be--they can just go up and into the river or wherever. They can roam wherever they want around there so it wouldn't hurt the cattle you know.... There's no sugar cane in that valley. The only farming we do in that valley is cattle [Robinson].

**Other Mammals in Koula and Vicinity.** There are wild pig and on Hialoa side, on the *ma uka*, Waimea side of Hialoa there are some goats that live up in the forest, not too many but I've seen goats up in that area. And that's part of our--we allow employees only to hunt--to keep the game down so that they don't get obnoxious you know. And I would say off hand that if this project goes through there will be no hunting in that vicinity because we don't want anybody to get hurt you know. I mean there's hardly any hunting right there anyhow because the pigs aren't stupid enough to go in there and get trapped in there [Robinson].

**Birds in Koula.** Birds, 'um there's the *koloa* duck in there. I've never seen a *koloa* in the pond for some reason but they're mostly on the Hialoa side. You know the pond has a lot of wind because of the falls, it creates wind. It's not pleasant for the birds to be in there. But on the Hialoa side I've seen *koloa* duck. I've never seen any *nēnē* in there. The *nēnē* you know they eat grass and they like to confine themselves to the golf courses where there's tons of grass there. There are very few *nēnēs* on our property. Every now and then you see them in the winter time when the pasture is really lush, they like come in and eat the wild [grass], but...that grass is coarser than the very fine grass. Now I've never seen them, every now and then now and then you see what I call an *auku'u*, which is a blue heron I think it is. Yeah. Sometimes they're fishing around you know. Every now and then cattle egrets go up there and they follow the cattle up and then they go back to the cattle.... There's always owls--out through the north...now they have the imported ones. So you never can assure whether it's a pueo or one of the barn owls.... I'm so interested in looking at the Hawaiian owl, how the whole community lived-- I really admire what they did--the amount of work that they did just to raise their food. I saw a cliff, a cave you know up on the cliff, and so I climbed up there to see what was in the cave. And it was funny because there was, inside the cave there's like a little peak. And at the base of this little peak it sort of came out like a little tongue you know like somebody opening their mouth. The base of this peak is this little pyramid of wrapped skulls. You know, evidently an owl or pueo--that was his home. You know he'd go and find a rat and come in and he'd eat the rat and then he'd drop the head down to the base and there were all these rat skulls, you know that was kind of interesting. That was the only thing that was in that cave that I found, it was interesting [Robinson].

**Koula Valley Vegetation.** In that vicinity yeah, on the ditch bank it's just grass essentially. Where you land and where you walk to the falls just grass you know.... Then across, as soon as you get across the river, the land starts climbing up to the top of the ridge and it's steep enough that I've never climbed up there. I suppose if I really put an effort to I could but there's no reason to do it. It's steep and it's very wet up there too. Mostly rock and I guess dirt, mostly yeah, but an awful lot of rock. The hillside is covered by Hawaiian--lower Hawaiian forest, let's put it that way. 'Um *kukui* trees, some mountain apple, fern, yeah some of the bigger ferns and unfortunately for all of us, is guava, of which is slowly taking over the island.... There's no area to the east of the river that you could roam around in. You know you start climbing right away. And as you go further down [south] there's small little valleys that run up to the top of the hill you know. In that area you can't pass the ditch on your left and you can't pass the river on your right.

You can't go into the river really on your right because this bank is a little filled up you know. And so it's rather of a captive area in there. I would say that -- the ti leaves also. And that's about the thing; there may be a banana tree or so. I can't draw you a picture, but there are bananas all through the mountains you know. But I can't picture any bananas but there's a possibility and guava [Robinson].

I did not visit there until I was probably, just about 20, maybe 50 some years ago, when I first went there. It was lush but it didn't have all those invasive plants growing. And one of the things that I saw and it just really, I can still see it, that I was so fascinated that when I went home and asked my dad, what is it, is it a *heiau*. It was from the top of the mountain, this is toward Kō`ula, yeah, going to be toward Kalaheo side of the valley. Don't ask me how far up, you know, into the valley. A wide, maybe wider than this room-- a rockslide. That's what I remember. And I thought "wow, does it go into the river." You know I was only about 20; I was really struck by this huge [Kaohi].

## C. Water Resources and Use

The Hawaiian word for fresh water is *wai*; the Hawaiian word for wealth is *wai wai*. This is because of the value the ancient Hawaiians placed on fresh water. For the sugar industry water was a crucial resource and a lot of effort was employed and strategies used in order to get it to the fields.

### C-1. Irrigation ditches and tunnels.

At the time they [the ditches] were built, A&B was leasing the land to raise sugar cane...later when C. Brewer took over A&B's position, Robinson's and Brewer put tunnels through two mountains in Hanapēpē or Kō`ula, rather than the ditch--it used to go all the way down the valley you know, and it leaked and made a lot of salty land and everything. So we tunneled through the two mountains to eliminate that ditch system from making a lot of swamp down in the valley.... One is a mountain between Kō`ula and Manuahi and the other one, it went through, I don't even know what you call the mountain, it went from Manuahi and then to Maunakahānuī, which is right about where the Salt Ponds are.... It's really a big mountain. But that was done, I believe that was done right after the Second World War, was that completed.... Tunnels are very easy to maintain. The original ditch came down through Hanapēpē recycling back and forth throughout the valley [Robinson].

And we have a water diversion [ditch] that comes from that [Manawaiopuna Falls] pond and joins the main Hialoa water that we use for irrigation purposes...it's an open ditch yeah [Robinson].

There's a small river that takes care of Manawaiopuna when there's too much water for us to take. You know there is a small river that closed down; it would be facing *ma uka* or on the east side let's say of the project area. It often times, hardly has any water in it you know. And then at other times it you have a lot of big freshets that come down. You could have quite a bit of water. So the water that is diverted from there goes, is siphoned under Hialoa river and back up to the ditch that runs below from Hialoa and goes down through the tunnel to our cane field [Robinson].

On the right side as you walk up or on the east side as you'd be walking towards the falls is the small little river that supplies Manawaiopuna. If there's too much water for us to take [in the ditch--it flows into the stream bed].

### C-2. Manawaiopuna Falls.

**Falls vs. Base.** The interesting thing about Manawaiopuna is that most of the water that goes into the rivers on Kaua`i do not fall over a cliff. They come from the base. They are like, you take Alaka`i swamp area. It's like a big sponge you know. And the water percolates down and comes out at the base of the, you know the valley rather than coming from way on top and falling over. But this Manawaiopuna is, it has very solid rock right there you know. And so it has never eroded in time down to the river level. And that's why you have the falls there. And the water does not

come up underneath--it falls over. Originally up towards Wai`ale`ale comes out of the base. You know but then this one strata right there has not broken through. And so you have the falls, and that's why you don't really have a whole pile of falls you know around here. At any rate, you have the Hialoa valley where it drains into the Manawaiopuna maybe yeah, 'uh 300 yards or whatever. So you know it's just a small spur of the valley. There is a pond underneath of the waterfall, relatively large pond [Robinson].

**Falls Base.** You not going enjoy the falls unless you're at the base of the falls [Kaohi].

**Falls description.** I didn't take pictures of the falls. Oh I may have, I don't know I gotta go look. But it's all caved in yeah. But some of them they said are really deep. So I assumed all were deep but just because we're in the lower end where the cattle probably walked yeah, because cattle was all over the area yeah. And they can be very destructive you know [Kaohi].

**Twin Falls.** The Falls has, there's actually two falls when you look at it. There's a large fall and then as you're facing the fall on your right hand side there's a smaller, like a little branch that, but the big falls is very spectacular. I have no idea how high it is. I just enjoy the mist, just enjoy the mist, it really is pretty but they cleared out the area so there's quite an open space there before you get to the falls and that's probably where they want the helicopter pad [Kaohi].

**Manawaiopuna as Minihaha.** I've heard about the falls, since when I was a youngster. Manawaiopuna you know. And there's also a song, I think it's in Johnny Noble's book called Minihaha Falls. But it's really talking about Manawaiopuna. So maybe to clarify why do they call it Minihaha. From what I understand, or what I was told, was there was a time that there was a lot of American Indians that lived here. And they had this little bottle, which they called, magical waters and they called it Kikapu. It's a little greenish bottle, not very large. And they found that people were fascinated when you tell them it's magical and it has powers. And they heard that the word *mana* meant spiritual power, so if you get the water from Manawaiopuna it could do the same thing. And so they started filling up other bottles and selling it as *kikapu*. And dad said, but that's not what the name of the place really means. You know *mana* is spiritual power, easy to say Manawaiopuna, to say the *spiritual waters of the kupuna*. But actually it means *many branches*, *mana* being branches, branches bringing the water from the source and the source being Waialeale. Because to the Hawaiians, Waialeale was very important. You know it fed the entire island, tributaries came down you know feeding the streams and into the five major rivers on the island. And so I always heard and my father also, he played the mandolin and I kinda miss the aloha sometimes 'cause he's always singing. But and he would sing that song you know. So Minihaha was a name that came from the American Indians. That's my story, somebody may have another story, I don't know. But Manawaiopuna is really the proper name of the, I'm saying if you look at the music it's going to call it Minihaha Falls, that's what it's in the music [Kaohi].

#### D. Cultural Resources and Use

This category represents Traditional Hawaiian cultural resources and practices and other ethnic resources and practices. The Traditional Hawaiian cultural resources and practices, includes the pre-contact era, as well as cultural practices after contact. Cultural Resources can be the tangible remains of the ancient past or the traditional *wahi pana* or sacred places, or any cultural gathering place. One of the most significant traditional Hawaiian cultural resources are the *heiau* or places of worship. Other places of great significance for all cultures are the burial places of loved ones. Unfortunately with the massive transformation of the landscape as a result of the many western industries [i.e., provisioning, sandalwood, sugar, tourism, urban development] coupled with the secretive nature of ancient burial practices, most of the ancient burial places are unknown or forgotten and are easily disrupted and disturbed by subsurface activity.

**Traditional Hawaiian Sites.** I would say probably Waiaka is the first real area that you see native habitation. And Waiaka's gotta be maybe one to two miles below of that. And then from there on

down you see more--taro lois...and what not, but that's where it begins to open up you know wider in the area for farming [Robinson].

**Sites in the Vicinity.** One of the things that I saw and it just really, I can still see it, that I was so fascinated that when I went home and asked my dad, what is it? is it a heiau? It was from the top of the mountain, this is toward Kō`ula, yeah, going to be toward Kalaheo side of the valley. Don't ask me how far up, you know, into the valley. A wide, maybe wider than this room-- a rockslide. That's what I remember. And I thought "Wow, does it go into the river." You know I was only about 20; I was really struck by this huge.... Lots of rocks, all the way down from the top of the mountain to the foot of the mountain. Years later when I went up it's all covered up. I think this is the same place now, but it's all covered with lantana. So you cannot see this stone slide, you can't see it. I don't know if you should call it a slide though 'cause they may think you can just slide down. No it was just rocks but all along the other side it was not that way. It was natural. I don't know if this was built. Three years ago I went up and we went to this place and they showed me, there were, I saw five, but I was told there were 18 pukas in these rocks. It's like in the ground on the hillside like this, you get pukas.... when cattle has been roaming over the area, rocks going fall in yeah? Erosion, trees are growing out of it. One, two, three, there were five I could see. Some were like four feet by four feet; you know couple people could get inside. They told me that...it was where the Hawaiians put their taro. Well as a taro grower why would you pull your taro out of the field and put it in the pukas? On purpose? Why not just leave it in the field if you're not going to use it? We got in there, we got back into the area and I had a spiritual experience. And Chris was there and I said "Chris there's something very special about this place." It has to do with people. It's people, not taro. Taro, yes that is the ancestor of our people but it's not to store the fruit of the land. It's a safeguard for people. And then it dawned in me, and it may not be true but this is what came to me, was that in time of war, because our people fought, there was always battles going on, the kupunas that aged and the children would go into these pukas. Eighteen now, I'm told, this is what I was told, there are 18--18 holes. And it goes up the slope. And so it's hidden in this. So was it man-made? Did it just happen and they took advantage? And this deep you know, you can go into it. And so even though there's erosion and cattle has knocked down the sides yeah, and then when I was standing there, it's dry.... Chris looks at my feet and she says there's water at your feet. There was a stone that was like a catchment and there was water. So I threw salt in it and then I *pikai* the area.... I don't know how far...it's quite a distance though [from the falls]. But I know that we drove back with the jeep, so I think it's quite a distance [Kaohi].

#### **E. Project Thoughts/Concerns.**

One consultant expressed a concern about the project and/or the problems that may ensue. The primary concern was what was going to be allowed after the helicopter lands with people and they make their way to the falls. However, Mr. Robinson cleared up what was going to be allowed and what was not going to be allowed

What I'm saying is if it's strictly going to be helicopter, are they going to be allowed to swim in the pool? I mean I'm just, these questions.... Why they going land? That's my question. Why are you going to land? Are you just going to land and have picnic and then get in your helicopter and then fly out. I would think that you'd like to explore yeah? I mean that's human nature right? And if you're going to explore you could take in hikers, you could have a four wheeler down there already and just, I don't know.... I just hope they not going be swimming [Kaohi].

**Proposed Helipad Site.** Well at the top it's [berm to streambed] very close yeah and as it goes further down [south] it widens out and I don't know, most certainly enough area for a helicopter to land you know. Maybe 50 yards, I don't even think its 50 yards but no more than 50 yards at the base.... [The proposed helipad site] it's further, quite a ways away from [the Spielberg pond platform]. That would not be a safe place to bring people in back and forth, back and forth--it's just too close to the river [Robinson].

**Project Purpose.** Their [helicopter company] purpose is to give people the thrill of being at the base of a waterfall you know. The helicopters all circle this pond. And people get to see a spectacular waterfall from that. But I think that the thrill of seeing a waterfall is to be at the base of the waterfall--you get the spray and everything like that you know. And so their purpose is to land there and let people walk to the base of the viewing platform, which was where Jurassic Park had theirs. And they can take pictures of the fall. And very often there's a little rainbow in the falls you know from the mist which you can't get from a helicopter, you can't see that. So they walk to the falls, look at it, 'um take pictures...it's more just a viewing. You go there, you land, you walk up to the falls, you say "Wow what a beautiful...". There will be no swimming and people will not be allowed to wander anywhere except from the path from the helipad to the falls, which is essentially the ditch bank.... Not only is it, I mean I would not allow that [swimming], but it's also dangerous to have anybody go into the water there. The pond is very deep and if anybody gets into trouble it would be very difficult to retrieve them because the water is murky from the falls. And there are rocks that could fall down and what not. That's out for swimming or going into or walking around [in the pond]. You know other than to that one viewing spot [Robinson].

I don't want to hinder anybody's, as long as the archaeological things are surveyed and protected yeah? You know that's all. So anything that is archaeological that they're going to visit. It should be protected. It has to have some protection and not let them walk all over it. And it's out of respect too yeah? But I have to give them credit because they have kept people out of the valley much of the archaeological things are still in tact. Except for cattle, yeah, cattle have been damaging. And you know other places where people can just roam all over, we have nothing left. So I have to give them that credit you know [Kaohi].

