



STATE OF HAWAII  
 DEPARTMENT OF LAND AND NATURAL RESOURCES  
 LAND DIVISION  
 P.O. BOX 621  
 HONOLULU, HAWAII 96809

AQUACULTURE DEVELOPMENT  
 PROGRAM  
 AQUATIC RESOURCES  
 BOATING AND OCEAN RECREATION  
 CONSERVATION AND  
 RESOURCES ENFORCEMENT  
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 HISTORIC PRESERVATION  
 LAND DIVISION  
 STATE PARKS  
 WATER RESOURCE MANAGEMENT

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OFFICE OF ENVIRONMENTAL  
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Dear Librarian,

**SUBJECT:** Finding of No Significant Impact (FONSI) – Final Environmental Assessment (EA)  
 for the East Molokai Watershed Management Project – Proposed Fence and  
 Landscaping at Kamalo/Kapualei, Molokai

Enclosed please find one copy of the Final EA for the subject project. As will be noted in the October 8, 2000 issue of the Office of Environmental Quality Control's Environmental Notice, our office has issued a Finding of No Significant Impact (FONSI) for the subject fence and landscaping project. Therefore, pursuant to Chapter 11-200, Hawaii Administrative Rules, the public challenge deadline for the subject FONSI is November 8, 2000.

Please make the Final EA available to those people who may wish to review it. Also, if possible, please retain the Final EA in your library's collection.

Should you have any questions on this matter, please contact Eric Hill of our planning staff in Honolulu at (808)587-0380.

Sincerely,

Dean Y. Uchida, Administrator  
 Land Division

c. Maui Board member  
 OEQC

OCT 8 2000

**FILE COPY**

2000-10-08-MO-~~FEA~~-East Molokai  
Watershed Management

**Kamalo / Kapualei Watershed Management Project**

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**Environmental Assessment**

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*This document prepared by Molokai - Lanai Soil and Water Conservation District, pursuant to Chapter 343, HRS.*

August 2000

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT**  
Environmental Assessment

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Appendix G	Proposed Fenceline Photo's – Conservation District Subzones

**LIST OF ATTACHMENTS**

Molokai Advertiser News – East Moloka`i Watershed Partners Sign Pact  
Honolulu Advertiser – Public Key To Watershed Plan  
HS&CPN – Notice of Public Hearing  
Moloka`i Advertiser News (The M.A.N.) – Public Comment Deadline  
The Dispatch – Saving Moloka`i's Watershed

**COMMENTS/RESPONSES**

State of Hawaii, Office of Environmental Quality Control  
Native Hawaiian Legal Corporation  
Mr. Yama Kaholoaa Sr.  
Ke Aupuni Lokahi, Stacy Crivello  
University of Hawaii, Environmental Center

KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment

**INTRODUCTORY INFORMATION**

**Applicant:** Mr. Paul K. Elia, Chairman  
Molokai – Lanai Soil and Water Conservation District  
P.O. Box 396  
Hoolehua, HI 96729

**Landowners:** James W. Austin, Owner      AND      Kamehameha Schools Bishop Estate  
Kapualei Ranch      567 South King Street, Suite 200  
537 Ahina Street      Honolulu, HI 96813  
Honolulu, HI 96816      (TMK: 5-5-01:16)  
(TMK: 5-6-06:1)

**Purpose Of This Document:**

This Environmental Assessment ("EA") has been prepared for the Kamalo / Kapualei Watershed Management Project to assess the installation of a wildlife/native forest protection fence line and implementation of strategies to restore health to the Kamalo and Kapualei watershed areas which includes ungulate control, weed control, monitoring, research, revegetation, and partners. (Figure 1)

This project has been identified and developed through broad-based community planning. An East Molokai Watershed Partnership has been formulated which includes landowners, and various agencies. Compliance with Chapter 343 is required because project activities are located in the protective and resource Conservation District Subzones.

This EA has been prepared in compliance with the provisions of *Hawai'i Revised Statutes* Chapter 343 and Title 11, Department of Health, Chapter 200, EIS Rules.

Chapter 343 – ENVIRONMENTAL IMPACT STATEMENTS

§343-5 Applicability and requirements

- (2) Propose any use within any land classified as conservation district by the state land use commission under Chapter 205.

Conservation District SubZones Affected:  
Protective and Resource

Chapter §13-5-22, (Identified Land Uses in the Protective Subzone)

P-7 SANCTUARIES

- (D-1) Plant and wildlife sanctuaries, natural area reserves (see chapter 195, HRS) and wilderness and scenic areas, including habitat improvements under an approved management plan.

Sub Chapter 3, Identified Land Uses and Required Permits

- (4) Identified and uses beginning with letter (D) require a board permit, and where indicated, a management plan.

KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
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East Moloka'i Watershed Partnership  
Initial Area - January 1999

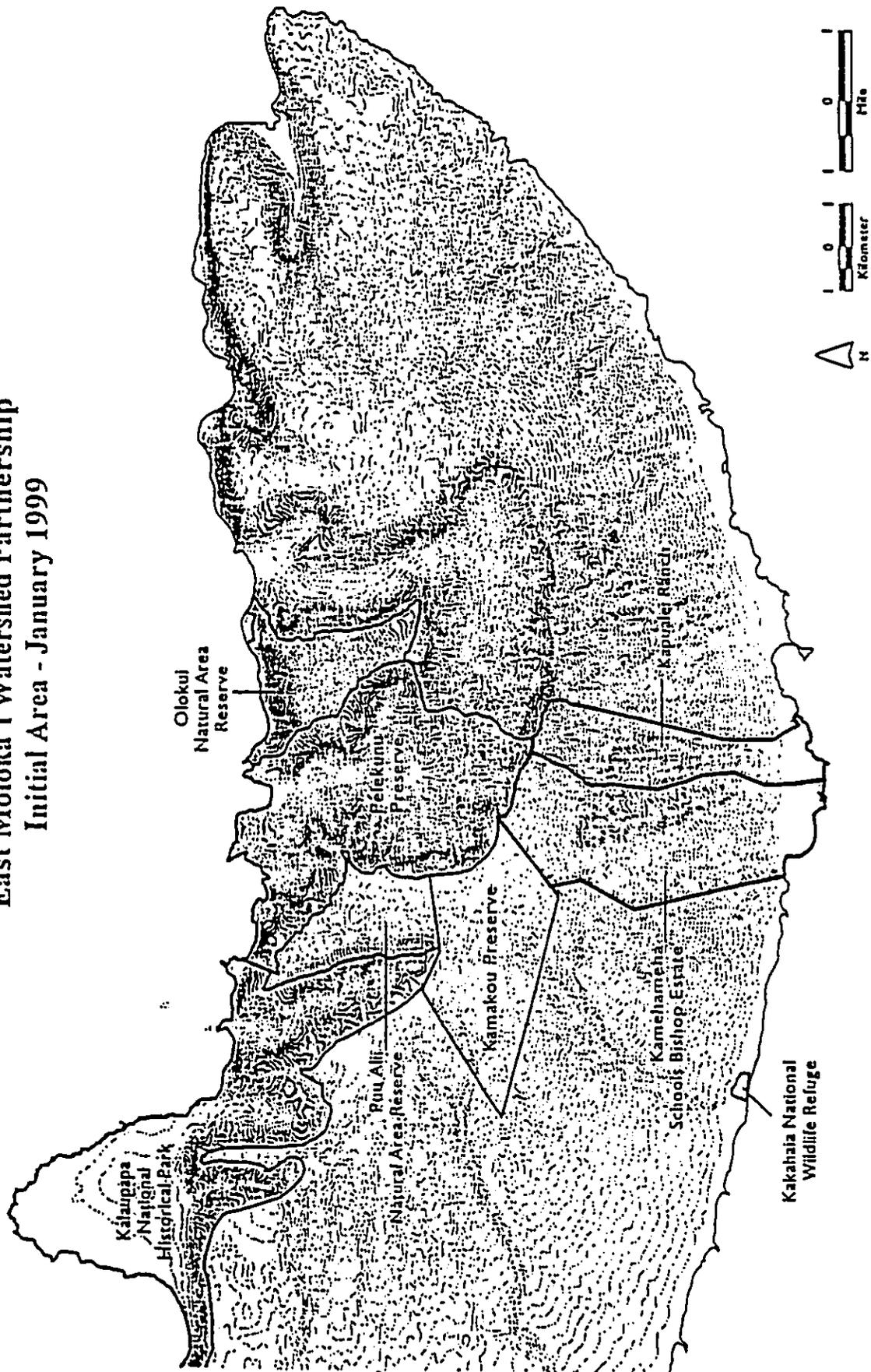


FIGURE 1

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment**

**1.0 INTRODUCTION**

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT**  
Environmental Assessment

## 1.0 INTRODUCTION

This section provides a project summary and background of the proposed project, including location, land ownership, property description and land uses of the surrounding properties.