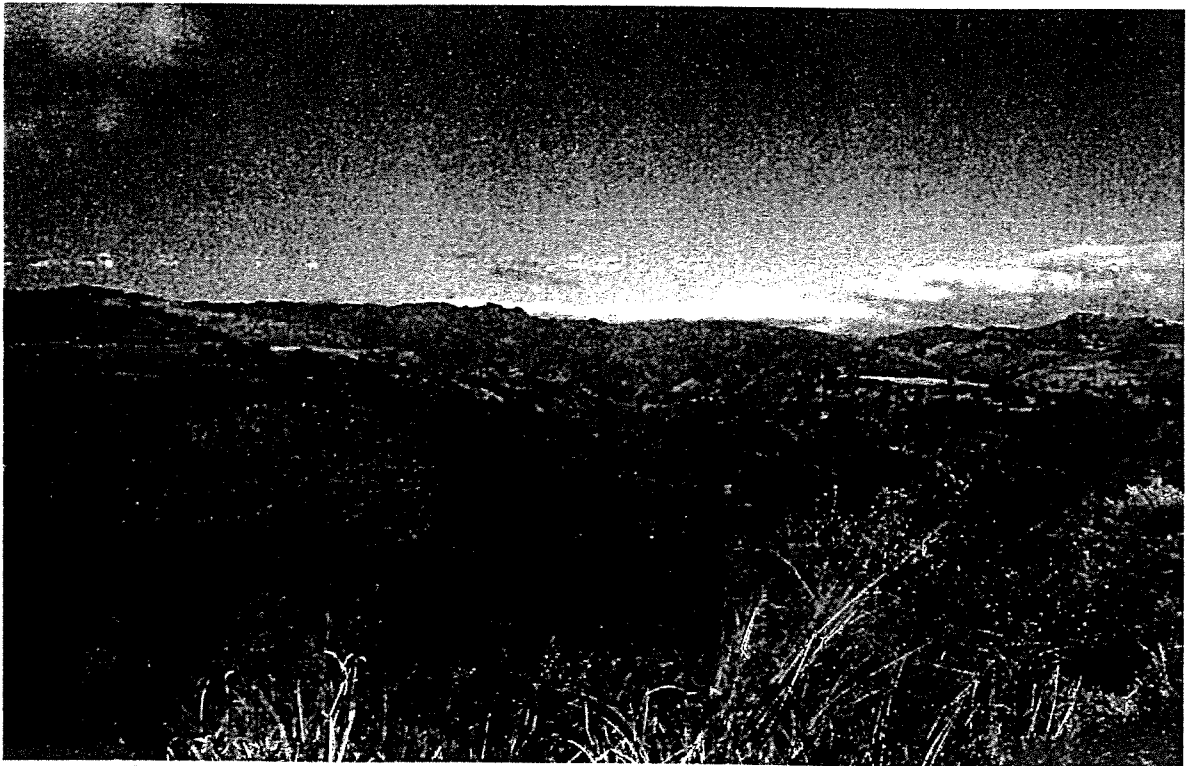


Photo 12. View of Hanapepe Valley--Kō`ula several miles to the northeast

## SUMMARY CULTURAL IMPACT STUDY/ASSESSMENT

This cultural impact study is based on two guiding documents, Act 50 and OEQC Guidelines [see Appendices A & C], as well as the *Criteria for Historic Preservation* cited below.

**Act 50 [State of Hawai'i 2000].** H.B. NO. 2895 H.D.1 was passed by the 20<sup>th</sup> Legislature and approved by the Governor on April 26, 2000 as *Act 50*. The following excerpts illustrate the intent and mandates of this Act:

The legislature also finds that native Hawaiian culture plays a vital role in preserving and advancing the unique quality of life and the "aloha spirit" in Hawai'i. Articles IX and XII of the state constitution, other state laws, and the courts of the State impose on government agencies a duty to promote and protect cultural beliefs, practices, and resources of native Hawaiians as well as other ethnic groups.

Moreover, the past failure to require native Hawaiian cultural impact assessments has resulted in the loss and destruction of many important cultural resources and has interfered with the exercise of native Hawaiian culture. The legislature further finds that due consideration of the effects of human activities on native Hawaiian culture and the exercise thereof is necessary to ensure the continued existence, development, and exercise of native Hawaiian culture.

The purpose of this Act is to: (1) Require that environmental impact statements include the disclosure of the effects of a proposed action on the cultural practices of the community and State; and (2) Amend the definition of "significant effect" to include adverse effects on cultural practices.

SECTION 2. Section 343-2, Hawai'i Revised Statutes, is amended by amending the definitions of "environmental impact statement" or "statement" and "significant effect", to read as follows:

"Environmental impact statement" or "statement" means an informational document prepared in compliance with the rules adopted under section 343-6 and which discloses the environmental effects of a proposed action, effects of a proposed action on the economic [and] welfare, social welfare, and cultural practices of the community and State, effects of the economic activities arising out of the proposed action, measures proposed to minimize adverse effects, and alternatives to the action and their environmental effects....

### **State Historic Preservation Division Draft Rules (1989)**

**Criteria for Historic Preservation.** The "significance" of a site is determined by a set of criteria. The following is the State of Hawai'i criteria for historic preservation:

- Criterion A: Be associated with events that have made an important contribution to the broad patterns of our history.
- Criterion B: Be associated with the lives of persons important in our past.
- Criterion C: Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value.
- Criterion D: Have yielded, or be likely to yield, information important for research on prehistory or history.
- Criterion E: Have an important historical cultural value to an ethnic group of the state.

## SUMMARY OF STUDY FINDINGS.

The following summaries are based on the information presented in the previous sections: the traditional and historical literature review in Part III and the ethnographic data and analyses in Part IV. References are not cited here unless it is new information and not already cited in the text above. These summaries condense the information above, but also serve to focus on a few significant individuals and events in West Kauai's history in relation to the `ili of Kō`ula in the *ahupua`a* of Hanapēpē in the traditional district or *moku* of Kona or Waimea, as well as give a broad overview of land, water and marine resources and uses in the general area, as they reflect cultural properties and practices and access to them.

### Summary of Significant People and Events: Project Area or Vicinity

#### Ali`i nui.

Kauai was first settled by people during the time of Papa and Wakea who came well before the descendants of Nana`ulu came to Kauai who came from the south of Hawai`i around the 6<sup>th</sup> century along with other families from Tahiti or Samoa and brought their Polynesian traditions. Chief Ka-māwae-lua-lani-moku traveled to Kauai with his wife, Kahiki-lau-lani, and her two paddlers Kō-nihinihi and Kō-nahenahe. Because of his good deeds, the great number of his descendants, and the prosperity of his reign, people began to call this island Kau-a`i (*Place of Abundance*). Then a few generations after Papa and Wakea and also well before the descendants of Nana`ulu came to Kaua`i, a voyaging canoe commanded by Kū`alu-nui-kini-akua landed on the west shores of Kauai, at the mouth of the Waimea River. His counselor named Pi`i-`ali`i came with him. They settled in Waimea along its bountiful river and surrounding valleys. Over time they expanded into nearby canyons, valleys and coasts, from Napili to Kōloa. Kū`alu-nui-paukū-mokumoku followed his father as leader of the people of Kona and it was during his reign that he sent for a group of people called *Menehune* from his homeland. They helped to construct *heiau*, fishponds and irrigation systems for raising taro. His son Ola was responsible for having the *Menehune* construct the ditches of Pali-uli.

Over time other settlers inhabited all the Hawaiian islands. Many genealogies of Hawaiian *ali`i* indicate that Nana`ulu and `Ulu (ca A.D. 830) were prominent ancient ancestors who settled all over the Pacific islands. Around A.D. 1090 Puna-nui-ka-`āina arrived on Kauai, said to have come from the Marquesas Islands. Puna-nui-ka-`āina arrived when the chief with the deadly riddles, Ka-iki-pa`a-nānea, was ruler of Waimea. He chose to settle along the banks of the Wailua River and this land came to be called Puna. This was the beginning of two chiefdoms on Kaua`i; Puna in the east, and Kona on the west.

Changes occurred during this period that brought about a uniquely Hawaiian culture, documented by the material culture found in archaeological sites. Kauai developed a unique form of poi pounder such as *pōhaku ku`i poi* (ring and stirrup pounders), double-grooved stone club heads, and a broad anvil kapa beater. The early culture evolved as the population grew, and many of the changes were related to significant socio-economic changes. Marriages between chiefly families on all islands are very common as families and alliances are strengthened. During the 1300s the Kona chiefdom is defeated by the Puna chiefdom. However, early in the 1400s the two chiefdoms were untied during the reign of Kūkona, father of Mano-ka-lani-pō and Palekaluhi. Mano-ka-lani-pō married Nae-kapu-lani, the daughter of Kona chief Makali`i-nui-ku-a-ka-wai-ea.

During the reign of Kūkona, Hawaii Island chief Ka-lau-nui-o-Hua defeated Maui chief Ka-malu-o-Hua, Molokai chief Ka-haku-o-Hua, and Oahu chief Hua-i-pou-leilei and set out with his hostage chiefs to Kauai where he planned to defeat Kūkona. However, Ka-lau-nui-o-Hua was in turn defeated by Kūkona. The hostages were set free after promising never to attach Kauai again, but the Hawaii chief remained a prisoner for a while, but he too was later freed.



With Kauai kingdoms united, the royal residence was set up at Wailua, but Waimea remained significant. It was during the reign of Mano-ka-lani-pō that Kauai prospered during its Golden Age; this was the period of fishponds and monumental *heiau* and complex irrigated *lo`i* or pond fields. This continued on to the mid-1500s and mid-1600s when Liloa and Umi of Hawai`i Island; Kawaokalole, Pi`ilani and his children Lono-a-Pi`ilani, Pi`ikea and Kiha-a-Pi`ilani of Maui; Kakuhihewa and Ku`alii of O`ahu; and Kalanikukama, Kamakapu reigned and the beginning of the Kawelo line of *ali`i nui* on Kauai.

O`ahu *ali`i nui* Kū-ali`i was a descendant of the Kawelo line on his grandmother's side. During the battles of the Kawelo cousins Kawelo-lei-makua (Kawelo) and Kawelo-`Aikanaka (`Aikanaka) in the late 1600s, Kawelo ceded Kauai to Kū-ali`i if they should both die. Kawelo defeated the forces of `Aikanaka who escaped and hid in a cave in Kō`ula. He was later found and supposedly thrown off the cliffs of Hanapēpē. However, Kawelo was also supposedly thrown off the cliff as well by his warriors who were afraid he was going crazy. Kū-ali`i came to Kauai and declared himself the ruling chief and installed his son Pele-i`ō-hōlani as governor. After Kū-ali`i died in Kailua, Oahu in A.D. 1730, Pele-i`ō-hōlani left Kauai to become the ruling chief of O`ahu. He left his daughter Ka`apuwai as governor.

Ka`apuwai died before Pele-i`ō-hōlani and the government of Kaua`i passed to Ka-maka-helei who owed allegiance to her grandfather Pele-i`ō-hōlani. She married Kiha, a Kaua`i chief, and had three children: a daughter, Lele-māhoa-lani, a son, Keawe, and another daughter, Ka-lau-i-pihana. Pele-i`ō-hōlani sent his grandson Ka-neoneo to Kaua`i to ensure the island would remain loyal to him. Ka-neoneo and Ka-maka-helei were first cousins and Ka-maka-helei set Kiha aside and took Ka-neoneo for her husband.

During this time, Maui ruling chief Kahekili won several skirmishes with Pele-i`ō-hōlani who then sent for his Ka-neoneo to help him on O`ahu. This left Ka-maka-helei vulnerable. Kahekili took advantage of this and sent his half-brother Ka`eo-kulani to Kauai to woo Ka-maka-helei. It worked and she married Ka`eo; they later had Ka`umu-ali`i, who was to become the last ruling chief of Kauai.

## Historic People

One of the first significant historic people to land on Kauai shores was Captain James Cook. They landed at the mouth of Waimea River, the same place as Kauai's first legendary Polynesian settlers, centuries before. His contact with the people of Kauai would have far reaching and devastating effects. Cook gave Ka-maka-helei and Ka`eo and others gifts, including goats, sheep and a new breed of pig. Cook's men gave the people of Kauai venereal disease. Many more foreign ships made contact with the island people of Kauai; some stayed and became residents. In 1820 the first missionaries landed in Hawaii; they brought Humehume back with them. He was the oldest son of Ka`umu-ali`i, who has been sent by his father to the mainland to obtain an education. Since he had not been heard from in years, it was assumed that he was dead. Ka`umu-ali`i later converted and gave the missionaries lands to build a church and school.

Ka`umu-ali`i was later coerced into ceding Kauai to Kamehameha I who conquered the other island kingdoms, although he was allowed to continue to rule the island. However, a couple of years after the death of Kamehameha I, his son and heir Liholiho (Kamehameha II) visited Ka`umu-ali`i on Kauai. Ka`umu-ali`i was subsequently kidnapped by Liholiho and taken to O`ahu, never to return to Kauai or to his family. He was coerced into marrying his cousin Ka`ahumanu, former queen of Kamehameha I and *kuhina nui* or regent to Liholiho. He died a few years later.

During the reign of Kamehameha III, lands were assigned to and claimed by lesser chiefs and *konoiki* in what was called *The Great Mahele* (ca. AD 1846-1856). The register and testimony to the Land Commission provided information as to the people of the project area, as well the resources and use. One of the chiefs to receive lands was Paaniani of O`ahu. He was married to Waialoe, daughter of Awahua (k) and Nukee (w) of Kona, Hawai`i Island; Waialoe came to O`ahu when she was a child and was raised

by chiefs. She later married Paniani and they had a daughter Kamaku who later married J. Kauai of Hana. Paaniani was given the `ili of Kō`ula (LCA #55) and they went to Kauai where Paaniani became the *konohiki* of Kō`ula during the time when Kanoa was the governor of Kauai. Prior to that Kalunu was the *konohiki* of Kō`ula and Kaikioewa was governor.

## Summary of Land and Water Resources and Use

Various land use patterns are recounted in the literature, legends, maps and legal documents, but are not always physically evident on the landscape. This is the case with the ancient land use of Kō`ula.

## Ancient Land and Water Resources and Use

The traditional literature has a sparse amount of information about Kō`ula; the goings and comings of various *ali`i nui*, their families and their adventures and the *maka`āinana*, the people who cared for the land. Archaeological studies have revealed that fishing villages or settlements were along the coastal lands of the Kona District. The earliest dates (ca. A.D. 910-1275) thus far, where in coastal Waimea where a perennial river supported a bountiful traditional lifestyle. Other streams in the district also had perennial and seasonal flows of water. According to native and foreign Land Commission Awards (LCA) testimonies, these valley/gulch and *kula* lands appeared to have supported the cultivation of *mai`a* or banana (*Musa xparadisiaca* spp), sweet potato, taro and *kukui* (*Aleurites moluccana*). The Kona or Waimea district, of which the project area was a part, was considered the largest settlement on Kauai during the ancient period. Wetland taro cultivation was took place in most of the valleys that were associated with fresh flowing water. While the immediate project area has no evidence of ancient cultivation or habitation, there was known cultivation in areas south of the project area.

## Historic Land and Water Resources and Use.

The native (NT/NR) and foreign (FT/FR) testimonies and registers of the Mahele land claims process provide a view of lands already in transition. Seventy years had passed since first contact by Captain Cook, and twenty-eight years had passed since the missionaries arrived. The devastating sandalwood era was winding down, but not before heavily modifying the landscape by denuding the upper forests and *kula* lands. According the testimonies, much of the *kula* lands were converted to pasture; this was followed by mono-crop agricultural practices--the cultivation of sugar cane, which also radically modified the natural landscape with infrastructural roads, bridges, ditches, tunnels, plowing and rock crushing. This was the land history of many places in the Kona or Waimea district, and vicinity of the project lands. The LCA testimonies by claimants Moki and Alaiki, who stated that they had several taro *lo`i* and pasture lands in the lower (south) sections of Kō`ula; they most likely had either permanent or temporary habitation areas as well. One mentioned that they had water sources in their lands. Paaniani had several tributaries and streams (e.g. Kō`ula, Hialoa and Kalapuwahia) and waterfalls (Manawaiopuna) flowing through his property. While the testimony states that Paaniani's land runs along kalo patches, it doesn't clarify if the kalo patches were inside or outside of his property. It does mention the "Kō`ula house" which is part of the eastern boundary of his lands; it doesn't clarify where or who owns it.

## Summary of Cultural Impact Assessment

**Cultural Resources.** This category entails sites or places associated with significant events and/or people important to the native Hawaiian patterns of prehistory; embody distinctive characteristics; or are likely to yield information important for research on the prehistory of Hawai'i. It also includes sites that yield resources important for native Hawaiian Cultural Practices, past and present; and items that are part of a cultural context. *Wahi Pana* or sacred places are important cultural resources to native Hawaiians regardless that the original sites that may have been there no longer exist. Often it is not the lack of interest but the lack of knowledge of whereabouts or more likely, lack of access that prevent native Hawaiians from visiting these sites. Other than the *kukui* trees and ferns adjacent to the project area, there are no cultural resources located in the project lands in the vicinity of Manawaiopuna Falls. However, there are cultural resources in the lower gulches/valleys, which quite a ways south of the project area.

**Cultural Practices.** This category includes items that are essential to the gathering practices that have cultural value to either native Hawaiians or other ethnic groups. It is not known if people of West Kauai specifically use the *kukui* nuts from trees in Kō'ula area. However, the practice of gathering *kukui* nuts continues today for making the condiment *inamona*, for medicinal purposes, for lei, and for *kukui* nut oil, which has several uses including *lomilomi* (Hawaiian massage). Because the project area is not readily accessible it is unlikely that resources in the immediate area would be utilized by cultural practitioners—there are many areas much more accessible.

**Historic Resources.** This category entails sites associated with significant events and/or people important to the broad patterns of history [post Western contact], which includes other ethnic groups; embodies distinctive characteristics of an historic era or master; or are likely to yield information important for research on the history of Hawai'i. With the exception of a ditch and berm, which is periodically maintained by the land owner, there are no historic resources in the proposed Manawaiopuna Falls project area. The remnants of the *Jurassic Park* movie are not old enough to be considered historic in the usual sense; it may be considered “significant” by some movie buffs.

## Summary of Consultants Concerns/Considerations.

### General Concerns Regarding the Proposed Project:

- ❖ Cultural sites south of project area not be disturbed
- ❖ No swimming in the falls pond or wandering from the designated path

### Cultural Practices in Project Area of Manawaiopuna Falls:

The pig (*Sus scrofa*) was brought to Hawaii by the early Polynesians. Some of them managed to escape from pens and later inter-mixed with domestic species who also managed to escape. These are known today as feral pigs. The cultural practice of hunting these animals continues today, both for sustenance and for sport. However, only employees of *Gay and Robinson* are given to permission to hunt pigs, goats and birds on family property. This would be somewhat modified in the project area if the project is approved.

Since the project property is privately owned, there have not been any cultural practices taking place in the project area for at least one hundred years.

## CULTURAL IMPACT ASSESSMENT

- ❖ **Cultural Resources (Land and Water) Impact.** The lands within the project area were heavily impacted by the historic activities of the 19<sup>th</sup> and 20<sup>th</sup> centuries. Any cultural sites and/or resources would have been destroyed or buried by ranching and sugar cultivation activities (ditch/berm); therefore there will be no adverse impact to any cultural resources in the Manawaiopuna Falls project lands.
- ❖ **Cultural Practices/Access (Land) Impact.** Since there are no cultural resources (sites) on the project lands, and no cultural gathering practices in the project area, there will be no adverse effects to cultural practices. While there are cultural resources (sites) in the gulches/valleys south of the project area, these areas will not be affected by the project.
- ❖ **General Concerns.** The consultants want to emphasize that no swimming be allowed, and no one will be allowed into the cultural areas south of the project area.

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## APPENDIX A

### A BILL FOR AN ACT RELATING TO ENVIRONMENTAL IMPACT STATEMENTS [UNOFFICIAL VERSION]

HOUSE OF REPRESENTATIVES H.B. NO. 2895 H.D.1  
TWENTIETH LEGISLATURE, 2000  
STATE OF HAWAII

### A BILL FOR AN ACT RELATING TO ENVIRONMENTAL IMPACT STATEMENTS.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

SECTION 1. The legislature finds that there is a need to clarify that the preparation of environmental assessments or environmental impact statements should identify and address effects on Hawai`i's culture, and traditional and customary rights.

The legislature also finds that native Hawaiian culture plays a vital role in preserving and advancing the unique quality of life and the "aloha spirit" in Hawai`i. Articles IX and XII of the state constitution, other state laws, and the courts of the State impose on government agencies a duty to promote and protect cultural beliefs, practices, and resources of native Hawaiians as well as other ethnic groups.

Moreover, the past failure to require native Hawaiian cultural impact assessments has resulted in the loss and destruction of many important cultural resources and has interfered with the exercise of native Hawaiian culture. The legislature further finds that due consideration of the effects of human activities on native Hawaiian culture and the exercise thereof is necessary to ensure the continued existence, development, and exercise of native Hawaiian culture.

The purpose of this Act is to: (1) Require that environmental impact statements include the disclosure of the effects of a proposed action on the cultural practices of the community and State; and (2) Amend the definition of "significant effect" to include adverse effects on cultural practices.

SECTION 2. Section 343-2, Hawai`i Revised Statutes, is amended by amending the definitions of "environmental impact statement" or "statement" and "significant effect", to read as follows:

"Environmental impact statement" or "statement" means an informational document prepared in compliance with the rules adopted under section 343-6 and which discloses the environmental effects of a proposed action, effects of a proposed action on the economic [and] welfare, social welfare, and cultural practices of the community and State, effects of the economic activities arising out of the proposed action, measures proposed to minimize adverse effects, and alternatives to the action and their environmental effects.

The initial statement filed for public review shall be referred to as the draft statement and shall be distinguished from the final statement which is the document that has incorporated the public's comments and the responses to those comments. The final statement is the document that shall be evaluated for acceptability by the respective accepting authority.

"Significant effect" means the sum of effects on the quality of the environment, including actions that irrevocably commit a natural resource, curtail the range of beneficial uses of the environment, are contrary to the State's environmental policies or long-term environmental goals as established by law, or adversely affect the economic [or] welfare, social welfare[.], or cultural practices of the community and State."

SECTION 3. Statutory material to be repealed is bracketed. New statutory material is underscored.

SECTION 4. This Act shall take effect upon its approval.

**Approved by the Governor as Act 50 on April 26, 2000**

## APPENDIX B

### Scope of Work (SOW)

#### **Cultural Impact Assessment** [in accordance with OEQC Guidelines]

1. identify and consult with individuals and organizations with expertise concerning the types of cultural resources, practices and beliefs found within the broad geographical area, e.g., district or ahupua`a;
2. identify and consult with individuals and organizations with knowledge of the area potentially affected by the proposed action;
3. receive information from or conduct ethnographic interviews and oral histories with persons having knowledge of the potentially affected area;
4. conduct ethnographic, historical, and other culturally related documentary research;
5. identify and describe the cultural resources, practices and beliefs located within the potentially affected area; and
6. assess the impact of the proposed action, alternatives to the proposed action, and mitigation measures, on the cultural resources, practices and beliefs identified.

#### **Methods**

The specific tasks listed below expand on the above scope of work:

- ◆ Conduct historical and cultural background research (i.e., business records, land records; archival documents, literature, reports, letters, photographs, journals, or newspaper files) to locate material that will provide broad patterns of the history of the project area such as subsistence, religious, recreational, and commercial uses of the land; as well as settlement and residential patterns of the area and region; major family groups that inhabited, used or controlled lands within the project area and region; documented legends, myths, or traditional histories associated with the area; and descriptions of traditional practices, customs and beliefs associated with identified traditional cultural practices;
- ◆ Prepare a semi-structured ethnographic research instrument that will include questions that will generate general biographical information, association with and knowledge of the project area, its history and use
- ◆ Prepare a consent form to be used as written agreement with any individual interviewed concerning the review of content and use of information recorded during the interview
- ◆ Identify individuals knowledgeable with the project area.
- ◆ Conduct and record ethnographic interviews with knowledgeable individuals. If feasible individuals shall participate in field inspections (Makana to be given)
- ◆ Transcribe recorded interviews (Approximate time, 6-8 hrs/per hr of recording)
- ◆ Prepare a report that will include an overview of the archival material, and an analysis of the ethnographic data.

## APPENDIX C

### Guidelines for Assessing Cultural Impacts

Adopted by the Environmental Council, State of Hawai'i  
November 19, 1997

#### I. INTRODUCTION

It is the policy of the State of Hawai'i under Chapter 343, HRS, to alert 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.

The Environmental Council encourages preparers of environmental assessments and environmental impact statements to analyze the impact of a proposed action on cultural practices and features associated with the project area. The Council provides the following methodology and content protocol as guidance for any assessment of a project that may significantly affect cultural resources.

#### II. CULTURAL IMPACT ASSESSMENT METHODOLOGY

Cultural impacts differ from other types of impacts assessed in environmental assessments or environmental impact statements. A cultural impact assessment includes information relating to the practices and beliefs of a particular cultural or ethnic group or groups.

Such information may be obtained through scoping, community meetings, ethnographic interviews and oral histories. Information provided by knowledgeable informants [consultants], including traditional cultural practitioners, can be applied to the analysis of cultural impacts in conjunction with information concerning cultural practices and features obtained through consultation and from documentary research.

In scoping the cultural portion of an environmental assessment, the geographical extent of the inquiry should, in most instances, be greater than the area over which the proposed action will take place. This is to ensure that cultural practices which may not occur within the boundaries of the project area, but which may nonetheless be affected, are included in the assessment. Thus, for example, a proposed action that may not physically alter gathering practices, but may affect access to gathering areas would be included in the assessment. An ahupua'a is usually the appropriate geographical unit to begin an assessment of cultural impacts of a proposed action, particularly if it includes all of the types of cultural practices associated with the project area. In some cases, cultural practices are likely to extend beyond the ahupua'a and the geographical extent of the study area should take into account those cultural practices.

The types of cultural resources The historical period studied in a cultural impact assessment should commence with the initial presence in the area of the particular group whose cultural practices and features are being assessed. The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs.

The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both man made and natural, including submerged cultural resources, which support such cultural practices and beliefs.

The Environmental Council recommends that preparers of assessments analyzing cultural impacts adopt the following protocol:

1. identify and consult with individuals and organizations with expertise concerning the types of cultural resources, practices and beliefs found within the broad geographical area, e.g., district or ahupua`a;
2. identify and consult with individuals and organizations with knowledge of the area potentially affected by the proposed action;
3. receive information from or conduct ethnographic interviews and oral histories with persons having knowledge of the potentially affected area;
4. conduct ethnographic, historical, anthropological, sociological, and other culturally related documentary research;
5. identify and describe the cultural resources, practices and beliefs located within the potentially affected area; and
6. assess the impact of the proposed action, alternatives to the proposed action, and mitigation measures, on the cultural resources, practices and beliefs identified.

Interviews and oral histories with knowledgeable individuals may be recorded, if consent is given, and field visits by preparers accompanied by informants are encouraged. Persons interviewed should be afforded an opportunity to review the record of the interview, and consent to publish the record should be obtained whenever possible. For example, the precise location of human burials are likely to be withheld from a cultural impact assessment, but it is important that the document identify the impact a project would have on the burials. At times an informant [consultant] may provide information only on the condition that it remain in confidence. The wishes of the informant should be respected.

Primary source materials reviewed and analyzed may include, as appropriate: Mahele, land court, census and tax records, including testimonies; vital statistics records; family histories and genealogies; previously published or recorded ethnographic interviews and oral histories; community studies, old maps and photographs; and other archival documents, including correspondence, newspaper or almanac articles, and visitor journals. Secondary source materials such as historical, sociological, and anthropological texts, manuscripts, and similar materials, published and unpublished, should also be consulted. Other materials which should be examined include prior land use proposals, decisions, and rulings which pertain to the study area.

### III. CULTURAL IMPACT ASSESSMENT CONTENTS

In addition to the content requirements for environmental assessments and environmental impact statements, which are set out in HAR §§ 11-200-10 and 16 through 18, the portion of the assessment concerning cultural impacts should address, but not necessarily be limited to, the following matters:

- 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.
- 2.A description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken.
- 3.Ethnographic and oral history interview procedures, including the circumstances under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained.

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.

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.

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.

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.

8. An explanation of confidential information that has been withheld from public disclosure in the assessment.

9. A discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs.

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.

11. A bibliography of references, and attached records of interviews which were allowed to be disclosed.

The inclusion of this information will help make environmental assessments and environmental impact statements complete and meet the requirements of Chapter 343, HRS. If you have any questions, please call 586-4185.

## APPENDIX D

### Agreement to Participate in the Ethnographic Survey For the Cultural Impact Study/Assessment

**Project Title:** Mana Waiopuna Falls Helicopter Landing Site  
Kō`ula `Ili, Hanapēpē Ahupua`a, Kona Moku, Kauai Island  
[where Jurassic Park was filmed]

**Investigator:** Maria E. Ka`imipono Orr, M.A.

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You are being asked to participate in a cultural impact study/assessment [CIS] conducted by an independent investigator contracted by *Ku`iwalu* as part of a larger study of the proposed tour helicopter landing. The project area is situated approximately 10,000 feet northeast from Mana Waiopuna Falls within the `ili of Kō`ula, in the ahupua`a of Hanapēpē, Kauai. The project area includes the landing area and an unimproved trail to the falls.

The investigator will explain the purpose of the study, the procedures to be used, the potential benefits and possible risks of participating. You may ask the investigator any question(s) in order to help you to understand the study or procedures. A basic explanation of the study is written below. If you then decide to participate in the study, please sign on the second page of this form. You will be given a copy of this form to keep.

#### I. Nature and Purpose of the Study

The purpose of this cultural impact study/assessment is to gather information about the project lands and vicinity in the Pali Kona Forest Reserve, through interviews with individuals who are knowledgeable about this area, and/or about traditional and historic information such as legends, songs, chants or other information. The objective of this study is to facilitate in the identification and location of any possible pre-historic and/or historic cultural resources, or traditional cultural practices in the area mentioned above, in accordance with applicable historic preservation laws, regulations, and guidelines, including:

*Office of Environmental Quality Control [OEQC] Guidelines  
and Act 50 HB2895 [A.D.2000], HRS Chapter 343*

#### II. Explanation of Procedures

After you have voluntarily agreed to participate and have signed the consent page, the investigator will tape record your interview, which will be transcribed later. Data from the interview [ethnographic research] will be used as part of the background historical summary for this project. The investigator may also need to take notes and/or ask you to spell or clarify terms or names that are unclear.

#### III. Discomforts and Risks

Foreseeable discomforts and/or risks may include, but are not limited to the following: having to talk loudly for the recorder; being recorded and/or interviewed; providing information that may be used in reports which may be used in the future as a public reference; knowing that the information you give may conflict with information from others; your uncompensated dedication of time; possible miscommunication or misunderstanding in the transcribing of information; loss of privacy; and worry that your comment(s) may not be understood in the same way you understand them. It is not possible to identify all potential risks; however reasonable safeguards have been taken to minimize risks.



IV. Benefits

This study will give you the opportunity to express your thoughts (*mana`o*), and your opinions will be listened to and shared; your knowledge may be instrumental in the preservation of significant resources and information.

V. Confidentiality

Your rights of privacy, confidentiality and/or anonymity will be protected **if you so desire**. You may request, for example, that your name and/or sex not be mentioned in write-ups, such as field notes, on tape, on files (disk or folders), drafts, reports, and future works; or you may request that some of the information you provide remain "off-the-record" **and not be recorded in any way**. In order to ensure protection of your privacy, confidentiality and/or anonymity, you should immediately advise the investigator of your desires. The investigator will ask you to specify the method of protection, and note it on this form below.

VI. Refusal/Withdrawal

You may, at any time during the interview process, chose to not participate any further. Please note that you will be given an opportunity to review your transcript, and to revise or delete any part of the interview.

VII. Waiver

**Part I: Agreement to Participate**

*I, \_\_\_\_\_, understand that Maria E. Ka'imipono Orr, an independent investigator contracted by Ku'iwalu will be conducting oral history interviews with individuals knowledgeable about the project lands in the vicinity of the `ili of Kō`ula, ahupua`a of Hanapēpē, Kauai. The oral history interviews are being conducted in order to collect information on possible pre-historic and/or historic cultural resources associated with these lands, as well as traditional cultural practices.*

*I understand I will be provided the opportunity to review my interview to ensure that it accurately depicts what I meant to say. I also understand that if I don't return the revised transcripts after two weeks from date of receipt, my signature below will indicate my release of information for the draft report. I also understand that I will still have the opportunity to make revisions during the draft review process.*

\_\_\_\_\_ *I am willing to participate.*

\_\_\_\_\_ *I am willing to participate, under the following conditions:*

_____	_____
Consultant Signature	Date
_____	_____
Print Name	Phone
_____	
Address	

MAHALO NUI LOA

**Part II: Personal Release of Interview Records**

*I, \_\_\_\_\_, have been interviewed by Maria E. Ka'imipono Orr, an independent investigator contracted by Ku'iwalu. I have reviewed the written transcripts of tape recordings of the interview, and agree that said documentation is complete and accurate except for those matters specifically set forth below the heading "CLARIFICATION OR CORRECTIONS."*

*I further agree that Orr and Ku'iwalu may use and release my identity and other interview information, both oral and written, for the purpose of using such information in a report to be made public, subject to my specific objections, to release as set forth below under the heading "SPECIFIC OBJECTIONS TO RELEASE OF INTERVIEW MATERIALS."*

**CLARIFICATION OR CORRECTIONS:**

**SPECIFIC OBJECTIONS TO RELEASE OF INTERVIEW MATERIALS:**

---

<b>Consultant Signature</b>	<b>Date</b>
<b>Print Name</b>	<b>Phone</b>

**MAHALO NUI LOA**

## APPENDIX E

### Ethnographic Survey *Basic Research Instrument for Oral History Interviews* *Mana Waiopuna Falls, Pali Kona Forest Reserve, Hanapepe, Kauai*

This research instrument includes basic information as well as research categories which will be asked in the form of open primary questions which allow the individual interviewed (Consultant) to answer in the manner he/she is most comfortable. Secondary or follow-up questions are asked based on what the Consultant has said and/or to clarify what was said. The idea is to have an interview based on a "talk-story" form of sharing information. Questions will NOT be asked in an interrogation style/method, NOR will they necessarily be asked in the order presented below. This research instrument is merely a *guide* for the investigator and simply reflects general categories of information sought in a semi-structured format. Questions will be asked more directly when necessary.