### 1.1 PROJECT SUMMARY

**Project Name:** Kamalo / Kapualei Watershed Management Project

**Applicant:** Molokai – Lanai Soil and Water Conservation District

**Landowners:** Kamehameha Schools Bishop Estate  
AND  
James "Kimo" Austin

**Tax Map Key:** 5-5-01:16 (*Figure 2*)  
AND  
5-6-06:1 (*Figure 2*)

**Project Area:** 26,621 Linear Fence Line Feet

**Existing Use:** TMK: 5-5-01:16 is an 1193 acre parcel owned by Kamehameha Schools Bishop Estate. Past land use of the lower elevations include cattle ranching. More recently the land is not in any agricultural use.  
  
TMK: 5-6-01:1 is a 1678 acre parcel owned by James "Kimo" Austin. Land use at the lower elevations is cattle and horse grazing. Upper elevation is not in agricultural use and is in the State resource conservation district.

**Proposed Use:** Installation of a conventional fence, 26,621 linear feet in length, between the 3,000 feet and 3,500 feet elevation to protect native forest from further damage caused by feral animals. Management activities to include ungulate control, weed control, monitoring, research, revegetation, and partners (*Figure 3*).

**Special Management Area:** According to the County of Maui Department of Planning, the proposed fenceline is not located within the Special Management Area. (*Figure 4 and 5*)

**Action Requested:** Compliance with Chapter 343, *Hawai'i Revised Statutes* and Hawai'i Administrative Rules, Title 11, DOH, Chapter 200

**Approving Agency:** State of Hawaii, Department of Land and Natural Resources, Office of Conservation and Environmental Affairs

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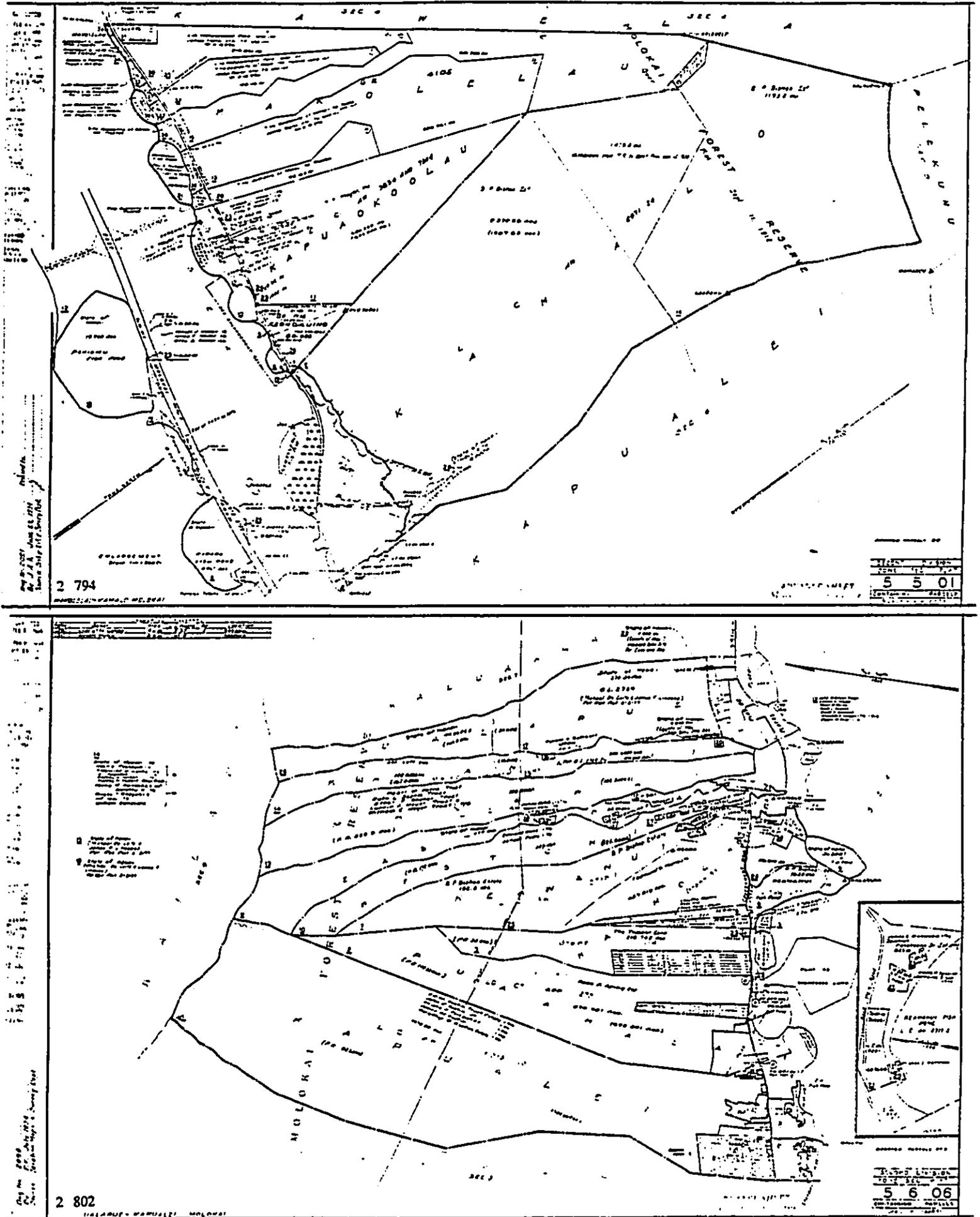


FIGURE 2





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KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment

Molokai-Lanai Soil & Water  
Conservation District

P.O. Box 396  
Hoolohua, HI 96729

**FAX**

Date:	<u>June 8, 2000</u>
Number of pages including cover sheet:	<u>2</u>

<del>From:</del> <i>From:</i>	County of Maui
	Planning Department
	Attn: Lynette
Phone:	
Fax phone:	(808) 270-7634
CC:	

<del>To:</del> <i>To:</i>	Zaida Place
<del>From:</del>	District Office Clerk
Phone:	808-567-6869, Ext. 104
Fax phone:	808-567-9062

REMARKS:     Urgent     For your review     Reply ASAP     Please comment

Aloha!

In compliance with the provisions of Chapter 205A, HRS relating to the Special Management Area requirements, a determination that the proposed fenceline project is outside the SMA area is requested for the Kamalo/Kapualei Watershed Management Project Conservation District Use Application (MO-2986).

The project area and proposed fenceline has been identified and attached for your review. If you have any questions regarding this correspondence, please feel free to contact our office.

Mahalo,

*Zaida*

The proposed fenceline location is not within the SMA. (see map.)

*Lynette Zekas*

for AARON SHINMOTO  
Planning Program Administrator

FIGURE 4

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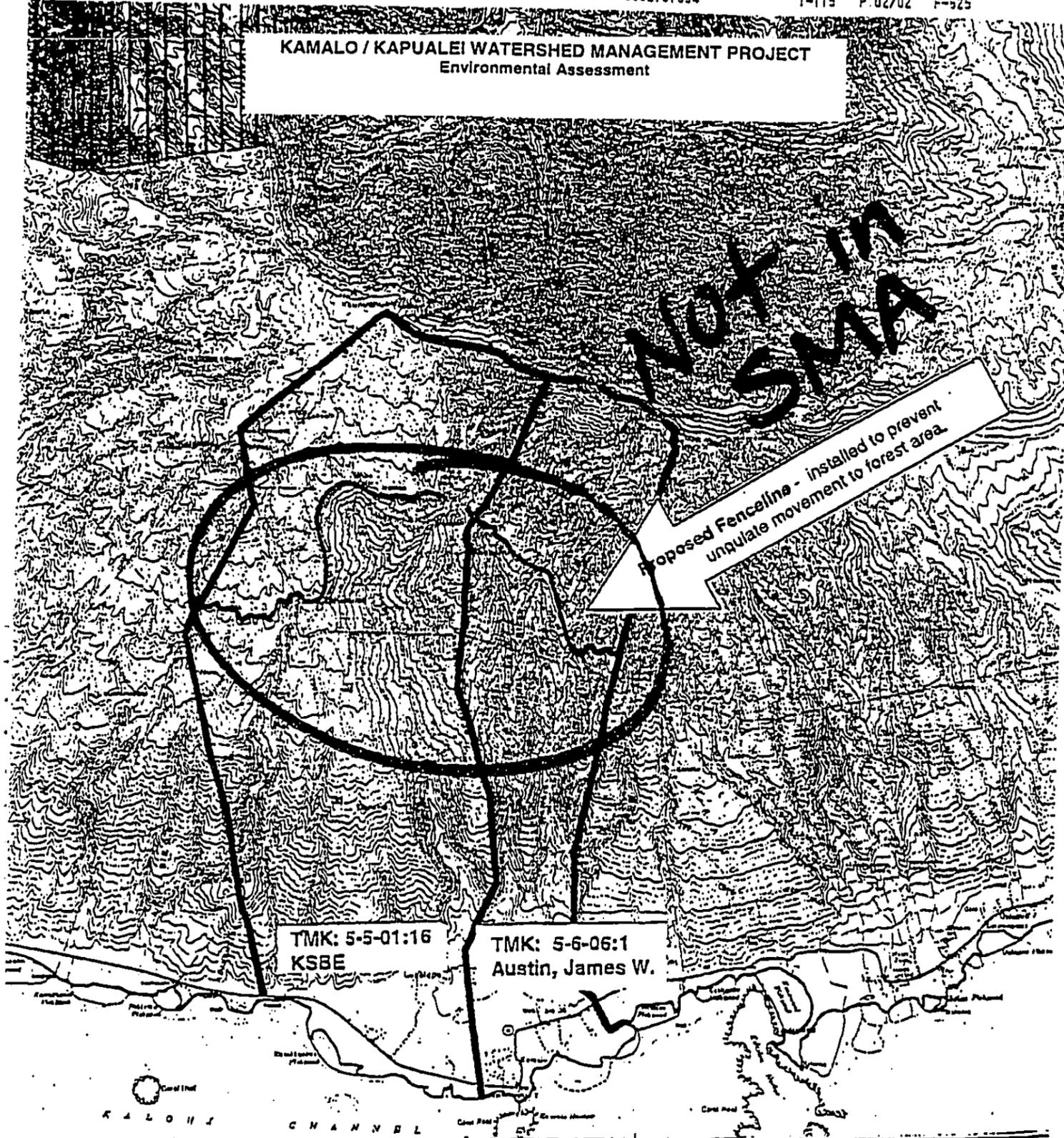
Jun-13-00 11:09am