The Consultants were selected because they met one or more of the following criteria:

- ❖ Referred By Other Cultural Resource People
- ❖ Had/has Ties to Project Area/Vicinity
- ❖ Known Hawaiian Cultural Resource Person
- ❖ Known Hawaiian Traditional Practitioner
- ❖ Referred By Ku`iwalu

[NOTE: This part of the interview, #1-4 is mutual sharing and rapport building. Most of the information for research categories "Consultant Background" and "Consultant Demographics" come from this section, but not exclusively.]

1. *To start please tell me about yourself...Name? Where/When you were born?*

[This information can be addressed in a couple of ways. After the investigator first turns on the tape recorder, the following information will be recorded: Day/Date/Time/Place of Interview/Name of Consultant (if authorized by Consultant)/Name of Investigator/Questions: Have you read the Agreement To Participate?/Do you have any questions before we begin?/Will you please sign the Consent page. The investigator will explain again the purpose of the interview.

The investigator will then ask the Consultant to "Please tell me about yourself--when/where were you born? where did you grow up? where did you go to school?" This general compound question allows the Consultant to share as much or as little as he/she wants without any pressure. Most of the information for #1 may already be known to the investigator.]

2. *History: Your `ohana/family background; Hawaiian connection (if any)?*

[Much of the information for questions #2, 3, and 4 usually comes from the "monologue" answer to Question #1. If it does not, then these questions will be asked. The answers in this section usually establishes how the Consultant meets the criteria; how the Consultant developed his/her information base, etc.]

3. *Youth: Where lived? Grew up?* [This may have been answered in #1]

4. *Schooling? Where? When?* [This may have been answered in #1]

[NOTE: This part of the interview, #5-7 reflects information sought for the following research categories: Land, Water, Marine, Cultural Resources and Use as well as Significant People, and Events. The questions are open-ended so as NOT to "put words in the mouths" of the Consultants. The answers will help in assessing if any cultural properties or practices will be impacted by the proposed project.]

5. *Can you tell me what you know about the area of Mana Waiopuna Falls?*

[NOTE: Generally when people share information about a specific topic/place, they usually state where their information came from. If it isn't volunteered, it is asked as a follow-up question(s). A map of the project area should be available to confirm that investigator and consultant are talking about the same place. Photos would also help if a field trip is not possible. The best scenario would be to be "on-site" at some part of the interview...although this is not always practical.]

6. *What are your recollections and/or personal experiences of this area?*

7. *Do you know any stories/legends/songs/chants associated with these areas?*

[NOTE: Possible follow-up questions for *Mana Waiopuna*:

- How are you or your family connected to the lands of Mana Waiopuna?
- What year(s) were you and/or your family associated with these lands?
- What was this place/area called when you were growing up? When you were working here?
- Can you describe what the area looked like--what kinds of natural and/or man made things?
- To your knowledge what kind of activities took place in this location?
- Do you know of any traditional gathering of plants, etc in the area?
- Please describe any other land/water use? Resources?
- What was the historic land use? Agriculture? Habitation? Dwellings?
- **[Have map ready for marking.]**
- Do you know about any burials in the project area?
- Do you know of any cultural sites in the project area or vicinity?

8. *Is there anyone you know who can also tell me about the project area?*

[NOTE: Usually in the course of the interview, Consultants suggest other people to interview.]

9. *As soon as the tape of this interview is transcribed I will send you two sets. Please review your transcripts and make any corrections and/or additions, then sign both copies of the Release Forms thereby allowing the information to be used by the investigator and Ku'iwalu. Then please mail one set back in the enclosed stamped-addressed envelope.*

10. *If your revised transcript is not returned within two weeks of date of receipt, it will be assumed that you are in concurrence with the transcript material and your information will then be incorporated into the CIS/A draft reports. However, you can still make changes during the draft review process.*

**MAHALO NUI LOA**

**APPENDIX F**  
**Land Commission Awards-Kō`ula**  
**Waihona 2000**



# Mahele Claims

Articles Information Samples Gallery About Us Contact Us

ClaimNumber: 00055MA

Claim Number: 00055MA  
Claimant: Paniani  
Other claimant:  
Other name:  
Island: Kauai  
District: Kona  
Ahupuaa: Hanapepe  
Ili: Koula

Apana:	1	Awarded:	1
Loi:		FR:	
Plus:		NR:	40v5
Mala Taro:		FT:	
Kula:		NT:	
House lot:		RP:	6998,1108
Kihapai/Pakanu:		Number of Royal Patents:	2
Salt lands:		Koele/Poalima:	No
Wauke:		Loko:	No
Olona:		Lokoia:	No
Noni:		Fishing Rights:	No
Hala:		Sea/Shore/Dunes:	No
Sweet Potatoes:		Auwai/Ditch:	No
Irish Potatoes:		Other Edifice:	No
Bananas:		Spring/Well:	No
Breadfruit:		Pigpen:	No
Coconut:		Road/Path:	No
Coffee:		Burial/Graveyard:	No
Oranges:		Wall/Fence:	No
Bitter Melon/Gourd:		Stream/Muliwai/River:	No
Sugar Cane:		Pali:	No
Tobacco:		Disease:	No
Koa/Kou Trees:		Claimant Died:	No
Other Plants:		Other Trees:	
Other Mammals:	No	Miscellaneous:	See 5345 for testimony

[No. 55 M.A.], Paniani [5345] 1/2 Koula, Hanapepe, Source Numerical Index, Kanapoa

**N.R. 41v5**

No. 5345 Paniani, Honolulu, February 3, 1848

To the Land Commissioners, respectful greetings. I hereby tell you of my share of land from the Mo'i, in the Royal Palace, and from the hands of the Minister of the Interior and the Minister of Finance of the Government. I state it to you as follows: Koula 'ili, Hanapepe, Kauai.  
Farewell to you, with thanks.  
PANIANI

[Award 55 M.A.; ½ Koula Hanapepe Kona; See 5345, not awarded]

ClaimNumber: 08035

Claim Number: **08035**  
Claimant: **Alaiki**  
Other claimant: **Makua, his wife**  
Other name:  
Island: **Kauai**  
District: **Kona**  
Ahupuaa: **Hanapepe**  
Ili: **Koula**

Apana:	<b>2</b>	Awarded:	<b>1</b>
Loi:	<b>14</b>	FR:	
Plus:		NR:	<b>370v9</b>
Mala Taro:		FT:	<b>229-30v11s</b>
Kula:	<b>1</b>	NT:	<b>105-106v11</b>
House lot:		RP:	
Kihapai/Pakanu:		Number of Royal Patents:	<b>0</b>
Salt lands:		Koele/Poalima:	<b>No</b>
Wauke:		Loko:	<b>No</b>
Olona:		Lokoia:	<b>No</b>
Noni:		Fishing Rights:	<b>No</b>
Hala:		Sea/Shore/Dunes:	<b>No</b>
Sweet Potatoes:		Auwai/Ditch:	<b>No</b>
Irish Potatoes:		Other Edifice:	<b>No</b>
Bananas:		Spring/Well:	<b>No</b>
Breadfruit:		Pigpen:	<b>No</b>
Coconut:		Road/Path:	<b>No</b>
Coffee:		Burial/Graveyard:	<b>No</b>
Oranges:	<b>2</b>	Wall/Fence:	<b>No</b>
Bitter Melon/Gourd:		Stream/Muliwai/River:	<b>Yes</b>
Sugar Cane:		Pali:	<b>Yes</b>
Tobacco:		Disease:	<b>No</b>
Koa/Kou Trees:		Claimant Died:	<b>No</b>

Other Plants:

Other Trees:

Other Mammals:

No

Miscellaneous:

Ili kupono, Konohiki  
disputed right for  
orange trees, Waiaka  
pali, Namaikala pali,  
Makaopihi pali,  
konohiki thought  
Alaiki had too much  
land (Rowell note)

No. 8035, Alaiki  
N.R. 370v9

Greetings to you, O Kamehameha III: /At/ Waakau in the `ili kupono of Koula, Hanapepe, is the land claim of Alaiki /which has been held/ from the time of Kaumualii Konohia /was the Konohiki/ at that time. When Kaikioewa was the Governor of Kauai, Kalunu was the Konohiki. Kanoa is the last governor, and Paaniani is the Konohiki of Koula. There are 14 lo`i, their length is 44 fathoms, the width is 22 fathoms that is the size of the taro/ land. The kula is 8 chains in length and its width is 4 chains that is the size of the kula.

ALAIKI

Hanapepe, Kauai  
24 January 1848

F.T 229-230v11supp.

No. 10458, Alaika, Claimant, [margin notes says:] see 8035, 10458, Naopai

Kalepona, sworn, knows Claimant's lands. They are:

No. 1 - Okipu, a moo in ili of Koula in Hanapepe.

No. 2 - Akau, a moo ili of Koula.

No. 1 is bounded:

Mauka by Wainonoia a kahawai  
Wahiawa by Waiaka pali  
Makai by Waiaka moo  
Waimea by Hanapepe River.

No. 2 is bounded:

Mauka by Kalai a kahawai  
Wahiawa by Hanapepe River  
Makai Pualepa a moo  
Waimea by pali of Nauaikala.

Claimant received No. 1 by marriage with Makua Opa'o's widow, who held it from time of Kaumualii till her death. Claimant's title to it is undisputed. No. 2 was got from Konohia in time of Kaumualii by Claimant. Title undisputed. There is also a spot in Kaopihi in Koula in which Claimant has 2 Orange trees.

Bounded:

Mauka by Hanapepe River  
Wahiawa & Makai and Waimea by Pali of Kaopihi.

Claimant planted those trees in Kaumualii's time. This right was never disputed til 1847 when Paniani, Konohiki, took 1 of these away without Claimant's consent.

Pua, sworn, confirms the foregoing testimony.

N.T. 105-106v11

No. 10458 and 8035, Makua (wahine), Alaiki

Kalepona, sworn, he has seen his land section.

Section 1 - Akipu moo ili of Koula in Hanapepe.

Mauka by Waianonoia stream  
Wahiawa by Waiaka pali  
Makai by [left blank]  
Waimea by Hanapepe stream.



Section 2 - Akau moo.  
Mauka by Kalai stream  
Wahiawa by Hanapepe stream  
Makai by Paoalepo moo  
Wairnea by Namaikala pali.

Land from Kaumualii to Opaee, then to Makua, his wife. Makua marries Alaiki and sections 1 and 2 became Alaiki's land. The Konohiki had objected to two orange trees in section 2 in Makaopihii of Koula ili.

Mauka by Hanapepe stream  
Wahiawa by [left blank]  
Makai by [left blank]  
Waimea by Makaopihii pali.

He had planted (orange trees) during the time of Kaumualii and in 1847.

Pua, sworn, verifies Kalepona's statement.

**F.T. [243A]-244v13**

[Part of letter sent by G. Rowel concerning Land Commission Awards on Kaua'i]

I send also the Award of Alaiki 8035 - 10458 with the resurvey I sent before (objected to by Kauai). Kauai told him [the claim] you saw at Honolulu is not the owner of the ili "Koula," where Alaiki's & Namoki's lands are situated - but he is son-in-law to the true owner Kanae, who was present when I made the surveys. I saw the deed, I am quite confident that Kanae & not Kauai was the purchaser. I have however seen Kauai since his return. I heard all his objections to the claim. He inquired my reasons for delaying the survey. I told him I found numerous witnesses on the spot that held that portion (added) had always belonged to Alaiki - cultivated by him & still is & that his claim was just as good & the same in all respects as the part awarded. To this, Kauai made no objection. I perceived no objection he made lay against the addition which I had made in the resurvey but only that Alaiki had too much land. 2nd that he had land in two different places in the valley, 3rd that some of the taro patches in Okipuu (No. 1) did not belong to him but to a man named Koa. I replied that a just right and not how many or different places was the question. Kauai admitted that he could not disprove Alaiki's right. The [sic - they] both did belong to him but he thought it was more than he ought to have. To the 3rd objection I replied that as the taro patches of Koa were as he said near the S. boundary of the land, they were not in the part I had added but in the original survey by Mr. Pease which had already been awarded that such an objection was never before made to any one, nor to Mr. Pease. & when I was on the ground, neither Kanae, nor any other there knew of any taro patches in all that land (Okipuu) that did not belong to Alaiki, but that Kanae told me expressly that he had no dispute with Alaiki about his claim. He asked to bring his witnesses by the 10th Inst unless he found Koa has cultivated those patches with Alaiki's permission - in which case he should drop the objection & write me a note. This has not been done - & I conclude I shall hear no more from him.

J.H. SMITH  
Secretary  
Yours Most Truly,  
G.B. ROWEL  
Sec. L. Com.

[Award 8035; Koula Hanapepe Kona; 2 ap.; 3 Acs 15 rods; TMK 1-8-01 2 pieces both listed as 8035:1, 1 for .61 Ac., the other for 2.7 Ac.]

**ClaimNumber: 09008**

Claim Number: 09008  
Claimant: Kuahehua  
Other claimant:  
Other name:  
Island: Kauai  
District: Kona  
Ahupuaa: Hanapepe  
Ili: Koula

Apana:	1	Awarded:	0
Loi:	10	FR:	
Plus:	+	NR:	399v9
Mala Taro:		FT:	211v11supp
Kula:	1	NT:	
House lot:		RP:	
Kihapai/Pakanu:		Number of Royal Patents:	
Salt lands:		Koele/Poolima:	No
Wauke:		Loko:	No
Olona:		Lokoia:	No
Noni:		Fishing Rights:	No
Hala:		Sea/Shore/Dunes:	No
Sweet Potatoes:		Auwai/Ditch:	No
Irish Potatoes:		Other Edifice:	No
Bananas:		Spring/Well:	No
Breadfruit:		Pigpen:	No
Coconut:		Road/Path:	No
Coffee:		Burial/Graveyard:	No
Oranges:		Wall/Fence:	No
Bitter Melon/Gourd:		Stream/Muliwai/River:	No
Sugar Cane:		Pali:	No
Tobacco:		Disease:	No
Koa/Kou Trees:		Claimant Died:	No
Other Plants:		Other Trees:	
Other Mammals:	No	Miscellaneous:	Ili kupono, Kuahewa says he abandons claim

**No. 9008, Kuahewa  
N.R. 399v9**

Waiaka, `ili of Koula, Kupono of Hanapepe, this is a mo`o. Ua was the first to have the land, from the time of Kaumualii to when Kaikioewa was the governor and Kalunu was the Konohiki. Kanoa is the present deputy governor. His /Ua`s/ occupancy of the land is ended and Kuahewa is the heir at this time. The lo`is are 22 chains by 5 chains 55 fathoms. The kula is 6 chains, the size of this kula is like the other. Papohaku, `ili of Koula, kupono of Hanapepe, 7 lo`i 10 chains by 1 chain. The kula is 5 chains on all sides. Pohakuloa in Hanapepe. Kuahewa is the only person on this land. There are only three small lo`i 3`i long by 1 wide.

KUAHEWA  
Hanapepe, Kauai  
January 24, 1848

F.T. 211v11supp.  
No. 9009!  
[should be 9008]

Kuahewa, Claimant, appears and says he has abandoned this claim.

[No. 9008 not awarded; no N.T. located]

ClaimNumber: 10457

Claim Number: 10457  
Claimant: Namoki  
Other claimant:  
Other name: Moki  
Island: Kauai  
District: Kona  
Ahupuaa: Hanapepe  
Ili: Koula

Apana:	1	Awarded:	1
Loi:		FR:	
Plus:		NR:	289v9
Mala Taro:		FT:	218-19v11s
Kula:	1	NT:	94-95v11
House lot:		RP:	3855
Kihapai/Pakanu:		Number of Royal Patents:	1
Salt lands:		Koele/Poalima:	No
Wauke:		Loko:	Yes
Olona:		Lokoia:	No
Noni:		Fishing Rights:	No
Hala:		Sea/Shore/Dunes:	No
Sweet Potatoes:		Auwai/Ditch:	No
Irish Potatoes:		Other Edifice:	No
Bananas:		Spring/Well:	No
Breadfruit:		Pigpen:	No
Coconut:		Road/Path:	No
Coffee:		Burial/Graveyard:	No
Oranges:		Wall/Fence:	No
Bitter Melon/Gourd:		Stream/Muliwai/River:	Yes
Sugar Cane:		Pali:	Yes
Tobacco:		Disease:	No
Koa/Kou Trees:		Claimant Died:	No
Other Plants:		Other Trees:	
Other Mammals:	No	Miscellaneous:	Ili kupono, disputed orange tree, Kai pali

No. 10457, Moki, Hanapepe, January 26, 1848  
N.R. 289v9

Land of Waiaka, `ili of Koula, aiku\* of Hanapepe /is the /land claim of Moki. There are 12 loko /lo`i in this mo`o. It was held from the time of Kaikioewa, Kalunu was the Konohiki, and Kanoa is the governor at this time. Paaniani is the Konohiki. The length of the kula is 3 stadia. The width is 8 chains. The sides are equal /he means a rectangle, I think Translator/. 2 stadia /along?/ the stream.