From-DEPT OF PLANNING COUNTY OF MAUI

+8082707634

T-115 P.02/02 F-625

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT**  
Environmental Assessment



**MAUI COUNTY**

**SPECIAL MANAGEMENT AREA**

APPROVED: *Handel Savaris*  
12-28-79  
MAYOR

PUBLIC HEARING 12-2

APPROVED: *Tom Ikin*  
12-28-79  
DIRECTOR OF PLANNING  
DEPARTMENT OF

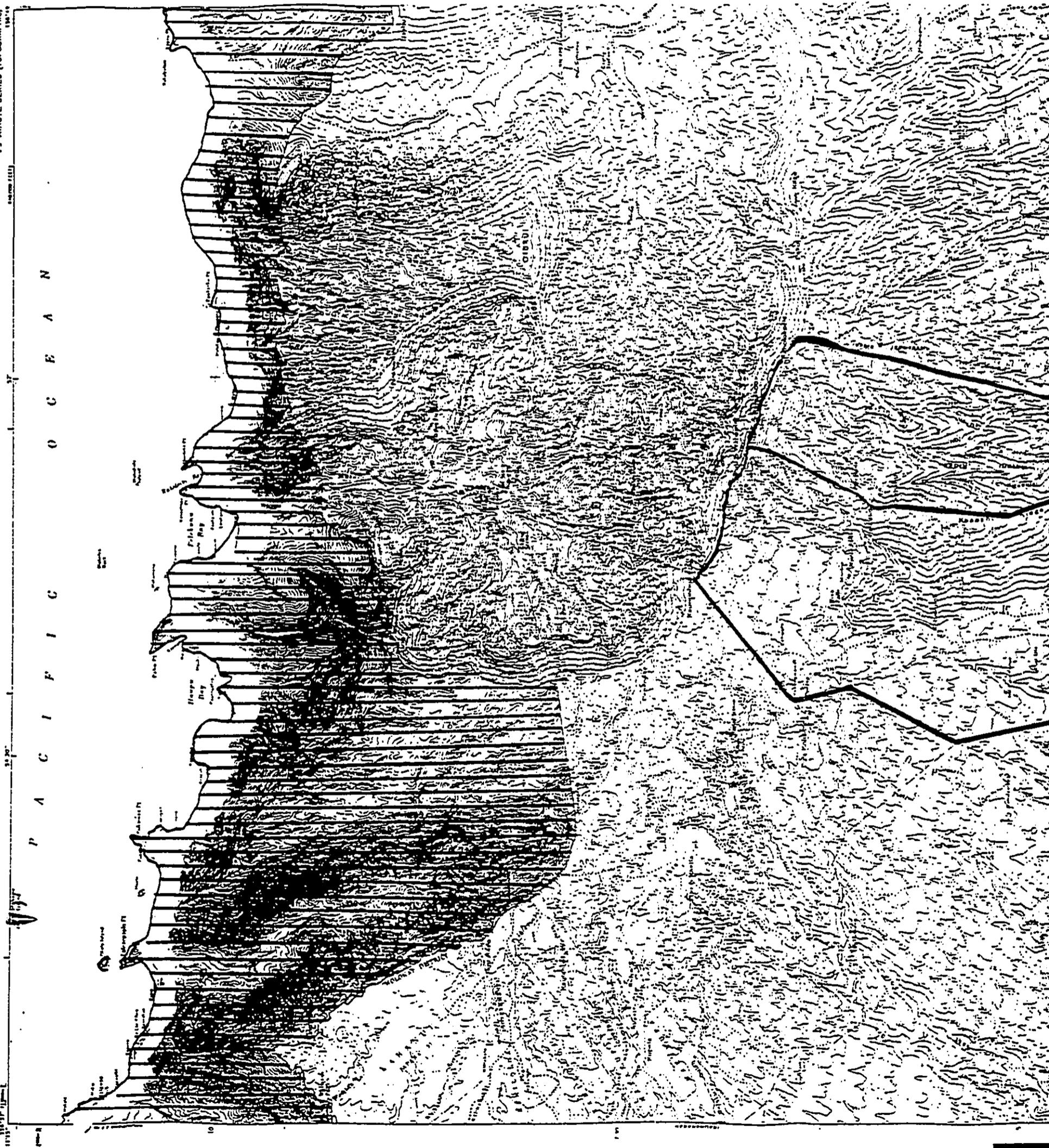
FIGURE 5

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**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT**  
Environmental Assessment

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

KAMALO QUADRAHOLE,  
HAWAII, HAWAII CO.  
ISLAND OF HAWAII  
15 MINUTE SERIES (TOPOGRAPHIC)  
1947





**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT**  
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**1.2 PROJECT BACKGROUND**

In 1998, the community of Molokai began a grassroots planning effort to submit an application to the USDA Empowerment Zone Initiative. This process involved seven subcommittees and numerous community members throughout Molokai. This watershed project was derived from the Environmental Committee. Meetings were held several times weekly for a period of approximately four months. Molokai has since been designated an USDA Enterprise Community, or "EC". The EC Environmental Committee discussed the watershed project extensively and the fence was debated fully. The original plan was to construct a fence 25 miles in length. Through committee meetings, a compromise was reached and the fence was scaled down to the proposed 5.5 miles in length.

This project was presented at several community-wide meetings between August 1998 through January 2000. Community meetings were advertised in local newspapers, bulk mailings, and through posted bulletins throughout Molokai. This community process also involved prioritizing forty projects. Copies of the Moloka'i Enterprise Community News was distributed to box holders island-wide, along with 40 Projects in Moloka'i's 10-Year Strategic Plan that listed the Watershed Project and discussed fencing and open access for hunters. This project was voted as one of the top five projects by the Molokai Enterprise Committee Ke Aupuni Lokahi Board, and the Molokai Community. An informational meeting was also held in East Molokai to discuss this project.

The Kamalo/Kapualei Management Project reflects goals of the East Molokai Watershed Partnership. This project has been identified as the #1 environmental protection effort by the Molokai Enterprise Community's Strategic Plan, and developed through broad based community planning as a key component to the sustainability and health of Molokai's culture, traditions, and natural resources, and to the improvement of the island's economic stability.

**1.3 LOCATION**

The land area encompassed by this project is located at Kamalo and Kapualei on the island of Molokai, within the County of Maui. Kamalo is approximately nine miles east of Kaunakakai, the island's center of government and business that is located approximately eight miles southeast of Molokai Airport.

**1.4 LAND OWNERSHIP**

The parcel of land, TMK: 5-5-01:16, is owned by Kamehameha Schools Bishop Estate. The parcel of land, TMK: 5-6-06:1, is owned by James "Kimo" Austin.

**1.5 DESCRIPTION OF THE PROPERTY**

Kamehameha Schools Bishop Estate, TMK: 5-5-01:16 is a 1,193 acre parcel. Past landuse of the lower elevations include cattle ranching. More recently the land is not in any agricultural use. Feral goatherds have severely impacted the upper dry land forest and are working their way up to the rain forest and nature preserves. Several endangered species occur in this area and the State DoFaW maintains several protected exclusions. Rainfall ranges from 30 inches to 150 inches per year at upper elevations. Soils are mostly rough broken land and severely eroded soils.

Kapualei Ranch, TMK: 5-6-06:1 is a 1,678 acre parcel owned by James "Kimo" Austin. Land use at the lower elevations is cattle and horse grazing. Upper elevation is not in agricultural use and is in the State resource conservation district. Feral goatherds have severely impacted upper dryland forest and are working their way up to the rainforest and nature preserves. Several endangered species occur in this area and the State DoFaW maintains several protective exclusions. Rainfall ranges from 30 inches to 150 inches per year at upper elevations. Soils are mostly rough broken land and severely eroded soils.

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT**  
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**1.6 SURROUNDING LAND USES**

Vacant lands are located to the west of Kamalo. There are house lots, vacant lands, and Kalaeloa Harbor, located to the east of Kapualei.

This project site is located on the island of Molokai and is approximately nine miles east of Kaunakakai town.

**1.7 AGENCIES CONSULTED IN PREPARATING THE ENVIRONMENTAL ASSESSMENT**

The following agencies and organizations have been consulted during the planning process and for the preparation of the Draft and Final Environmental Assessment:

**County of Maui**

Department of Planning  
Maui Board of Water Supply

**State of Hawaii**

Department of Health – Office of Environmental Quality Control  
Department of Land and Natural Resources – Historic Preservation Division  
Department of Land and Natural Resources – Forestry and Wildlife Division  
Office of Hawaiian Affairs

**University of Hawaii**

Environmental Center  
College of Tropical Agriculture & Human Resources (CTAHR)

**Federal Agencies**

Kalaupapa National Historical Park  
USDA Natural Resources Conservation Service  
US Department of the Interior – Fish and Wildlife Service  
US Environmental Protection Agency  
US Geological Survey – Water Resources Division

**Other Agencies**

The Nature Conservancy Hawaii, Molokai

**Community Individuals and Organizations**

(The Molokai community has been involved in this project since its inception and continues to be involved through the planning phase.)

Stacy Crivello  
Yama Kaholoa`a  
Edwin Misaki  
Molokai Enterprise Community Governance Board, Ke Aupuni Lokahi

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment**

**2.0 PROJECT DESCRIPTION**

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT**  
Environmental Assessment

## **2.0 PROJECT DESCRIPTION**

The proposed Kamalo/Kapualei Watershed Management Project, fence details, and a timetable and approximated costs are described in this section.

### **2.1 GENERAL DESCRIPTION**

The Kamalo/Kapualei Management Project reflects goals of the East Molokai Watershed Partnership. This project has been identified as the #1 environmental protection effort by the Molokai Enterprise Community's Strategic Plan, and developed through broad based community planning as a key component to the sustainability and health of Molokai's culture, traditions, and natural resources, and to the improvement of the island's economic stability.

Originally named Kamalo`o, "the dry place," Kamalo is dominated by a steep canyon, 1,500 feet deep and over half a mile wide at its head. The canyon is the most striking feature of East Molokai's ruggedly beautiful southern slopes. The topography of the canyon and the stream-cut upper slopes that feed into it limits human access to the region. Due to this very limited access, very few people have explored the lands above Kamalo's famous waterfalls, Hina, Haha and Mo`oloa.

Kapualei is comprised of a series of steep gulches/ridges east of Kamalo Canyon. The steep ridges culminate at Kamakou, the highest peak on Molokai at 4,974 feet. Like Kamalo, the upper reaches of Kapualei have remained relatively unexplored.

Together, these two *ahupua`a* (land division) encompass approximately 5,000 acres. Three thousand acres are within the State Forest Reserve Conservation Zone. The "upper zone," above 3,500 feet elevation, contain the heart of some of the best remaining lush, intact Hawaiian forest that once covered the entire mountains of East Molokai and are home to hundreds of endemic Hawaiian plant and animal species.

Developed over millions of years, this forest is uniquely adapted to Molokai and to its variety of climate and soil. The forest acts as a protective "sponge," absorbing the abundant rainfall, preventing rapid soil loss, time releasing water into streams, and contributing water flow (and nutrients) to the reef as well.

The upper elevation rain forest above 3,500 feet elevation remains virtually intact between Haha falls/Kuana ridge (Kamalo) east to Wawa'ia gulch (Kapualei). Surveys into this area have revealed minimal if any, signs of pigs or alien plant species. Pigs do occur west of Haha falls/Kuana ridge, especially above "Kamalo flats," at the head of the Kamalo gulch.

Feral animals have proven to be the main carriers, soil preparers, fertilizers and scarifiers of and for weed seeds. Pigs impact the low growing ground cover plant communities of this forest area, which diminishes the water carrying capacity and allows non-native weeds a chance to become established in open soils of this area. Goats are the primary reason for the degradation of the rugged "middle zone." Goats roam in large numbers, free from natural predators and safe on the steep terrain, from hunters. These animals have pushed back the native forest and shrubland cover nearly two miles to about 3,500 feet in elevation, where a "browse line" is evident. The areas just below the browse line is denuded grass land with many dead tree stumps, remains of a dying forest. The last wild cattle were removed from these areas in 1972-73. Axis deer prefer the low elevation kiawe forest and are very rarely seen in the elevations above 3,000 feet.

Ka`apahu, the most prominent landmark, is now a barren, stony desert where `ohi`a rain forest once stood and is representative of the bare, eroding ground that dominates the rugged landscape in the middle zone. There are still some small patches of remnant dry forest clinging to life on the steep walls. West of Kamalo gulch, remnants of native shrubland persists, spared from unrestricted

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT**  
Environmental Assessment

goat browsing, as hunters are able to access and hunt this area safely.

Kamehameha Schools Bishop Estate, TMK: 5-5-01:16 is a 1,193 acre parcel. Past land use of the lower elevations include cattle ranching. More recently the land is not in any agricultural use. Feral goats have severely impacted the upper dryland forest and are working their way up to the rain forest and nature preserves. Several endangered species occur in this area and the State DoFaW maintains several protected exclusions. Rainfall ranges from 30 inches to 150 inches per year at upper elevations. Soils are mostly rough broken land and severely eroded soils.

Kapualei Ranch, TMK: 5-6-06:1 is a 1,678 acre parcel owned by James "Kimo" Austin. Land use at the lower elevations is cattle and horse grazing. Upper elevation is not in agricultural use and is in the State resource conservation district. Feral goats have severely impacted upper dryland forest and are working their way up to the rainforest and nature preserves. Several endangered species occur in this area and the State DoFaW maintains several protective exclusions. Rainfall ranges from 30 inches to 150 inches per year at upper elevations. Soils are mostly rough broken land and severely eroded soils.

## 2.2 TECHNICAL

The USDA Natural Resources Conservation Service has completed a site assessment and Conservation Plans and Resource Impact Summaries have been developed for both land parcels (*Appendix B & C*). Construction of a conventional fence between the 3,000 feet and 3,500 feet elevation is necessary to protect native forest from further damage caused by feral animals. The fence will be erected along the lower edges of the browse line where vegetation is minimal to none. This fenceline will need to be installed in both the Resource and Protective Conservation District Subzones (as noted in Figure 3).

The fence is a major component of this project. Large populations of goats have been destroying native plants and closed-canopy forests. Soil and wind erosion is occurring on denuded ridges and gulches. This fence is vital to the protection and preservation of the rainforest. It will provide a barrier, and keep goats from being pushed by hunting activities into the native forest.

Fencing will allow animal movement from the upper zone into the middle zone only and will restrict feral animals from entering into the upper zone. The total amount of fence will be approximately 5.5 miles in length. Access to hunters and resource gatherers will be provided through cross-over gates that will be installed throughout the entire length of the fence.

Fencing will consist of triple galvanized materials to ensure quality and long term sustainability as recommended by the Natural Resources Conservation Service (*Appendix D*). Use of these materials will minimize maintenance requirements due to limited access to this area. Maintenance of the fence line will include an annual inspection and any necessary repairs. If any damage is noted during project activities, repairs will be completed, as needed using galvanized materials.

As recommended by the State Historic Preservation Division of the Department of Land and Natural Resources, installation of this fenceline will be completed by hand only. No mechanical grubbing will be used to implement this project. (*Appendix E*)

A helicopter staging area will be located in a pasture in the lower zone of Kapualei. Helicopter landing areas are located along the browseline and have been identified (*Figure 6*). Due to safety concerns, all selected areas are grassed only and void of any trees and shrubs. All materials will be hauled in by helicopter and only as needed due to limited weight requirements. Materials and personnel will be dropped off on a scheduled basis throughout the construction period at these selected sites only to prevent further damage to these watershed areas.



**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT**  
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Implementation of conservation practices will help to reduce soil erosion from wind and water; improve soil quality through accumulation of organic mater and reduced soil compaction; protect surface and ground water quality from sediment, nutrients, and pesticides; enhance habitat for aquatic and terrestrial wildlife; improve water use efficiency; enhance forest productivity and sustainability; protect and restore grazing lands, and reduce risk of damage to air quality from feral animal/agricultural activities.