MOKI

\*Ili kupono

**F.T. 218-219v11supp.**

No. 10457, Namoki, Claimant

Kuapuu says I know Claimant's land. it is a submoo called Kanuilima in the moo of Waiaka in ili of Koula in Hanapepe Kauai.

It is bounded:

Mauka by Ehu, a moo

Wahiawa by pali of Kai

Makai by Paeko

Waimea by Hanapepe river.

Claimant received this land from Kalunu Konohiki in the time of Kaikioewa & has held it in peace ever since except that there are two lois Claimed by the Konohiki. Claimant gave these lois to Alaiki in the year 1848 and Alaiki gave to me to the Konohiki who holds them at present. But were never koele in former times. An orange tree in the land was taken from Claimant in 1848 by Kanai the Konohiki but Claimant's own daughter planted this tree in the time of Kaumualii & Claimant's claim to it was never disputed till 1849.

Kekeko, sworn, verifies the testimony of Kuapu.

**N.T. 94-95v11**

No. 10457, Moki, (Namoki, index)

Kuapuu, sworn, he has seen his land.

Section 1 - 10 lois and a pasture in the moo of Kanuilima, Koula ili in Hanapepe.

Mauka by Ehu moo

Wahiawa by Kaii pali

Makai by Palaho pali

Waimea by Hanapepe stream.

Land from Kalunu at the time of Kaikioewa, no objections to him to the present time for the land except that the Konohiki had taken 2 lois and an orange tree without Moki's approval in 1848. These are with the Konohiki to the present time and Kanoa took the orange in 1849.

Kekeke, sworn, verifies Kuapuu's testimony except that Moki always had the orange from Kaumualii's time to 1849, then the Konohiki took it without Kekeke's approval.

[Award 10457; R.P. 3855; Koula Hanapepe Kona; 1 ap.; 2 roods 9 rods; TMK 1-8-01 less than 1 Ac.]

**APPENDIX G**  
**Boundary Commission-Kō`ula**  
**Creed et.al. 1994**

1873 Boundary of Koula in Hanapepe

6 Oct 1873 Received the following petition  
To the Hon<sup>ble</sup> Duncan McBryde  
Commissioner of Boundaries Kauai  
Sir

[Marginal note: No. 14, LCA Aw. (Man 55) R.P. 6998 to Paniani]

I would feel obliged if you would settle the boundary of  
Koula for me as I wish to have it surveyed while Mr. Gay is on Kauai

I remain  
Yours Respectfully  
Eliza Sinclair

Thereupon appointed the 12 day of November A.D. 10 am for the hearing of said petition at Koula  
House Hanapepe. The petitioner appeared and called the following witnesses

J. Kauai Sworn

This boundary commences near pali at river	
and adjoining Manuahi called	Kalapunahai
thence across river to split stone	Kahunaone
" to a pali called	Papakea
" to a large stone Rock	Puuanu
" along grassed hollow to	Kahaha
" thence to peak	Puuau
that joins on to Wahiwawa thence up ridge and round the falls then round and down the boundary of Manuahi and	
along ridge to a peak called	Kuapoo
thence to a large peak	Kalaimanu
Thence to an old Heau	Maloku
Thence to a sharp peak	Puukuaumi
" down along ridge to	Puukuakahi
" straight to place of commencement	

Kuapuaa Sworn

My name is Kuapuu, live in Koula, born here, know boundary of Koula. Nakuahanai told me  
he was born and dies on the land. This boundary commences at a place near stream called  
Kalapuwahia and thence over stream and along Kalo patches to a stone called Kahunaone, thence up  
and around by Kahaha to a peak joining Wahiwawa at a peak called Puuai, thence to a hill called  
Puuaouka, thence across gulch to Kapaleoki, thence to Puuananahu, thence along ridge and cliffs  
above falls to a place called [blank space] Wailimu thence to a gulch at Junction with Manuahi called  
Olowau iki thence to Manuea thence to an old Heau Moloku thence to Puukuaumi, thence down ridge  
to Puukuauia, thence to Puukuawalu, thence to Puukuahiko, thence to Puukuana(?) thence to  
Puukualenia, thence to Puukuahola, thence to Puukualua, thence to Pukuahaki, and thence to  
Kalapunahae the place of commencement.

Several other witnesses were examined and from their evidence and the above the following decision  
was rendered.

Decision

Commencing at or near a stone in lower part of ridge near to the Manuahi stream and called Kalapunahae and thence running up ridge to a small hill called Puukuakohi thence up ridge to Puukualua, thence up ridge to Puukuahole thence up ridge to Puukuaha [?], thence up ridge to Puukuilima. Thence up ridge to Puukuaoaa(?). Thence up ridge to Puukuahiku. Thence up ridge to Puuhuaawalu. Thence up ridge to Puukuaewa. Thence up ridge to Puukuaumi thence up to and along the east side of an old Heau or place of Worship called Moloku. Thence up and along ridge to Kuapoo I. Thence down face of gulch to a round hole in ground Kuapoo 2. Thence across bottom of gulch and up to a high peak called Manuia. Thence along ridge to an old pathway and down face or side of hill to a mound called Puuomanawahi. Thence round face of ridge to Kalai, and thence up and along said ridges to a water fall called Haalulu. Thence up and along west side of stream to Olowauiki and thence up ridge to a point on the Makawele range called Puulehua which terminates the western boundary of this land. From Puulehua, the W & N.E. boundary runs down and along a well defined ridge to Wailima, and Thence along same ridge to Puuonawahu. Thence along ridge to Kapaloo. Thence along ridge Hulua, thence to and across gulch Kapalioki to a peak or hill called Puuouha thence down ridge to a small round rise called Puuouka Kai when the boundary of this land joins that of G.B. Rowell, thence down along said Rowell's land to a rock on edge of pali above [mark ] and south of Koula house called Papakea, thence down to a split stone near said house called Kahunaoni, and thence across Koula Stream and round corner of stone wall enclosing Kalo patches to place of commencement.

Duncan McBryde  
Commissioner of Boundaries Kauai

Notes of Survey of Koula in Hanapepe

The South West corner of this land commences at the junction of the Koula and Manuahi streams from whence the western boundary of the land runs along the land of Manuahi on the following notes

	Bearings	Distance	
		in links	
<u>Kalapunahae</u>	N 37.14 W	328	along north side of <u>Manuahi</u> stream to foot of spur to a place called just below a Wiliwili tree
thence	N 19.18 E	1050	up ridge to <u>Puukuakai</u>
"	N 16.37 E	456	" "
"	N 13.1 E	299	" "
"	N 10.7 E	1871	" "
"	N 7 49 W	395	" "
"	N 22.8 W	759	" to a Koa tree
"	N 35.18 E	1292	" crossing a small hollow
Thence up on to ridge	N 42.25 W	680	up ridge
	N 77.23 W	645	to top of hill West of Heau called Moloku
The said Heau being in the land of Manuahi, the Boundary of this land is the edge of the pali at this place thence	N 16.43 W	226	up ridge
	N 37.10 W	267	" "
	N 25.10 W	518	" "
	N 4.27 W	301	" "
	N 20.8 W	286	" "
	N 13.6 E	525	" " along the side of ridge
	N 18.39 W	100	" " through bush to a gully
	N 29.36 E	476	open grass land

two holes S 74.0 E 222 down side of hill to a hole in ground called Kuapoo. there are  
the upper one is on boundary  
N 38.13 E 2000 up the face of hill to the top of peak called  
Mauaea and from whence the following plans bear N 19,30 E true 9°30' Mag a sharp peak  
called Puulehua at the north corner of Manuahi and  
adjoining Makawele(?)

true  
N 33.43 E the North end of a ridge called Kalae, the water shed of said ridge forms  
the Boundary between this land and Manuahi. thence from Manuaea N 30. 8 W 2200 along the ridge,  
this is as far as it is advisable to carry the survey positive. beyond this the land is rough and thickly  
wooded but by the following description and reference to accompanying plan, at any future ~~plea~~ time  
the boundary by survey can be more definitely stated. The boundary from 2200 links true runs round  
the side of range above the palis to the south end of the Kalalaia ridge. Thence along the water shed  
of Kalalaia ridge to its north end thence N down to the S.W. side of stream, and then continuing up the  
west bank of stream to Hoalulu Waterfall. Thence along west bank of stream to a place called  
Olonawah from thence up a ridge leading to the top of Puulehua the North end of Manuahi. Thence  
following along the ridge in a N.E. direction toward Waialeale to where a ridge branches off and runs  
in a SE direction towards Kaluhi from thence in about a SE direction to a round hill in the saddle  
called Wailama Thence in a SE direction along ridge to Puuananahu. Thence along ridge to a high  
sharp peak called Kapalaoa [Kapalaoa] which is the NW corner of Wahiawa and NE corner of this land.

Return to place of commencement. The eastern boundary of this land runs thus S 59. 23 E  
354 links across the Koula stream to a large split stone at the point of the Koula house and called  
Kahuunaou. Thence S 62. 45 E 450 links to the top of rocky point called Papakea. Thence N 55. 25  
E 360 links along ridge. Thence N 84° 59' E 665 links up ridge to Mr Rowell's land. Thence N 26°  
10' E 4200 along the face of hill to a point called Kahaha N 89° E 4700 links up the hill to the top of  
Puuaukai bounded on the south by Mr. Rowell's land. Thence N 17°45' E 3200 to the top of Puuauuka  
bounded on the East by Wahiawa. Thence N 38° 30' E 120.00 links to the top of a peak on ridge called  
Hulua thence N 44° 45' E 7000 links to the top of a sharp peak at the NW corner of Wahiawa and  
called Kapalaoa [Kapalaoa] which is the NE corner of this land.

From Puuaukai, the boundary between this land and Wahiawa is the watershed of the ridge  
(See plan)

I hereby certify this is a correct survey of the boundary of this land as defined by the Hon.  
Duncan McBryde Commissioner of Boundaries for the Island of Kauai

James W. Gay  
12 Oct 1873

Approved  
Duncan McBryde  
Commissioner of Boundaries Kauai

Map 1873



**APPENDIX H  
SIGNED CONSENT/RELEASE FORMS\***

**(Copies)**

IV. Benefits

This study will give you the opportunity to express your thoughts (*mana'o*), and your opinions will be listened to and shared; your knowledge may be instrumental in the preservation of significant resources and information.

V. Confidentiality

Your rights of privacy, confidentiality and/or anonymity will be protected if you so desire. You may request, for example, that your name and/or sex not be mentioned in write-ups, such as field notes, on tape, on files (disk or folders), drafts, reports, and future works; or you may request that some of the information you provide remain "off-the-record" and not be recorded in any way. In order to ensure protection of your privacy, confidentiality and/or anonymity, you should immediately advise the investigator of your desires. The investigator will ask you to specify the method of protection, and note it on this form below.

VI. Refusal/Withdrawal

You may, at any time during the interview process, chose to not participate any further. Please note that you will be given an opportunity to review your transcript, and to revise or delete any part of the interview.

VII. Waiver

Part I: Agreement to Participate

I, Aletha G. Kaohi, understand that Maria E. Ka'imipono Orr, an independent investigator contracted by Kui'walu will be conducting oral history interviews with individuals knowledgeable about the project lands in the vicinity of the ~~Pali Kona Forest Reserve~~, Hanapepe, Kauai. The oral history interviews are being conducted in order to collect information on possible pre-historic and/or historic cultural resources associated with these lands, as well as traditional cultural practices.

I understand I will be provided the opportunity to review my interview to ensure that it accurately depicts what I meant to say. I also understand that if I don't return the revised transcripts after two weeks from date of receipt, my signature below will indicate my release of information for the draft report. I also understand that I will still have the opportunity to make revisions during the draft review process.

- I am willing to participate.
 I am willing to participate, under the following conditions:

Aletha G. Kaohi 12/10/04
Consultant Signature Date
Aletha G. Kaohi 808-338-1447 (H)
Print Name Phone
P.O. Box 109 Waimea, HI 96796
Address

MAHALO NUI LOA

IV. Benefits

This study will give you the opportunity to express your thoughts (mana'o), and your opinions will be listened to and shared; your knowledge may be instrumental in the preservation of significant resources and information.

V. Confidentiality

Your rights of privacy, confidentiality and/or anonymity will be protected if you so desire. You may request, for example, that your name and/or sex not be mentioned in write-ups, such as field notes, on tape, on files (disk or folders), drafts, reports, and future works; or you may request that some of the information you provide remain "off-the-record" and not be recorded in any way. In order to ensure protection of your privacy, confidentiality and/or anonymity, you should immediately advise the investigator of your desires. The investigator will ask you to specify the method of protection, and note it on this form below.

VI. Refusal/Withdrawal

You may, at any time during the interview process, chose to not participate any further. Please note that you will be given an opportunity to review your transcript, and to revise or delete any part of the interview.

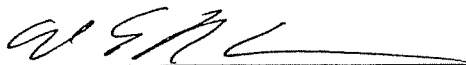
VII. Waiver

Part I: Agreement to Participate

I, \_\_\_\_\_, understand that Maria E. Ka'imipono Orr, an independent investigator contracted by Kui'walu will be conducting oral history interviews with individuals knowledgeable about the project lands in the vicinity of the ~~Pali Kona Forest Reserve~~, Hanapepe, Kauai. The oral history interviews are being conducted in order to collect information on possible pre-historic and/or historic cultural resources associated with these lands, as well as traditional cultural practices.

I understand I will be provided the opportunity to review my interview to ensure that it accurately depicts what I meant to say. I also understand that if I don't return the revised transcripts after two weeks from date of receipt, my signature below will indicate my release of information for the draft report. I also understand that I will still have the opportunity to make revisions during the draft review process.

I am willing to participate.  
 I am willing to participate, under the following conditions:

 \_\_\_\_\_ 12/10/04  
Consultant Signature Date  
Waerea Robinson \_\_\_\_\_  
Print Name Phone  
P.O. Box 87 Makaweli HI 96769 \_\_\_\_\_  
Address

MAHALO NUI LOA

EXHIBIT "C"

FAUNAL FIELD SURVEY OF A PROPOSED HELICOPTER LANDING  
SITE AT KOULA VALLEY NEAR MANAWAIOPUNA FALLS, KAUAI

**FAUNAL FIELD SURVEY OF A PROPOSED HELICOPTER  
LANDING SITE AT KOULA VALLEY NEAR  
MANAWAIOPUNA FALLS, KAUAI**

**Prepared for:**

**Law Offices of  
Walton D.Y. Hong  
Lihue, Kauai**

**Prepared by:**

**Phillip L. Bruner  
Environmental Consultant  
Faunal (Bird & Mammal) Surveys  
BYUH Box 1775  
55-220 Kulanui St.  
Laie, HI 96762**

**3 April 2006**

## INTRODUCTION

This report presents the findings of a one day (28 March 2006) field survey of a proposed helicopter landing site in Koula Valley near Manawaiopuna Falls, Kauai.

References to pertinent published sources are also included in order to provide a broader perspective of the birds and mammals known to occur in similar habitat and elevation on Kauai. The goals of the field survey were to:

- 1- Document the species of birds and mammals presently found in this property.
- 2- Focus the survey primarily on native and migratory species.

## DESCRIPTION OF THE SITE

The proposed landing site is located near the base of Manawaiopuna Falls approximately 500 feet elevation. Koula Valley is steep "V" shaped valley with a permanent stream. A man-made ditch for irrigation runs beside the stream and into a tunnel. Vegetation in the valley is comprised mostly of alien (introduced) trees, shrubs, grass and weeds. Fruiting trees such as Mountain Apple or Ohi'a-ai (*Syzygium malaccense*), Strawberry Guava (*Psidium cattleianum*), Coconut (*Cocos nucifera*), Mango (*Mangifera indica*), and Kuku'i or Candlenut (*Aleurites moluccana*) all occur at this site. The native (endemic) Ohi'a-lehua (*Metrosideros polymorpha*) was also present along the stream and up the sides of the valley. Both water levels in the stream were high due to the heavy March rains.

## DESCRIPTION OF THE SITE

Data on birds were collected by walking the site during morning hours when birds are most active and thus more easily detected. A tally was kept of all birds seen.

Observations were strictly visual due to the noise of the stream which made it impossible to hear birds vocalizing.

The scientific and common vernacular names used in this report follow Honacki et al. (1982), Pratt (1998), and Pyle (2002). These sources employ names used in the current scientific literature. Weather during the survey was overcast with intermittent rain showers.

## RESULTS OF THE FIELD SURVEY

### Native Forest Birds:

No native forest birds were observed over the course of the survey. Given the location of the property, and available habitats, few native forest birds would be expected. (Pratt et al. 1987, Hawaii Audubon Society 2005). Apapane (*Himatione sanguinea*) and Kauai Amakihi (*Hemignathus kauaiensis*) may on occasion forage in the Ohi'a-lehua and flowering Mountain Apple trees. The Pueo or Hawaiian Owl (*Asio flammeus sanwicensis*) forages in a wide variety of habitats, including river valleys (pers. observ.). None of these species are listed as endangered or threatened on Kauai.

**Native Waterbirds:**

No native waterbirds were encountered on the survey. The endangered and endemic Koloa or Hawaiian Duck (*Anas wyvilliana*) is widespread on Kauai (Hawaii Audubon Society 2005). They are often found along streams. It would not be surprising to see Koloa in Koula Valley. Black-crowned NightHeron (*Nycticorax nycticorax*) also forage along streams and roost in river valleys. This species is the only native waterbird not currently listed as endangered.

**Seabirds:**

No seabirds were recorded. The non-endangered White-tailed Tropicbird (*Phaethon lepturus*) is often seen soaring on the updrafts along cliff faces and waterfalls on Kauai and other islands (Hawaii Audubon Society 2005, pers. obs.) The threatened Newell Shearwater (*Puffinus auricularis newelli*) nests on fern-covered mountain slopes and is reported in Hanapepe Valley as well as many other similar sites across Kauai (Day and Cooper 2001).

**Migratory Birds:**

No migratory shorebirds were recorded on the survey. The only species that would be expected is the Wandering Tattler (*Heteroscelus incanus*). They forage not only in the intertidal but also along streams (Pratt et al. 1987, Hawaii Audubon Society 2005). Wandering Tattler are not endangered or threatened.



**Alien (Introduced) Birds:**

Three alien species were observed on the survey. Several small groups of Japanese White-eye (*Zosterops japonicus*) were seen foraging for nectar and insects in the flowering Mountain Apple and Ohi'a-lehua trees. One Hwamei (*Chinese Thrush or Melodious Laughing Thrush*) (*Garrulax canorus*) and one White-rumped Shama (*Copsychus malabaricus*) were lured out from the dense brush by the use of a "squeek lure". These birds are highly territorial and quickly respond to what they may perceive as an intruding or injured bird. Other alien species that may also occur in this area include: Greater Necklaced Laughing-Thrush (*Garrulax pectoralis*), Red Jungle Fowl (*Gallus gallus*), Spotted Dove (*Streptopelia chinensis*), Zebra Dove (*Geopelia striata*), Northern Cardinal (*Cardinalis cardinalis*) and House Finch (*Carpodacus mexicanus*). No alien species is listed as threatened or endangered.

**Feral Mammals:**

The only evidence of feral mammal activity were tracks and rooted up areas left by Pigs (*Sus scrofa*). Rats (*Rattus spp.*), Mice (*Mus musculus*) and Cats (*Felis catus*) also occur in the valley. The endangered Hawaiian Hoary Bat (*Lasiurus cinereus semotus*) is fairly common on Kauai (pers. obser.) The Hawaiian name of the bat is "Ope'ape'a. They forage for flying insects in a wide variety of habitats including: native forest, agricultural lands, as well as urban areas (Tomich 1986, Kepler and Scott 1990). Reynolds et al. (1998) notes seasonal changes in elevation by bats on the Big Island.

This species prefers to roost solitarily in trees rather than in large groups in caves or other shelters as do many microchiroptera. None were observed during the field survey.

## CONCLUSIONS

The limited observations of birds at this location was due to the difficulty of hearing vocalizations because of the noise created by the stream and persistent rain showers. The dominance of alien vegetation and the relatively low elevation (500ft) precludes the occurrence of most native forest birds. Even in the best of climatic conditions a field survey along the stream would likely find that alien birds and mammals dominate the list of recorded species. Mosquitoes were abundant at this site and the potential for the transfer of any avian diseases that may be present in the alien birds would be a significant limiting factor for native forest birds. A helicopter landing site at the base of Manawaiopuna Falls should pose little or no significant threat to native forest birds whose occurrence in this area is necessarily limited by a lack of appropriate habitat. Newell Shearwater nesting habitat, ie. fern covered hillsides, is not present around the proposed landing site. The endangered Koloa (Hawaiian Duck) occurs in both undisturbed and significantly altered landscapes on Kauai. There are no data on the

extent to which Koloa might utilize Koula Valley. Lastly the endangered Hawaiian Hoary Bat can be found in a wide variety of habitats on Kauai from native forest to urban (pers. obser.) They may use Koula Valley but could just as easily occur along the coast in Hanapepe.

### SOURCES CITED

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- Hawaii Audubon Society. 2005. Hawaii's Birds. Sixth ed. Hawaii Audubon Society. Island Heritage Publishing. 141pp.
- Honacki, J.H., K.E. Kinman and J.W.Koepl eds. 1982. Mammal species of the World. A taxonomic and geographic reference. Allen Press, Inc. and the Association of Systematic Collections. Lawrence, Kansas. 694pp.
- Kepler, C.B. and J.M. Scott. 1990. Notes on the distribution and behavior of the endangered Hawaiian Hoary Bat (*Lasiurus cinereus semotus*). 'Elepaio 50(7):59-64.
- Pratt, H.D., P.L. Bruner, and D.G. Berrett. 1987. A field guide to the birds of Hawaii and the Tropical Pacific. Princeton University Press. Princeton New Jersey. 409pp.
- Pyle, R.L. 2002. Checklist of the birds of Hawaii – 2002. 'Elepaio 62(6):137-148.
- Tomich, P.Q. 1986. Mammals in Hawaii. Bishop Museum Press. Honolulu. 375pp.

EXHIBIT "D"

SWCA ENVIRONMENTAL CONSULTANTS LETTER, DATED  
JULY 31, 2008 BY JOHN I. FORD



ENVIRONMENTAL CONSULTANTS

Sound Science. Creative Solutions.

Honolulu Office  
City Financial Tower  
201 Merchant Street, Suite 1638  
Honolulu, HI 96813  
Tel 808.548.7922 Fax 808.548.7923  
www.swca.com

July 31, 2008

Mr. Gerald Parks  
Urban Planner  
1221 Kapi'olani Boulevard, Suite 211  
Honolulu, Hawai'i 96814

Re: Revised Assessment of Proposed Helicopter Operations on the Hanapepe River

Dear Mr. Parks:

SWCA was retained by Mr. Curt Lofstedt of Island Helicopters to respond to concerns expressed by the State of Hawaii Office of Environmental Quality Control (OEQC) (attachment). The OEQC letter specifically expressed concerns about potential impacts associated with proposed daily helicopter operations on the Hanapepe River and adjacent Manawaiopuna tributary in the vicinity of Manawaiopuna ('Jurassic') Falls.

#### Aquatic Resources and Water Quality

SWCA Aquatic Biologist John Ford and Environmental Specialist Tiffany Thair visited the site of the proposed landing area on July 17, 2008 and conducted a reconnaissance survey of the Hanapepe River (attached map). At the time of this reconnaissance, the Manawaiopuna tributary was very turbid due to recent heavy rainfall in the upper watershed and could not be visually surveyed.

Riparian overstory vegetation at the site was dominated by hau thickets (*Hibiscus tiliaceus*), kukui (*Aleurites moluccana*), 'Ohia (*Metrosideros polymorpha*), guava (*Psidium guajava*), mango (*Mangifera indica*), and mountain apple (*Syzygium malaccense*). Understory vegetation at the site was dominated by sedges, partridge pea (*Chamaecrista nictitans*), sensitive plant (*Mimosa pudica*), Jamaica vervain (*Stachytarpheta jamaicensis*), *Pluchea* sp., ginger (*Alpinia* sp.), California grass (*Brachiaria mutica*), pualele (*Emilia fosbergii*), and young koa haole (*Leucaena leucocephala*). The adjacent hillsides were covered with uluhe (*Dicranopteris* sp.) and various ferns. The following listed endangered plant species have been historically documented in the Hanapēpē Valley, but no individuals are currently known from the area: *Schiedea spergulina* var. *ieiopoda*, *Solanum sandwicense*, *Lipochaeta micrantha* var. *micrantha* (USFWS 1995).

Surface water in the Hanapepe River is diverted by a weir roughly 300 feet upstream from the confluence of the river and the Manawaiopuna tributary; however, water was flowing over the weir during our site visit. The river below the weir was shallow and clear. Another weir exists below the plunge pool at the base of Manawaiopuna Falls that diverts water into the Koula Ditch. Water from the two streams is mixed in the Koula Ditch on the right bank just below the confluence of the two streams. Ditch maintenance roads along the stream banks are overgrown with non-native grasses and weeds.

Water quality records are available for the Hanapepe River at USGS gage 16049000 below Manuahi Stream near 'Ele'ele, located roughly 3 miles downstream from the proposed project site. Over the 18 years of record (1971-1989), only 14 turbidity measurements were taken and all but two were less than 10 JTU. Temperatures ranged between 16.5° C to 24.0° C within the expected normal range. pH measurements over the period of record ranged between 6.2 and 8.4, again within normal expected limits. Dissolved oxygen, measured on only four occasions in 18 years, were between 7.9 and 11 mg/L suggesting well-oxygenated stream water. The State of Hawaii Department of Health listed the

Hanapepe River as being impaired for high turbidity during both wet and dry seasons (Final 2004 List of Impaired Waters in Hawaii Prepared Under Clean Water Act §303(d)).

SWCA biologists observed native Hawaiian goby fish (*Awaous guamensis* or 'o'opu nakea) in this reach, along with non-native introduced Tahitian prawns (*Macrobrachium lar*), swordtails (*Xiphophorus helleri*), and guppies (*Poecilia reticulata*). Marine toads (*Bufo marinus*) and their aquatic pollywogs were also observed. State of Hawaii Division of Aquatic Resources (DLNR) biologists reported finding these species along with the native Hawaiian goby fish (*Sicyopterus stimpsoni*) 'o'opu nopili in the Hanapepe River between 40' and 1199' elevation (DAR Online Stream Survey Database). SWCA biologists also observed several aquatic invertebrates including the native dragonfly *Pantala flavescens*, the endemic scarlet Kaua'i damselfly (*Megalagrion vagabundum*), the introduced caddisfly (*Cheumatopsyche pettiti*), and the introduced flatworm (*Dugesia* sp.).

The Newcomb's snail (*Erinna newcombi*) is a freshwater lymnaeid snail endemic to the Island of Kaua'i that was listed as a Threatened Species on January 26, 2000 under the Endangered Species Act of 1973, as amended. The first known specimens of Newcomb's snails were collected in 1840 at a waterfall called 'Hanapēpē Falls' located in the middle Hanapēpē watershed, possibly now called Manawaiopuna Falls. Today, the species is restricted to streams and springs located in the mid-elevation mountainous interior of Kaua'i. Hanapēpē Stream is the only stream in southern part of Kaua'i where the snail has historically been recorded (USFWS 2006). No recent surveys for *E. newcombi* have been undertaken in the Hanapēpē watershed. Although it is possible that a Newcomb's snail population does remain in the valley, the diversion system at the base of the falls results in persistent dewatered or dry reaches (USFWS 2006). The USFWS designated critical habitat, or geographic areas that are essential to the conservation of the species, on August 20, 2002. The Hanapēpē watershed is not included in the designated critical habitat area for Newcomb's snail (USFWS 2002). There is no reason to believe that the proposed helicopter activity will affect the Newcomb's snail.

Kaua'i Island is estimated to contain 12 species of Hawaiian damselflies in the genus *Megalagrion* (Jordan et al 2003). Most of the species that occur on the island are considered to be common and none are listed as Threatened or Endangered (Polhemus 1993). Two candidate endangered species – the Pacific Hawaiian damselfly Pacific Hawaiian damselfly (*Megalagrion pacificum*) and the orangeblack Hawaiian damselfly (*Megalagrion xanthomelas*) – were previously recorded on the island, but are now determined to be extirpated (USFWS 2007a,b). A single species of the Hawaiian picture wing flies, the endangered *Drosophila musaphila*, is known to occur in the mesic forests of Kaua'i. It has been seen at only four sites (Halemanu site, Kokee, and Pihea Trail), all greater than 1,900 ft (579 m) above sea level (Federal Register 2006a,b). It is not known to inhabit the Hanapēpē Valley in the vicinity of the proposed landing site, and no impact to the species is anticipated to occur as a result of helicopter operations.

#### Potential Environmental Impacts Upon Aquatic Resources and Water Quality

Our overall impression of the stream is that it has been disturbed over the past century by surface diversion for sugar irrigation, blocking of streams by weirs, introduction of non-native predatory and competitive aquatic species, and sedimentation of river beds from soil erosion created by unrestrained grazing of feral goats and pigs, and periodic landslides. The stream banks are dominated by introduced and naturalized plant species. Despite this history of perturbation, native aquatic migratory species persist within the watershed.

Removal of tree cover adjacent to the landing pad will probably have a minor beneficial impact to the stream by allowing increased sunlight to reach the streambed, promoting the growth of algae and diatom communities important for native aquatic species.

Daily helicopter take-offs and landings will result in chemical emissions from turbine engine exhaust. The impacts of exhaust (e.g. particulate organic carbon, carbon dioxide, carbon monoxide, partially oxidized organics, trace metals, and nitrogen oxides) upon the adjacent stream are likely to be minimal since the area is usually swept by winds. Fugitive dust and debris will be minimal, and miniscule in comparison to the normal bed load of sediments carried by the river.

SWCA recommends that the following mitigation measures be considered to protect the aquatic resources in the project area:

- No refueling or storage of fuel drums should be permitted at the landing site.
- A hydrocarbon spill response kit, currently maintained by the applicant, is available for rapid deployment to the site in the event of an accidental fuel or hydraulic fluid spill.
- Vegetative debris (particularly large tree trunks) cut to create and maintain a safe landing area should be removed from the stream valley to avoid blocking the channel and creating unnecessary erosion to the bed and/or banks.

Please don't hesitate to contact me directly at 808-548-7922 or [jford@swca.com](mailto:jford@swca.com) if you have any questions regarding our comments.

Best regards,



John I. Ford  
Program Director / Senior Biologist

Attachment

#### **Literature Review**

Federal Register. 2006a. Endangered and Threatened Wildlife and Plants; Determination of Status for 12 Species of Picture-Wing Flies From the Hawaiian Islands. 71(89): 26835- 26852.

Federal Register. 2006b. Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for 11 Species of Picture-Wing Flies From the Hawaiian Islands; Proposed Rule. 71(157):46993-47054.

Jordan, S., C. Simon, and D. Polhemus. 2003. Molecular Systematics and Adaptive Radiation of Hawaii's Endemic Damselfly Genus *Megalagrion* (Odonata: Coenagrionidae). *Systematic Biology* 52(1):89-109.

Polhemus, D. 1993. Damsels in distress: A review of the conservation status of Hawaiian *Megalagrion* damselflies (Odonata: Coenagrionidae). *Aquatic Conservation: Marine and Freshwater Ecosystems*. 3(4):343-349.

U.S. Fish and Wildlife Service (USFWS). 1995. Recovery Plan for the Kaua'i Plant Cluster. U.S. Fish and Wildlife Service, Portland, OR. 270 pp.

USFWS. 2002. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Newcomb's Snail; Final Rule. Federal Register 67(161): 54025-54056.