**2.3 ECONOMIC**

Investments in resource conservation will help landowners/agricultural producers remain economically viable through cost reduction plus long term income sustainability while providing environmental benefits to society, and the local economy. Fencing materials will be ordered through a local agricultural cooperative. This project will also generate short-term employment during the construction of the fenceline, and government revenues will be increased from income taxes paid by workers.

The proposed project will allow the population of the region and the community of Molokai subsistence hunting and resource gathering throughout the project area through a controlled-hunting program.

The East Molokai Watershed Partnership (*Appendix A*) will provide the necessary funding, resources, administration, and community support and involvement for management of the Kamalo/Kapualei Watershed Management Project.

**2.4 PROJECT COSTS**

**Budget Summary**

Fence	\$ 220,000
Goat Herding	\$ 54,000
Community Hunt Program	\$ 15,000
Remote Area Animal Removal	\$ 30,000
Feral Animal Monitoring	\$ 6,000
Weed Control	\$ 3,000
Monitoring	\$ 52,000
Partners - Coordinating Partnership	\$ 20,000
<b>TOTAL</b>	<b>\$ 400,000</b>

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT**  
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**Funding Match Summary**

Federal Funding Sources	Funds	Req. Match	State/County/Private Funding Sources	Funds	Inkind Services
USFWS PFW	\$ 50K	1:1	KSBE Kapualei Ranch	\$ 40K	\$ 5K
NRCS WHIP – Kamalo	\$ 25K	3:1	Maui County Board of Water Supply	\$ 50K \$ 25K	
NRCS WHIP – Kapualei	\$ 25K	3:1	TNCH	\$ 50K	\$ 20K
Ke Aupuni Lokahi	\$ 100K		DOFAW MLSWCS		\$ 5K \$ 5K
<b>TOTAL</b>	<b>\$ 200K</b>			<b>\$ 165K</b>	<b>\$ 35K</b>

**2.5 SOCIAL**

Protecting Moloka'i's environment is critical to the health of the island and to its' people. Through extensive community planning, this project has been determined high priority by the Molokai Enterprise Community (*Appendix F*). This proposed project has derived through an extensive community planning effort.

Through required consultation with the State of Hawaii Historic Preservation Division, cultural sites are existent (*Appendix E*). Cultural resources will be excluded from planned management activities as recommended.

A hunting program is being planned and both landowners have committed to allowing access for this program through an existing jeep trail. The community of Molokai will be allowed to hunt for recreation or subsistence and to gather resources. This hunting program is still in its planning stages and because of The Nature Conservancy of Hawaii's experiences through other similar existing projects, they will spearhead this program.

A request to the Office of Hawaiian Affairs to review the DRAFT Environmental Assessment was submitted in July 2000 in regards to native Hawaiian cultural practices. ~~Information provided will be incorporated when received.~~

**2.6 ENVIRONMENTAL**

**2.6.1 Soil**

Soils Description Report

**NAC3 –** Naiwa silty clay loam, 7 to 15 percent slopes, severely eroded

This deep, well-drained soil occurs on moderately sloping uplands. It developed in volcanic ash and material weathered from basic igneous rock. Most of the surface layer and part of the subsoil have been removed by erosion. The surface layer is silty clay loam, and the subsoil is silt loam and loam. The soil is strongly acid in the surface layer and strongly acid to very strongly acid in the subsoil. Permeability is moderately rapid. Runoff is medium, and the erosion hazard is severe.

**OFC –** Olelo silty clay, 3 to 15 percent slopes

This is a very deep, well-drained soil on gently sloping to moderately sloping uplands. It formed in material derived from basic igneous rock. The surface layer and the subsoil are silty clay. The soil is very strongly acid. Permeability is moderately rapid. Runoff is slow, and the erosion hazard is slight.

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT**  
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**rRO – Rock Outcrop**

Rock outcrop consists of areas where exposed bedrock covers more than 90 percent of the surface. Slopes range from 3 to over 150 percent. The rock outcrops are mainly basalt and andesite. Included are small areas of coral outcrop along the coasts.

**rRR – Rough Broken Land**

Rough broken land consists of very steep land broken by numerous intermittent drainage channels. In most places it is not stony. Slopes are 40 to 70 percent. Runoff is rapid, and geologic erosion is active. The soils are 20 to more than 60 inches deep over soft, weathered rock. In most places some weathered rock fragments are mixed with the soil material. Small areas of rock outcrop, stones, and soil slips are common. Included in mapping are areas of colluvium and alluvium along gulch bottoms.

**rRT – Rough Mountainous Land**

This unit occurs in high rainfall mountainous areas. It consists of very steep land broken by numerous intermittent drainage channels. It is dominated by deep, V-shaped valleys that have extremely steep side slopes and narrow ridges between the valleys. Slopes range from 50 to 100 percent or more. The soil mantle is very thin over much of the area. It ranges from 1 inch to 10 inches in thickness over saprolite. In most places the saprolite is relatively soft and permeable to water. The soil material on the narrow ridgetops is deeper and similar to that of the Amalu and Olokui series. Rock outcrop, soil slips, and eroded spots make up 20 to 40 percent of the acreage.

Soils are described as being strongly acid at surface and strongly acid in subsurface layer. Little to no nutrient cycling as there is limited vegetative cover. Soil loss exceeds acceptable tolerance level. Sheet & rill erosion estimated at 70 tons/acre/year.

**Sheet & Rill USLE**

Area	Field	Tons/Ac/Yr	Tons/Ac/Yr	Tons/Ac/Yr
Kamalo	1	70.100	4.200	65.900 reduced
Kapualei	1a	70.100	4.200	65.900 reduced

Upper elevations of Kamalo and Kapualei are almost devoid of vegetation due to damage caused by goats and pigs. Stream banks and bottoms are not stabilized. Strong winds in this area contribute to erosion problem. Safety is a concern because of deposition, as severe flooding can occur if there is a high rainfall.

A Soil/Plant Analysis Report was completed in March 2000 (*Figure 7*).

**2.6.2 Water**

Due to lack of adequate vegetation, water accumulates or flows on the surface of the land with adverse effects during runoff/flooding as water conveyance channels are unable to remove water from the land in a safe and non-erosive manner. Suspended sediment and turbidity adversely affects aquatic habitat, recreational waters, and other intended uses. According to *DOH (Hawaii's Assessment of Nonpoint Source Pollution Water Quality Problems, November 1990)* report, state monitoring of South Moloka'i shows significant violations of water quality standards for suspended solids and nutrients. Due to poor infiltration, water quantity has been affected as excess amounts, runoff/flooding causes damage to cropland and residential areas.

Through planned management activities, the amount of sediment in runoff water will be minimized and the amount of vegetation will increase allowing improved water infiltration and a slowing of overland flow.

DOCUMENT CAPTURED AS RECEIVED

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT**  
Environmental Assessment

<p><b>CTAHR</b> College of Tropical Agriculture &amp; Human Resources University of Hawaii at Manoa</p> <p><b>Soil/Plant Analysis Report</b></p>	<p><b>Agricultural Diagnostic Service Center</b> Department of Agronomy and Soil Science 1910 East-West Road, Honolulu, HI 96822 Ph: (808) 958-8708/7680 FAX: (808) 958-2592 Email: ta_svcctr@avax.ctahr.hawaii.edu</p>
--	---

<p><b>Client:</b> THE NATURE CONSERVANCY OF Attn: Tina Lau, P.O. Box 220 Kualapuu, HI 96757</p>	<p><b>Date Reported:</b> 03/29/2000 <b>Agent:</b> ARAKAKI, ALTON, Office: MOLOKAI P. O. BOX 317, KAUNAKAKAI MAUI, HI 96729 567-6833, Fax: 567-6818</p>
---	--

Sample Information		
Job Control No: 00-023028-001	Map Unit:	Plant Grown:
Sample Label:	Soil Series:	Plant to be grown: OTHER CROP
Date Received: 03/24/2000	Soil Category: HEAVY SOIL	Can you till 4-6 in.? No
Send Copy To:	Soil Depth (in):	Test Results Only? No
Elevation (ft.):	Latitude:	Longitude:

HEAVY SOIL		INTERPRETATION					
Soil Analysis	Results	Expected	Very Low	Low	Sufficient	High	Very High
_pH	4.8	6					
P_ppm	22	37.5					
K_ppm	18	250					
Ca_ppm	9	1250					
Mg_ppm	15	350					
OC_%		No criteria found					
Total_N_%		No criteria found					
Salinity_EC		1.5					
S_ppm		No criteria found					
Fe_ppm		No criteria found					
Mn_ppm		No criteria found					
Zn_ppm		No criteria found					
Cu_ppm		No criteria found					
B_ppm		No criteria found					
Mo_ppm		No criteria found					
Al_ppm		No criteria found					

FIGURE 7

Job Control No: 00-023028-001

**Problem:Description**

Kamalo, 1100m elevation, baseline data for EC project.  
Soil management history: ungulate disturbance

**Fertilizer and Lime Recommendations**

Total Nutrient Requirement (lbs/Acre):	Nitrogen: 200	Phosphorus: 74	Potassium: 278
Fertilizer / Lime Material	Total Amount (lbs/1000sq-ft.	Applications	Cost Estimate (\$/1000sq-ft.)
Fertilizer: 10-20-20	45.9	split into 8 applns.	8.26
Lime Material: Dolomite	175	split into 4 applns.	17.5
Ca Material: Gypsum	22.9	split into 4 applns.	2.29

**Comments**

## --- GENERAL INFORMATION ---

- o Please indicate the soil series when submitting your soil samples.
- o Knowing levels of sulfur and micronutrients in plants is also important. For proper diagnosis, tissue analysis is needed.
- o Apply 1/4 of the total lime at individual applications before planting and thereafter once every four months.
- o Split the fertilizer into several applications before planting and thereafter once every 6-7 weeks until the total amount has been applied.
- o We recommend that you adopt a nutrient monitoring approach by retaining this sample report for comparison with future samples.