APPENDIX A

CORRESPONDENCE

1. Department of Land and Natural Resources
2. Federal Aviation Agency



LINDA LINGGIE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
OFFICE OF CONSERVATION AND COASTAL LANDS  
POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

LAURA H. THIELEN  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
RUSSELL Y. TELLE  
PLANT IDENTITY  
KEN C. KAWAHARA  
DEPUTY DIRECTOR - WATER  
AQUATIC RESEARCH  
BOATING AND BOAT LAUNCHATION  
HAWAIIAN COUNTRY PARKS  
CONSERVATION ON WATER RESOURCES MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESTORATION RESEARCH  
HONOLULU  
HONOLULU AND WAIPAHUA  
ISLANDS PRESERVATION  
KAIHOLEAWAI ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

REF:OCCL:DH

Correspondence: KA-08-98

Ian Costa, Director  
Kauai County Planning Department  
4444 Rice Street  
Suite A473  
Lihue Hawaii 96766

NOV 21 2007

Dear Mr. Costa,

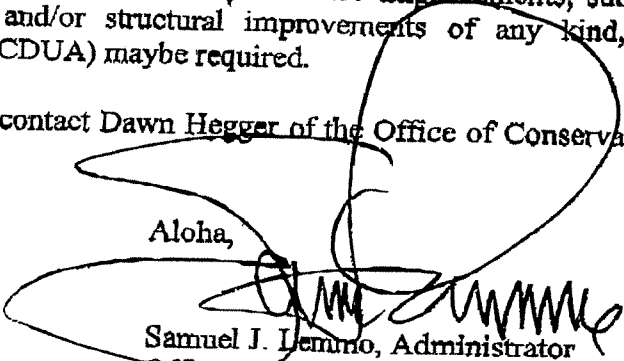
SUBJECT: Regarding Comments for Proposed Island Helicopters Kauai Landing Site on Subject Parcel TMK: (4) 1-8-001:001, Manawaiopuna Falls, Koula Valley, Island of Kauai

The Department of Land and Natural Resources' (DLNR), Office of Conservation and Coastal Lands (OCCL) is in receipt of your letter, dated, November 6, 2007, regarding the proposed landing site for Island Helicopters Kauai on Subject Parcel TMK: (4) 1-8-001:001, Manawaiopuna Falls, Koula Valley, Island of Kauai.

The Office of Conservation and Coastal Lands (OCCL) notes Island Helicopters Kauai proposes to land in the State Land Use (SLU) Agricultural District, and walk to Manawaiopuna Falls that are located a short distance away in the Conservation District. The OCCL notes that the subject parcel appears to be partially located in the SLU Conservation District, Resource and Protective subzones. The OCCL notes the office does not regulate commercial tours that are conducted in the Conservation District. However, should there be any *land use* improvements, such as the clearing of trees, trail construction, and/or structural improvements of any kind, then a Conservation District Use Application (CDUA) maybe required.

Should you have any questions, please contact Dawn Hegger of the Office of Conservation and Coastal Lands at 587-0380.

Aloha,

  
Samuel J. Lemmo, Administrator  
Office of Conservation and Coastal Lands

c: KDLO  
Kauai County Planning Department



U.S. Department  
of Transportation  
Federal Aviation  
Administration

Western-Pacific Region  
Honolulu Flight Standards District Office

135 Nakolo Place  
Honolulu, HI 96819-1845

Telephone: (808) 837-8300  
Facsimile: (808) 837-8388

December 13, 2008

Mr. Curtis Lofstedt  
Director of Operations  
Island Helicopters Kauai, Inc.  
P.O. Box 831  
Lihue, HI 96766

Dear Mr. Lofstedt:

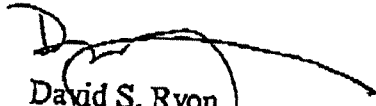
Your request for a helicopter landing site at the Manawaiopuna Falls area in the Hanapepe Valley of Kauai is approved. After having flown into/out of the site and walking the area with you, I find that the approach, landing, take-off, and departure can be conducted safely.

Your company must maintain control of the operation at all times. Your pilot is directly responsible for the operation of the aircraft considering winds, weather, and the suitability of the landing site. Obtaining the land owner's permission is your responsibility, as well as any local government approvals.

As the Director of Operations, you may want to visit the site occasionally to determine continued suitability considering vegetation growth, slope, or any other pertinent factors.

If you have any questions regarding this or any other matter, please feel free to call me at (808) 837-8323.

Sincerely,

  
David S. Ryon  
Principal Operations Inspector

APPENDIX B

EMERGENCY RESPONSE ACTION PLAN

# EMERGENCY RESPONSE ACTION PLAN

## for Manawaiopuna Falls Landing

### ISLAND HELICOPTERS KAUAI, INC.

The following is an Emergency Response Action Plan (herein "Plan") for Island Helicopters Kauai, Inc., for responding to emergencies on tours landing at the base of Manawaiopuna Falls, Koula Valley, Hanapepe, Kauai, Hawaii.

The landings will be done at an approved landing site approximately 500 feet from the base of Manawaiopuna Falls. The passengers, after disembarking the aircraft, will be guided and accompanied by the pilot to the base of the falls, using an existing trail. After viewing and photographing the falls, the passengers will return to the aircraft, and the air tour around Kauai continued.

To minimize the possibility of injury, **no one will be permitted to enter into the water at the base of Manawaiopuna Falls, nor to meander from the trail between the landing site and the falls.** All pilots will be instructed to strictly comply with these requirements.

#### Equipment

All of the helicopters will have the following equipment:

- (a) Radio communication equipment capable of communicating with emergency personnel or agencies, the office, or, in the event of transmission and reception limitations due to terrain, with other helicopters in the area;
- (b) First aid kit;
- (c) Fire extinguisher;
- (d) Petroleum absorption pads.

Additional emergency equipment may be stored at the landing site, provided that such equipment shall be stored in such a manner that it is not readily visible from the air.

The company shall have the ability to contact the Robinson Family Partners or Gay & Robinson, Inc., for surface access to the site in the event that such access is necessary due to an emergency.

5. If necessary, a representative from the company, Robinson Family Partners, and/or Gay & Robinson shall arrange to meet Fire Department personnel at the nearest point of access to lead them to the site of the fire;

6. A written report shall be prepared by the appropriate personnel to document the events leading up to and actions taken subsequent to the fire.

**In case of hard or forced landing**

In the case of any hard or forced landing, the pilot shall take the following steps:

1. Assess the situation and determine the extent, if any, of any injuries requiring medical attention. If there are any injuries, respond to the injury as set forth above;
2. If the forced landing causes a fire hazard, respond accordingly to the hazard. See above, relating to fires;
3. Notify the office and the need for Fire Department or other emergency services if required;
4. Contain fuel leak, if any, by appropriate measures;
5. If the helicopter remains airworthy, remove the passengers and the aircraft from the site;
6. If the helicopter is not airworthy, coordinate with the removal of the passengers and the aircraft from the site;
7. Notify appropriate agencies of the landing incident as may be required by law;
8. A written report shall be prepared by the appropriate personnel to document the events leading up to and actions taken subsequent to the hard or forced landing.

**In case of oil/fuel spill**

In the case of any oil or fuel spill or leakage, the pilot shall take the following steps:

1. Locate the source of the oil or fuel, and take appropriate steps to stop further leaking;
2. Take appropriate action to contain the spill, such as using the petroleum absorption pads to soak up the spill, containing by dirt berms, etc.

3. Notify the office of the same, including the nature and size of the spill;
4. The office shall notify the appropriate agencies (such as Fire Department, Department of Health, etc.) of the spill;
5. The company shall take necessary and remedial actions to contain the spill and minimize contamination of the surround environment;
6. A written report shall be prepared by the appropriate personnel to determine the event leading up to and actions taken subsequent to the spill.

-000-

This Emergency Response Action Plan shall be periodically reviewed and updated as necessary.

APPENDIX C

COMMENT LETTERS AND RESPONSES

LINDA LINGLE  
Governor of Hawaii

Telephone (808) 586-4185  
Facsimile (808) 586-4186  
Electronic Mail: [96808@go.hawaii.gov](mailto:96808@go.hawaii.gov)



STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

Department of Health  
236 South Beretania Street  
Lekopapa A Kamehameha, Suite 702  
Honolulu, Hawaii 96813

June 8, 2008

Ian K. Costa, Director  
Planning Department  
County of Kauai  
4444 Rice Street  
Lihue, Hawaii 96766-1326

Subject: Draft Environmental Assessment (DEA) for Helicopter Landing Area by  
Island Helicopters, Inc., Tax Map Key 1-8-001: Por. 1, Hanapepe Valley,  
Kauai

Dear Mr. Costa:

Thank you for the opportunity to review and comment on the subject DEA for the proposed Helicopter Landing Area in Kō'ūla Valley, Hanapepe. The Office of Environmental Quality Control offers the following comments:

There is no mention in the DEA of the setback distance from the proposed landing area to the Haulili Stream and the Kō'ūla Stream. Due to the potential proximity of the proposed landing site to Class I.b. stream waters located in the Conservation District Protected Subzone, the Final Environmental Assessment (FEA) should provide more detailed delineation of the State Land Use District and Conservation Subzone boundaries in the surrounding area.

There is concern about the fugitive dust and loose debris from the helicopter downdraft during landings and take-offs. Please discuss whether this will have an impact on the adjacent streams and if so, how you propose to mitigate this impact.

Where Class I.b. waters are adjacent to or nearby the proposed landing site, the FEA should identify and assess potential impacts to these waters from the daily 8 to 18 helicopter landings and up to 108 visitors, and identify adequate and appropriate mitigation measures, particularly with regard to HAR 11-54-3(b)(1):

It is the objective of class I waters that these waters remain in their natural state as nearly as possible with an absolute minimum of pollution from any human-caused source. To the extent possible, the wilderness character of these areas shall be protected. Waste discharge into these

waters is prohibited. Any conduct which results in a demonstrable increase in levels of point or nonpoint source contamination in class I waters is prohibited.

This may require baseline information about the biological, chemical, and physical integrity of the Class I.b. waters and the entire stream network that was not provided in the DEA. Also note that the entire Hanapepe Stream network, including Haulili and Kō'ūla streams, is considered to be water quality impaired due to excessive turbidity.

Given the high frequency of access planned for this site, it would be helpful if the State's water resource management programs in the DOH and DLNR could collaborate with the applicant to collect water quality information from the area on a regular basis.

Please call Herman Tuiolosega at 586-4185 if you have questions about the comments.

Sincerely,

*Herman Tuiolosega*  
KATHERINE PUANA KEALOHA  
Director

c: Walton D.Y. Hong, Esq.





September 3, 2008

**GERALD PARK**  
Urban Planner

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Land Use  
Research  
Environmental  
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Katherine Punana Kealoha  
Director

Office of Environmental Quality Control  
Department of Health  
235 South Beretania Street, Suite 702  
Honolulu, Hawaii 96813

Dear Ms. Kealoha:

Subject: Draft Environmental Assessment for Helicopter Landing Area  
Tax Map Key 1-8-001; Por. 1  
Hanapepe Valley, Kauai

Thank you for reviewing and commenting on the subject Draft Environmental Assessment. Our responses are offered in the order your comments were presented.

1. Setback Distance

The center of the helicopter landing area is about 40 feet from Haujiii Stream and 150 feet from Koula Stream.

2. Delineation of State Land Use Districts and Conservation District Subzone

A land use district boundary interpretation is attached. The proposed landing area is located in the State Agricultural district.

According to the Office of Conservation and Coastal Lands ("OCCL"), the subject parcel appears to be partially located in the SLU Conservation District, Resource and Protective subzones (Correspondence dated November 21, 2007 and included in Appendix B)

3. Fugitive Dust and Loose Debris

This impact was disclosed in the Draft Environmental Assessment (Section 3B 2<sup>nd</sup> paragraph, page 14). The landing area is not a barren patch of earth. Grass and other vegetation cover the surface and adjoining areas. Applicant will maintain the landing area and can allow the grass to spread and inter-grow creating a fairly dense grass covered landing area as a mitigating measure. Vegetation will retain soil thus minimizing fugitive dust during landing and takeoffs and subsequent transport to the adjoining streams.

Over time, Applicant can determine the best way to minimize grass cuttings and debris raised by landing aircraft, at and in the immediate vicinity of the landing area. It may require letting the vegetation grow to a certain height and maintaining it at that height. Loose debris such as broken tree branches can be collected and hauled away from the landing area as frequently as possible.



Katherine Punana Kealoha  
Page 2  
September 3, 2008

Natural causes such as erosion processes, scouring of the river bank and bottom, fallen trees and leaves, and runoff are contributing factors to water quality impairment upstream and downstream of Manawaioipuna Falls. Erosion also is attributable to unrestrained grazing of feral goats and pigs. In inhabited and agricultural areas below Manawaioipuna Falls, man's activities are probably the primary factor contributing to the turbid conditions of the Hanapepe River in its lower reaches.

4. Class 1.b Waters

As indicated in the Draft EA, visitors will not be allowed to swim in the plunge pool and adjoining streams or carry food to the falls. Visitor conveniences such as providing tables and benches are not proposed. These measures are proposed for the safety of the visitor and to maintain the environmental quality of the natural setting.

Measures for mitigating the impact of fugitive dust and loose debris were presented above. Other measures can be implemented as needed to help protect stream water quality.


It is acknowledged that the State Department of Health identified Hanapepe Stream to include all its tributaries as a water quality impaired stream. This determination is the result of on-going natural and human activities that contribute sediment and other materials that discharge into the waterway resulting in turbid conditions.

Although located in a remote area, the landing area is not designated as wilderness. It is in the State agricultural district and at one time was used for grazing cattle.

We thank the Office of Environmental Quality Control for participating in the environmental assessment review process.

Sincerely,

GERALD PARK URBAN PLANNER

  
Gerald Park

Attachment: LUC Boundary Interpretation

c: W. Hong  
C. Lofstedt, IHK

LINDA LINGLE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM  
LAND USE COMMISSION

P.O. Box 2359  
Honolulu, Hawaii 96804-2359  
Telephone: 808-587-3822  
Fax: 808-587-3827

ANTHONY J.H. CHING  
EXECUTIVE OFFICER

Walton D. Y. Hong, Esq.  
3135 Akahi Street, Suite A  
Lihue, Hawaii 96766-1106

Dear Mr. Hong:

Subject: BOUNDARY INTERPRETATION No. 07-08  
Tax Map Key: 1-8-01: por. 1  
Koula Valley, Hanapepe, Kauai, Hawaii

This is in response to your letter dated February 26, 2007, requesting confirmation that a proposed helicopter landing site near the base of the Manawatopuna Falls in Koula Valley is located within the State Land Use Agricultural District.

Based on our review of the Land Use Commission's records currently on file at our office, including official map K-7 (Waialeale) and K-8 (Koloa), and Exhibits "A" through "M" that you provided, we have determined that the proposed landing site, as approximately identified by the orange tape on your photographs (Exhibits "C" through "J"), is designated within the State Land Use Agricultural District. We have enclosed copies of Exhibits "C" through "J" for your reference.

Should you require clarification or further assistance, please feel free to call Fred Talon or Bert Saruwatari of my staff at 587-3822.

Sincerely,

ANTHONY J. H. CHING  
Executive Officer

Enclosures

- c Samuel J. Lemmo, Administrator, Department of Land and Natural Resources, Office of Conservation and Coastal Lands (w/enclosures)
- Ian Costa, Planning Director, County of Kauai, Planning Department (w/enclosures)
- Domie Bucacas, Supervisor, Real Property Assessment Division, County of Kauai, Finance Department (w/enclosures)
- Harry Beatty, GIS Coordinator, County of Kauai (w/enclosures)

EXHIBIT "B"

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

159° 32' 30" W  
21° 59' 30" N

KELE CANYON

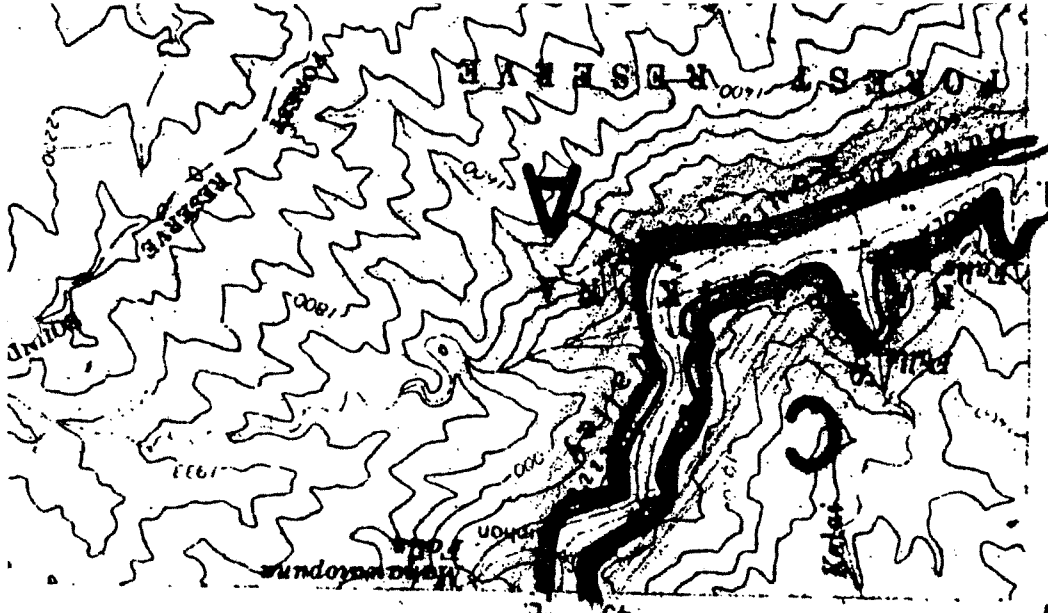
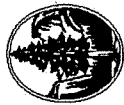


EXHIBIT "D"



**SIERRA CLUB**  
Kauaï Group of the Hawaiï Chapter  
Post Office Box 3412, Lihue, Kauaï, Hawaiï, 96766

June 4, 2008

Island Helicopters Kauai, Inc.  
P.O. Box 831  
Lihue, Kauai 96766

Re: Draft EA for Helicopter Landing Area, Koula Valley, TMK (4)-1-8-001

Aloha,

The Kauai Group of the Hawaii Chapter of the Sierra Club submits the following comments on the Draft Environmental Assessment for a proposed helicopter landing area in Koula Valley, notice for which was published in the May 8, 2008 edition of the OEQC Environmental Notice.