**NOTE:**

The interpretations are based on Fact Sheet No. 3 "Adequate Nutrient Levels in Soils and Plants in Hawaii."

To help improve future recommendations, please answer the following questions, photocopy this form and return it to above address.

1. Did you need to modify the recommendation? if so, how?
2. Did your plants improve? Please give unit area yield before and after the recommendation was applied.

**FEEDBACK**

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT**  
Environmental Assessment

Safety problems, property damage, and health problems are caused by airborne sediment due to bare soil areas. The lack of vegetation has also caused improper temperature, air movement, and humidity in this area causing poor development of plants and animals.

Once feral animal numbers are reduced and controlled, soil erosion will decrease, and plant health and vigor will be restored, thus, air quality will improve.

#### **2.6.4 Plants**

Plants provide the quantity and quality of crops, forage, cover, and habitat in the amount and timeliness of production needed. Remaining plants are in poor condition due to trampling, rubbing and lack of nutrient cycling. Dry land forest cover has been severely affected by uncontrolled grazing by overpopulation of feral goats. Presently, there is no management plan for plant protection or regeneration. Some threatened and endangered species are known to occur in this and adjacent locations, and are becoming adversely affected because of loss of habitat. DoFaW manages a few exclusions to protect some known locations. Plant productivity in the forest area has been decreasing due to severe damage caused by high numbers of feral animals and wind erosion.

Through planned activities to reduce feral animal numbers, plants will have the chance to reestablish themselves naturally. Implementation of a grazing management plan and installation of other appurtenant structures will increase forage production. The project area will be monitored to assess plant recovery. It is expected to take up to three years for the recovery of the natural vegetation. Areas around threatened and endangered plants will be excluded from operations.

The Department of the Interior Fish and Wildlife Service has identified threatened and endangered plant species that occur within the Kamalo/Kapualei Watershed Management Project (*Figure 8*).

#### **2.6.5 Animals**

Native wildlife is being adversely affected by loss of native habitat and habitat alteration. Feral goat and pig numbers are out of control and are seriously damaging the upland resources. Fencing, trapping, aerial shooting, and hunting will control animal numbers. Wildlife will benefit by improved vegetation.

The Department of the Interior Fish and Wildlife Service has identified threatened and endangered plant species that occur within the Kamalo/Kapualei Watershed Management Project (*Figure 8*).

KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Pacific Islands Ecoregion  
300 Ala Moana Boulevard, Room 3-122  
Box 50088  
Honolulu, Hawaii 96850

In reply Refer To: JJS

DEC 16 1999

Edwin T. Misaki  
Director of Molokai Programs  
The Nature Conservancy of Hawaii  
P.O. Box 220  
Kualapuu, HI 966757

Re: Threatened and Endangered Species List for Kamalo and Kapualei Ahupuaa,  
Molokai.

Dear Mr. Misaki:

The U.S. Fish and Wildlife Service (Service) has received your letter of November 9, 1999, requesting a list of threatened and endangered species that occur within the Kamalo and Kapualei ahupuaa on the island of Molokai. We have reviewed the provided maps as well as other information contained in our files, including data prepared by The Nature Conservancy's Hawaii (TNCH) Natural Heritage Program. The following is a list of the endangered and candidate species, and species of concern that occur within the boundaries of the two ahupuaa. There are no threatened species within these areas. The list of species of concern is limited to those species identified by the TNCH Heritage Database. Other species of concern may be present.

**Endangered Animals**

*Lasiurus cinereus semotus* (ope apea, Hawaiian hoary bat)

**Endangered Plants**

*Pritchardia munroi* (loulou)

*Melicope hawaiiensis* (alani)

*Cyanea mannii* (oha wai)

*Labordia triflora* (kamakahala)

*Cyanea procera* (haha)

**Candidate Species**

*Phyllostegia hispida* (no common name (ncn))

FIGURE 8

**Species of Concern**

*Asio flammeus sandwichensis* (pueo)  
*Lentipes concolor* (oopu alamo)  
*Perdicella helena* (tree snail)  
*Partulina proxima* (tree snail)  
*Eurya sandwicensis* (anini, wanini)  
*Lagenifera maviensis* (howaiulu)  
*Cyanea solenocalyx* (haha)  
*Phyllostegia stachyoides* (ncn)  
*Exocarpos gaudichaudii* (heau)

If you have questions or comments, please contact Fish and Wildlife Biologist John Schmerfeld by telephone at (808) 541-3441 or by facsimile transmission at (808) 541-3470.

Sincerely,



Paul Henson  
Field Supervisor - Ecological Services

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment**

**3.0 DESCRIPTION OF THE AFFECTED  
ENVIRONMENT, POTENTIAL  
IMPACTS AND MITIGATIVE MEASURES**

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT**  
Environmental Assessment

### **3.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATIVE MEASURES**

The environment surrounding the proposed project includes the physical or natural environment and the human or social environment. This section describes the existing conditions, the potential impacts to the environment and mitigation measures.

#### **3.1 PHYSICAL CHARACTERISTICS**

Located in the center of the Hawaiian Island Chain is Molokai, the fifth largest Hawaiian Island. Molokai is 38 miles long and 10 miles wide, with a land area of 264 square miles. The island is formed by two domes interconnected by a central plateau. The larger eastern dome, rises to an elevation of 4,974 feet. The project site is located in east Molokai at Kamalo and Kapualei. These two *ahupua`a* encompass approximately 5,000 acres.

##### **3.1.1 Topography**

The topography of the project site ranges from six feet mean sea level (msl) to 4,970 feet. Soils are mostly rough broken land and severely eroded soils. Soil loss exceeds acceptable tolerance level with sheet & rill erosion estimated at 70 tons/acre/year.

##### *Potential Impacts*

According to the State of Hawaii, Department of Land and Natural Resources, Conservation Subzones map (*Figure 3*); the majority of planned fenceline will be installed in "Resource" Conservation Subzone. A minimal portion of fenceline will need to be installed in "Protected" Conservation Subzone in the area of Hina Falls due to topography (*Appendix F*).

##### *Mitigative Measures*

To mitigate potential harm to the existing environment, all fence posts at the lower margins of the middle and upper zones will be installed by hand, with no mechanical grubbing or clearing of the fenceline corridors as recommended by the Hawaii Department of Land and Natural Resources Historic Preservation Division (*Appendix E*). Using this method, there will be no effect to any significant historic sites, which may be present in the project area.

##### **3.1.2 Climate**

Temperatures are relatively stable and uniform varying from high 60's around the coastal areas in winter months to 88F in the summer. Rainfall ranges from 30" to 150" per year at upper elevations.

#### **3.2 IMPACTS AND ALTERNATIVES CONSIDERED**

No further negative impacts were identified as all activities have been thoroughly considered and developed through extensive community/partnership planning. Limited controlled hunting for the past 10-15 years in this area has had no significant impact due to the large quantity of animals and remote, inaccessibility of the area. No other alternatives have been considered due to past efforts, the terrain and the highly critical damage to Kamalo/Kapualei.

All management activities have been planned and will be implemented as required for the benefit of the environment and to the island of Molokai and its people. For example, activities planned for the initial movement of the ungulates is to allow controlled hunting on foot as well as aerial shootings.

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT**  
Environmental Assessment

**3.3 PROPOSED MITIGATION MEASURES**

None planned as both landowners and the entire community of Molokai is in full support of the project. County, State and Federal agencies are also involved in implementation of this project.

**3.4 ANTICIPATED DETERMINATION**

The proposed project is not anticipated to create any significant, long-term adverse environmental effects. Every effort to protect and enable the natural (native) plant community progression to occur has been kept in mind in all planning phases.

**3.5 FINDINGS AND REASONS SUPPORTING THE ANTICIPATED DETERMINATION**

The proposed project is not anticipated to have an adverse impact upon surrounding land uses. All proposed management activities are intended to restore health to the Kamalo and Kapualei watersheds and to protect and conserve its existing and surrounding resources for long-term sustainability.

**3.5.1 EIS**

An EIS is not required at this time.

**3.5.2 REQUIRED PERMITS & APPROVALS**

The following permits and approvals will be required prior to the implementation of the project.

State of Hawaii  
DLNR Board Permit  
DLNR Management Plan

County of Maui  
No permits and approvals are required.

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment**

**4.0 ATTACHMENTS**

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT**  
Environmental Assessment

**4.0 ATTACHMENTS**

Molokai Advertiser News – East Moloka'i Watershed Partners Sign Pact  
Honolulu Advertiser – Public Key To Watershed Plan  
HS&CPN – Notice of Public Hearing  
Moloka'i Advertiser News (The M.A.N.) – Public Comment Deadline  
The Dispatch – Saving Moloka'i's Watershed

**4.1 COMMENTS/RESPONSES**

State of Hawaii, Office of Environmental Quality Control  
Native Hawaiian Legal Corporation  
Mr. Yama Kaholoaa Sr.  
Ke Aupuni Lokahi, Stacy Crivello  
University of Hawaii, Environmental Center



The M.A.N.  
HC01 Box 770 K'Kai  
Molokai, HI 96748  
ph. 808-558-8253

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# Molokai Advertiser-News



Volume 16 Number 46 Molokai's Favorite Community Newspaper—Every Wednesday

November 17, 1999



## East Moloka'i Watershed Partners Sign Pact

Kaunakakai, Nov. 12, 1999 — The Moloka'i community conservation interests, island landowners, the State, the County of Maui and its Board of Water Supply have signed an agreement forming the East Moloka'i Watershed Partnership.

The partnership, which will work to protect the lush rain forests of East Moloka'i, is one of the first projects of the island's community advisory board, the Aupuni Lokahi, which last year submitted a proposal that called Moloka'i the designation of "enterprise community" under the USDA Empowerment Zone Initiative. The initiative provides seed funding for economic revitalization projects in economically depressed communities. With the designation, the community group was awarded \$250,000 a year in economic development grants for 10 years and access to millions of dollars from other funding sources.

A community-wide planning process identified watershed protection as an environmental priority for Moloka'i, said Karen Holt, Executive Director of the Moloka'i Community Service Council, which administers the Aupuni Lokahi. "The people of Moloka'i share a commitment to a rural lifestyle that depends on the land and sea. Protecting these natural resources is key to the sustainability and health of Moloka'i's culture and traditions and to our future economic stability."

Damage from introduced feral animals such as pigs, goats, and deer is converting East Moloka'i's pristine closed-canopy native forests to open non-native grasslands and denuded ridges and gulches. A recent wildfire that burned thousands of acres, including some native forest, has further compounded the damage. The loss of watershed has reduced stream flows and native forest resources, diminished ground water recharge, and increased siltation and flooding, which in turn destroys coastal resources.

The watershed partnership includes Ke Aupuni Lokahi, Kamehameha Schools Bishop

## Christmas Ornament Workshop

Quality Christmas craft projects were made at a workshop attended by Anita Visoria, Rufina Kula, Vangie Antolin, and back row: Jo-Lynn Downey with Instructor Barbara Chung Ho.



Barbara Chung Ho presented a Christmas Ornament-making Workshop at the Mitchell Pauole Center was sponsored by the County of Maui Molokai Senior Services. Participants learned the Chinese Square Knot and using colorful cordage learned how to craft a candy cane, a miniature Japanese doll and wreath - all useful as ornaments, or seasonal pins. Chung Ho is an instructor with Temari, located in Kaimuki, Oahu. Temari is a center for teaching various arts and crafts, mostly with Asian roots.

With Thanksgiving around the corner, the Hoohehua Homesteaders' Association Ho'olaule'a on Saturday, the workshop was a reminder that Christmas holidays are around the corner.

Public Meeting



Barbara Chung Ho presented a Christmas Ornament-making Workshop at the Mitchell Pauole Center was sponsored by the County of Maui Molokai Senior Services. Participants learned the Chinese Square Knot and using colorful cordage learned how to craft a candy cane, a miniature Japanese doll and wreath - all useful as ornaments, or seasonal pins. Chung Ho is an instructor with Temani, located in Kaimuki, Oahu. Temani is a center for teaching various arts and crafts, mostly with Asian roots.

With Thanksgiving around the corner, the Hoolehua Homesteaders' Association Ho'olaule'a on Saturday, the workshop was a reminder that Christmas holidays are around the corner.

### Police Commission Meeting Public Today

November 17, 1999 the Maui Police Commission invites public testimony at Mitchell Pauole Center at 9:00 am. Complaints filed against police officers, but an effort is being made to allow new complaints to be aired before the commission at that time.

### Homesteaders Meet Tonight Nov 17

Senators Jan Yagi Buen and Collen Hanabusa meet with Hawaiian Homesteaders tonight starting at 6:30 pm (location?) about HB 1675 -- relating to Hawaiian Home Lands Trust and SB 1635 Relating to Public Land Trust.

### MHIS Drama: "Medieval Madness"

Molokai High & Intermediate School thespians invite the community to their performance of "Medieval Madness". Four performances are planned on stage at the Molokai High School Cafeteria on November 18, 22, and 24. Doors open at 6:30pm. Tickets at the door cost \$4. Advance tickets are \$2 for students and \$3 for Adults.

### Ho'olehua Homesteaders Association Ho'olaule'a at Kulana 'Oiwi

The Hoolehua Homesteaders Association invites the community to their annual on Saturday, November 20 from 8am-2pm.

Christmas Crafts, food sales, silent auction and entertainment fundraiser for scholarships are planned for the event scheduled at the Kulana 'Oiwi Halau.

### Adventist Book Center on Molokai

by Kenneth Nip

The Adventist Book Center of Honolulu will return to Molokai this weekend, according to Molokai Pastor Ian Cheesebman. The annual book display and sale as a community service of the Seventh-day Adventist Church. The display and sale to be held at Take's Variety Store will be held on Saturday November 20, 6:30-8:30pm and Sunday, November 21 at 9am-2pm.

Devotional books for seniors, women, teens, juniors, and children will be on sale. These books will aid in our spiritual growth as we start each day in the year 2000 with a devotional reading and prayer. Bibles, religious books, cassette tapes, videos, CDs, children's books, music books, and other items will be available to purchase. There will be items that make great gifts for Christmas. "Come visit, see and purchase gifts that last," invited Pastor Cheesebman.

USDA Empowerment Zone Initiative. The initiative provides seed funding for economic revitalization projects in economically depressed communities. With the designation, the community group was awarded \$250,000 a year in economic development grants for 10 years and access to millions of dollars from other funding sources.

A community-wide planning process identified watershed-protection as an environmental priority for Molokai, said Karen Holt, Executive Director of the Molokai Community Service Council, which administers Ke Aupuni Lokahi. "The people of Molokai share a commitment to a rural lifestyle that depends on the land and sea. Protecting these natural resources is key to the sustainability and health of Molokai's culture and traditions and to our future economic stability."

Damage from introduced feral animals such as pigs, goats, and deer is converting East Molokai's pristine closed-canopy native forests to open non-native grasslands and denuded ridges and gulches. A recent wildfire that burned thousands of acres, including some native forest, has further compounded the damage. The loss of watershed has reduced stream flows and native forest resources, diminished ground water recharge, and increased siltation and flooding, which in turn destroys coastal resources.

The watershed partnership includes Ke Aupuni Lokahi, Kamehameha Schools Bishop Estate, Kapualet Ranch, the U.S. Fish & Wildlife Service, the Natural Resources Conservation Service, the National Park Service, the State Division of Forestry and Wildlife, the State Department of Health, Molokai Lanai Soil and Water Conservation District, the Maui County Board of Water Supply, Maui County, the U.S. Environmental Protection Agency, and The Nature Conservancy.

Ke Aupuni Lokahi Board President Stacy Crivello said that other Molokai watershed landowners will be invited to join the partnership. "The primary advantage for landowners is that the partnership will help them locate resources and manage their watershed lands," she said.

The first initiative of the East Molokai partnership is to implement a \$400,000, two-year fencing and animal control project on the lands of Kamalo and Kapualet, a pair of neighboring ahupua'a (land divisions) that extend from the mountain tops to the sea. Kamehameha Schools Bishop Estate owns Kamalo; Austin Estate owns Kapualet.

Together, the two ahupua'a encompass about 5,000 acres. About 3,000 of those acres lie within the State Forest Reserve Conservation Zone. The upper zones of these ahupua'a (above 3,500 feet) contain some of the best remaining Hawaiian forest on East Molokai and are home to hundreds of endemic Hawaiian plant and animal species. The middle zones (from 1,000 to 3,500 feet) have been severely degraded by goats, which have pushed back the native forest and shrubland cover nearly two miles to an elevation of 3,500 feet, where a "browse line" is clearly evident.