We believe that the Draft EA is deficient in that it ignores the precedential, growth-inducing, and cumulative adverse impacts of the proposed action. Ignoring these impacts would lead to the erroneous conclusions that there are no significant adverse impacts and that no EIS is required. It would also undermine reasoned decision-making on the proposed action.

I. The scope of the Draft EA is deficient.

The environmental assessment required by HRS 343-5(a)(8)(A) requires the consideration of the secondary and nonphysical aspects of the proposed action, including socio-economic consequences, and the consideration of the cumulative, island-wide impacts and growth-inducing impacts that would stem from the County of Kauai's approval of the requested permits. None of these impacts are considered in the Draft EA.

II. The proposed action would have growth-inducing impacts.

It is clearly the applicant's intent that the proposed landing area will stimulate the air tour business by creating a new tourist attraction and additional tourist demand for helicopter tours. Indeed, it stands to reason that the purpose of the application is to increase, not decrease, the number of tourists who take helicopter tours.

Even if, for the sake of argument, it was true that this particular applicant might decrease the number of its round-the-island tours in order to accommodate longer waterfall tours, the tourists who would otherwise have taken those round-the-island tours are not going to

disappear. They will migrate to other helicopter tour operators, ultimately resulting in a net increase in the number of helicopter flights over Kauai's neighborhoods and parks.

Clearly, the proposal will result in more - not fewer - helicopters in the air, when compared to the No Action scenario. No amount of number-juggling can conceal this basic fact.

III. Approval of the proposed action would be precedential and would set the stage for additional expansion of the helicopter tour industry.

The Kauai Planning Director's November 2007 Report on the proposed action is absolutely correct in stating that if this permit is granted, "market competition would demand that rival companies establish their own exclusive landing areas..." (p7), that granting of these permits would establish a precedent, and that approval "could prove to be the catalyst for a proliferation of private helicopter landing sites on Kauai." (p8)

If the Commission allows one of Kauai's dozen helicopter tour companies to operate "Jurassic Park" tours, it is likely that every other helicopter tour company will soon come before the Commission with a plea to compete by offering adventure tours that promise landings at remote, otherwise non-accessible sites on the island. Yet the Draft EA does not address the impacts of this significant consequence of approval of the proposed action.

IV. The proposed action would have cumulative impacts.

As noted above, approval of the proposed action would set the stage for an expansion of the helicopter tour industry, as the Kauai Planning Commission, if it were to approve the proposed action, could hardly deny approval of subsequent requests from other applicants for remote landing sites elsewhere on the island.

Thus, cumulative impacts would certainly result from approval of the proposed action, and this EA (and the subsequent required EIS) must therefore consider such cumulative impacts of helicopter tour industry expansion. Further, such impacts cannot be ignored in this first EA, as that would set a bad precedent that would lead to ignoring of such cumulative impacts in the EAs for subsequent requests for interior landing sites.

V. The proposed action would have island-wide adverse impacts.

Because each request for a landing site would likely be for a landing site at a different location, the cumulative impacts would not be location-specific; rather, they would be island-wide and would be the result of the overall expansion of the helicopter tour industry that would be triggered by the proposed action.

The expansion of the helicopter tour industry in its currently unregulated state - which allows helicopter tours to fly over residential communities, over parks and over sensitive cultural sites - would generate significant adverse island-wide impacts, primarily noise and safety. Those adverse impacts would likely be substantial when compared to the No Action alternative.

VI. The myopic scope of the Draft EA leads to erroneous, non-substantiable conclusions.

Because the Draft EA does not consider growth-inducing and cumulative impacts, nor the impacts beyond Koula Valley, it reaches faulty conclusions in several areas:

4. Substantially affects the economic or social welfare of the community or State.  
The Draft EA states that "the project will not substantially affect the economic or social welfare of the community or State."

This conclusion is not based on any evidence. Indeed, if anything, the evidence is to the contrary, in that the noise generated by the helicopter tour industry is distressing to residents in the affected communities and any increase in the number of helicopter tours would increase this negative impact on social welfare.

6. Involves substantial secondary impacts, such as population changes or effects on public facilities.

The Draft EA states that "population changes or effects on public facilities are not anticipated due to the limited scope of the project and non-involvement of public facilities."

This conclusion is also unwarranted in that: (i) substantial secondary impacts, such as noise, could result from the cumulative growth unleashed by the proposed action, and (ii) such noise will affect not only private property but also public facilities including county and state lands and parks overflowed by the expanded helicopter tour industry.

8. Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.

The Draft EA states: "The project does not directly involve a commitment for larger action."

As noted in these comments, approval of the project would indeed create a de facto commitment for larger action, as there would be no grounds for disapproval of similar proposals for helicopter tour landing sites elsewhere on Kauai.

The Draft EA states: "This potential cumulative impact [of possible proliferation of additional landing permits] is probably unlikely and can be mitigated as a) the landowner has given exclusive landing rights in Koula Valley to the Applicant; b) the absence of similar inaccessible waterfalls on privately owned land reduces the likelihood that other applications for similar permits will be forthcoming; and c) regulatory requirements will require approval from state or county agencies or both."

But argument (a) is not germane, as the actual concern is that other tour companies will seek landing rights elsewhere on Kauai; argument (b) is based on the faulty premise that only waterfall sites will be sought by helicopter tour operators seeking to expand their product lines; and argument (c) is undermined by the fact

that approval of the proposed action would eliminate the substantive reasons for not approving similar actions.

10. Detrimentially affects air or water quality of ambient noise levels.

The Draft EA may be correct in stating that "ambient noise levels will increase as a result of the proposed activities, but the absence of any human habitation within miles of the site will mitigate any effects thereof."

But the Draft EA has chosen to ignore the increased noise levels over residential and environmentally sensitive areas throughout Kauai, which would indeed be the result of the helicopter tour industry expansion that would be triggered by approval of the proposed action - i.e. the cumulative, island-wide impacts.

VII. An environmental assessment must be comprehensive in its scope and its analysis.

As the examples cited immediately above indicate, the conclusions of an environmental assessment can not be justified if the scope and analysis of the EA are arbitrarily narrowed.

Impacts that are not studied cannot be mitigated, defeating one of the primary reasons for conducting environmental assessments.

A precedent-setting approval of this application for a helicopter landing area in Kauai's interior would trigger an increase in the number of helicopter flights over the island, without any meaningful conditions limiting how many, where and when helicopter tour companies fly. We believe that most reasonable people would therefore agree that allowing the number of helicopter flights to increase - without any meaningful conditions limiting how many, where and when helicopter tour companies fly - would be quite detrimental to the community. Therefore, the impacts of such additional overflights on Kauai's neighborhoods, parks and beaches must be analyzed in order to develop the menu of mitigation measures that might conceivably justify approval of the proposed action.

VIII. Reasoned decision-making requires a thorough, comprehensive environmental impact statement.

A primary purpose for conducting an EA/EIS is to provide the information that is needed for reasoned decision-making by the approving agency. Indeed, the Kauai Planning Commission will be asked to grant a Use Permit, whose approval or denial must hinge on whether or not that Commission can make an affirmative finding that the cumulative impacts of allowing the helicopter tour industry to expand would not be detrimental to the community.<sup>1</sup> If for other reason than to allow for reasoned decision-making, a thorough environmental impact statement must be required for this proposal.

<sup>1</sup> Section 8-20.5(a) of the Comprehensive Zoning Ordinance states that: "A Use Permit may be granted only if the Planning Commission finds that the establishment ... or operation of the ... activity or use in the particular case ... is not ... detrimental or injurious to ... the general welfare of the community..."

IX. In summary and conclusion:

1. The fundamental purpose of the applicant's proposal is to increase the demand for helicopter tours.
2. Approval of the proposed action would likely trigger a significant expansion of the helicopter tour industry on Kauai, vis-à-vis the No Action alternative. Granting the requested permits would be precedent-setting and growth-inducing, and would create cumulative, island-wide detrimental impacts on Kauai's residents, who would be subjected to increased noise and decreased safety from an increased number of helicopter overflights. Therefore, the Environmental Assessment must not consider this proposal in isolation.
3. The Draft EA does not consider the growth-inducing, primary and secondary, island-wide, cumulative adverse impacts of helicopter industry expansion that would be unleashed by the proposed action. The Draft EA does not consider the impacts outside the specific project area.
4. The No Action alternative is inadequately described vis-à-vis the proposed action, in light of the above. The No Action alternative should clearly indicate the differences between (i) a future in which there would be a number of interior landing sites, an increase in the size of the air tour industry, and more noise over residential communities, parks and environmentally-sensitive areas; and (ii) a future in which new products, such as air tours to remote landing locations, are not permitted.
5. The Draft EA is deficient in light of the above; the analysis of appropriate mitigation measures is deficient in light of the above; and any Finding of No Significant Impacts would be unjustified in light of the above.

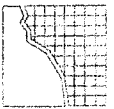
For all of the reasons stated above, we therefore request that a comprehensive and thorough environmental impact study be required in connection with the proposed action.

Thank you for your consideration of these comments.



Carl Imparato  
on behalf of the Kauai Group of the Hawaii Chapter of the Sierra Club

cc: Ka'aina Hull (Approving Agency) 4444 Rice Street #473, Lihue HI 96766  
Gerald Park (Consultant) 1221 Kapi'olani Blvd #211, Honolulu HI 96814  
Walton Hong (Applicant) 3135-A Akahi Street, Lihue HI 96766  
OEEQ. 235 S. Beretania Street #702, Honolulu HI 96813



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September 3, 2008

Carl Imparato  
Kauai Group of the Hawaii Chapter of the Sierra Club  
Post Office Box 3412  
Lihue, Kauai, Hawaii 96766

Dear Mr. Imparato:

Subject: Helicopter Landing Area  
Tax Map Key 1-8-001; Por. 1  
Hanapepe Valley, Kauai

Thank you for reviewing and commenting on the Draft Environmental Assessment prepared for the subject project. Our responses are offered in the order your comments were presented.

1. The scope of the Draft EA is deficient.

Your citation of HRS 343-5(a)(8)(A) applies to the construction of new or the expansion or modification of existing helicopter facilities within the State which by way of their activities may affect (A) any land classified as conservation district .....

The proposed landing area is located in the State Agricultural district not the Conservation district. Visitors to Manawaiohuna Falls, however, will have to traverse a short section of the Conservation district to gain the falls. In the Draft EA (Section 2, C, 3<sup>rd</sup> paragraph, page 10) the Office of Conservation and Coastal Lands, the regulatory branch of the Department of Land and Natural Resources determined that a Conservation District Use Permit is not required for the proposed action because they did not consider the conservation lands as being affected by the proposed activity. The OCCL correspondence was appended in the Draft EA.

2. The proposed action would have growth inducing impacts.

Applicant's intent is not to create a new tourist attraction. Helicopter tour companies already fly visitors to observe Manawaiohuna Falls from the air. The Applicant is the only entity that has been granted landing rights by the landowner, permission given to other helicopter operators to land at the falls is not anticipated.

You are correct that Applicant will decrease their total number of helicopter tours to accommodate the waterfall tour. Your inference that the Applicant's landing at Manawaiohuna Falls will cause visitors to "migrate to other helicopter tour operators, ultimately resulting in a net increase in the number of helicopter flights over Kauai's neighborhoods and parks" is an opinion.

3. Approval of the proposed action would be precedential and would set the tone for additional expansion of the helicopter tour industry.

This environmental assessment need not concern other helicopter tour operators who "may offer adventure tours that promise landings at remote otherwise non-



Carl Imparato  
September 3, 2008  
Page 2

accessible sites on the island." Only one site is the subject of this assessment and it would be mere speculation as to what other operators may do in the future.

This application should not be construed entirely as precedent setting. The Kauai Planning Commission approved permits for landing on a ridge overlooking Olokele for Safari Helicopters in 2006 (Special Permit SP-2006-2, Use Permit U-2006-38, and Class IV Zoning Permit Z-IV-2006-31). More importantly, however, the approval of landing permits in the past is not a basis for approving a new permit. Should other helicopter tour operators seek to land at remote otherwise non-accessible locations, they would need the approval of the respective landowner, certification by aviation authorities, regulatory approvals from County administrative and legislative authorities, and approval of other governmental agencies with jurisdiction over the location and proposed use. Each application will be evaluated on its own merits. This is the same process that Applicant is going through.

You did not identify any remote, otherwise non-accessible sites on the island that lends itself to adventure tours and helicopter landings. A general response to your broad statement is not necessary per the response in the paragraph above.

4. The proposed action would have cumulative impacts.

Your statement that the Kauai Planning Commission could hardly deny approval of subsequent requests from other applicants for remote landing sites elsewhere on the island is an opinion. Decisions of the Kauai Planning Commission are based on the merits of the proposed action and reasoned deliberation and thought by the respective Commissioners.

Potential long-term impacts of the proposed action were discussed in the Draft EA.

5. The proposed action would have island-wide adverse impacts.

Applicant is requesting approvals to land at only one location. Landings at other remote locations on the island are not being sought. There is no causal relationship between the proposed activity and the opinion that it would have island-wide adverse impacts.

Applicant is one of the original signatories to a voluntary helicopter noise abatement program (Fly Neighborly) for Kauai. To this day, Applicant avoids flying their aircraft over residential communities and noise sensitive areas identified for Kauai in the Hawaii State Helicopter System Plan (1988) which was revised in 1994. The purpose of the program is to alleviate, as much as possible, noise emitted by helicopters and to provide for the safety of the passengers, the flight, and the general public. The Applicant will continue to adhere to the Fly Neighborly program, but with a reduced number of daily flights.



6. The myopic scope of the Draft EA leads to erroneous, non-substantiable conclusions.

- 4) You did not identify the communities affected by noise and the distressful effects caused by noise. Applicant anticipates a decrease not an increase in the total number of flights flown by their company. The proposed action will not result in increased flights over residential communities.
- 6) We stand by the statement that "population changes or effects on public facilities are not anticipated due to the limited scope of the project and non-involvement of public facilities."
- 8) Your opinion that approval of this project would create a *de facto* commitment for larger actions is speculative. As stated in a previous response, any helicopter tour operator seeking to land in remote locations will need various private and regulatory approvals. These approvals would be evaluated by the respective authorities on a case by case basis.
- 10) You did not identify what residential areas and environmentally sensitive areas throughout Kauai would be affected by the proposed action. Your repeated statement that the proposed action will lead to helicopter tour expansion is an opinion. If there is a major expansion in the helicopter tour industry with resultant significant adverse effects, then the State and or County government may have to intervene and establish regulatory controls to ensure the public health and safety.

7. An environmental assessment must be comprehensive in its scope and its analysis.

An environmental assessment is a written evaluation to determine whether an action may have a significant effect. The Draft EA discloses potential short and long-term impacts associated with the proposed action.

Applicant will comply with conditions attached to an approved permit by the Kauai Planning Commission.

8. Reasoned decision-making requires a thorough, comprehensive environmental impact statement.

Throughout your comment letter, you speak of the cumulative impact of this action and that a decision by the Kauai Planning Commission will allow the helicopter tour industry to expand. Yet you offer no facts about this expansion only a *non sequitur* that approving a Special Permit for the Applicant will lead to an expansion of the helicopter tour industry.

The Kauai Planning Commission is charged with determining if an Environmental Impact Statement is required for the proposed action.

9. In summary and conclusion.

See the responses to comments 1 through 8.

We thank the Kauai Group of the Hawaii Chapter of the Sierra Club for participating in the environmental assessment review process.

Sincerely,

GERALD PARK URBAN PLANNER

Gerald Park

c: W. Hong  
C. Lofstedt, IH