The management plan calls for construction of a fence at 3,500 feet to prevent pigs and goats from moving into the upper zone. An organized hunting program will provide community hunters with access to safe, accessible areas of the upper middle zones to help reduce goat and pig populations.

"To maintain and even increase the watershed capacity, it is essential to keep the upper zone free of feral animals and reduce erosion of the middle zone by promoting recovery of vegetation," said Neil Hannahs, a Regional Director with Kamehameha Schools Bishop Estate, a participating landowner. "Increased stream flow will directly benefit the landowners and tenants of these ahupua'a by having water available for cultural and economic activities, while reducing the siltation that impacts the near-shore reefs and fishponds."

Aupuni Lokahi has committed \$100,000 to the \$400,000 Kamalo-Kapualet project, with the other members of the partnership making up the balance.

### Special Meeting: November 19, MYC 7:30 'Do we need a Skateboard Park?'

A special meeting is scheduled for Friday, November 19, 1999 at the Molokai Youth Center, beginning at 7:30pm. Youth Center staff invite everyone to "Please come and share your mana'o!"

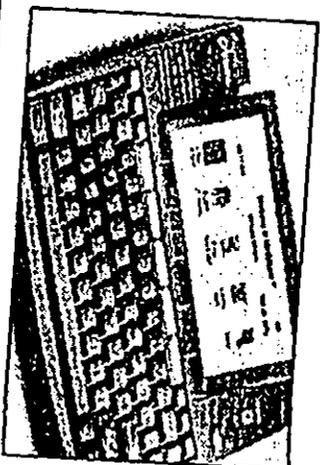
# HAWAII

The Honolulu Advertiser

SECTION B

FRIDAY • NOVEMBER 12, 1999

**IN BUSINESS**  
Las Vegas technology show gears up with plethora of gadgets.  
• Inside, B8



OBITUARIES B2  
OAHU BRIEFS B3

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**H.M. BARK ENDEAVOUR:** A replica of Capt. James Cook's ship visits Hawaii.

**Endeavour welcomes the public**

The H.M. Bark Endeavour is visiting Honolulu this week on its way back to Australia after an extensive tour of North America. Here's a look at the historical ship.

Q. What is the Endeavour?

A. The Endeavour is a...

# Public key to watershed plan

By Edwin Tanji  
ADVERTISER MAUI COUNTY BUREAU

**KAUNAKAKAI, Molokai**—A plan to protect a key watershed in East Molokai will bring together diverse elements of the state and island, including Maui County and state agencies, the Bishop Estate and a private ranch.

The groups will meet today on Molokai to sign the East Molokai Watershed Partnership agreement. The partnership is patterned after similar pro-

grams on Maui and Oahu, in which landowners agree to work with government agencies in protecting prime conservation lands.

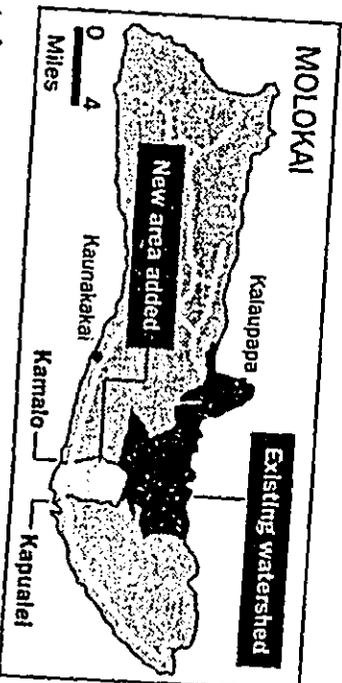
But the Molokai program adds the public in the mix through Ke Aupuni Lokahi, the "enterprise community" group that is receiving \$250,000 a year in the federal Empowerment Zone Initiative.

Ke Aupuni Lokahi listed the East Molokai watershed as one of its priority projects in its application for the federal empowerment designation last year.

"It is the first major new project getting off the ground," said Karen Holt, who serves as administrator for Ke Aupuni Lokahi.

It requires cooperation from two landowners, Kamehameha Schools/Bishop Estate and Kapuaei Ranch, which own 5,000 acres constituting the ahupua'a (land divisions) of Kamalo and Kapuaei.

The landowners will sign the partnership agreement



today, along with representatives of the Nature Conservancy, U.S. Fish & Wildlife Service, Natural Resources Conservation Council, Na-

tional Park Service, the U.S. Environmental Protection Agency, state forestry division, Department of Health, Maui County, Maui Board of

Water Supply, and the Molokai/maui Soil and Water Conservation District.

The concept of watershed partnerships originated in 1991 when East Maui landowners banded together with Nature Conservancy and government agencies to design a management plan for more than 100,000 acres on the northeast slopes of Haleakala.

The goal is to protect habitats of native Hawaiian plants,

See **MOLOKAI, B4**

Surfer's paradise at Sunset Beach



**It's Pokemon pandemonium**

## Molokai: Public is key to watershed plan

FROM PAGE B1

birds and insects, and to preserve the conservation lands as prime watershed.

Similar agreements were signed last year for West Maui and this year for the Koolau Mountains.

On Molokai, the project will include a fence at 3,500 feet elevation to keep goats and pigs out of the watershed and a hunting program to reduce the population of feral animals that damage the watershed.

Ke Aupuni Lokahi will put up \$100,000 toward the cost of the management plan with other partners providing another \$300,000.

Much of the watershed is protected as natural areas, including Waikolu, Wailau and Pelekunu Valleys on North Molokai, the Kama-kou Preserve managed by Nature Conservancy. The agreement adds key parcels on the south slopes of East Molokai.

Although the project is primarily aimed at conservation of natural resources, Holt said there is a connection to Ke Aupuni Lokahi's goal of economic revitalization of Molokai.

"Many of the economic development programs we envision are very dependent on use of natural resources and the quality of

the environment," she said.

Adequate water is needed to support taro production, fishpond developments, native plant nursery and reforestation projects, and just to assure the potential for future growth," she said.

Ke Aupuni Lokahi's overall program also lists erosion control and a comprehensive water management plan for the island as key elements of long-term economic development.

Neil Hammah, regional director for Kamehameha Schools/Bishop Estate, said increased watershed capacity is important to a landowner.

"Increased stream flow will directly benefit the landowners and tenants of these ahupua'a by having water available for cultural and economic activities, while reducing the siltation that impacts the near-shore reefs and fishponds," he said.

Participation by Ke Aupuni Lokahi helps to ensure success on Molokai, said Ed Misald, director of Molokai programs for Nature Conservancy.

"To succeed on Molokai, conservation efforts required the support and commitment of the larger community. This partnership not only has that support, it is a product of the community," he said.

6 HS&amp;CPN Maui June 12, 2000

**Public Hearings**

**PUBLIC NOTICE**  
State of Hawaii  
Department of Health  
Invites Public Comment  
on the Proposed  
FY 2000 - 2001  
State Preventive  
Health Plan

Pursuant to the Public Health Service Act, Title XIX, Section 1905(c)(1)(A)(i) and (ii), notice is hereby given that the Department of Health has scheduled a public hearing on a Proposed FY 2000 - 2001 State Preventive Health Plan

**Public Hearings**

on Friday, June 23, 2000, 12:00 - 1:00 p.m., Department of Health, 1250 Punchbowl St., Third Floor Director's Conference Room, Honolulu, HI. Copies of the Plan may be obtained beginning on June 12, 2000 by calling 586-4530. To arrange special accommodations, please call 586-4530 by June 16, 2000. Written comments received by June 20, 2000 will be accepted, and should be addressed to: Department of Health, Director's Office - PHHSBG, P.O. Box 3378, Honolulu, HI 96801-3378. (HS&CPN01502937: 6/12/00)

STATE OF HAWAII  
DEPARTMENT OF HUMAN SERVICES  
SOCIAL SERVICES DIVISION  
NOTICE OF PUBLIC HEARING

Pursuant to sections 91-3 and 92-41, Hawaii Revised Statutes, notice is hereby given that the Department of Human Services will hold a public hearing to consider the proposed amendments to existing rules for the Social Services Division, Adult and Community Care Services Branch, for the purpose of conforming to state statutes. A brief description of the proposed changes are listed below:

**CHAPTER 17-1419-CHORE SERVICES FOR COMMUNITY LONG TERM CARE PROGRAMS**

**§17-1419-9. Eligibility Requirements.** Subsection (b)(6) is being amended to limit the eligibility of chore services to those individuals who are not eligible for similar services through other programs.

**CHAPTER 17-1421-PROTECTIVE SERVICES FOR DEPENDENT ADULTS**

**§17-1421-12. Confidentiality.** This section is being amended to include provisions for releasing information to (1) individuals who are alleged to have caused the abuse of a dependent adult when that individual requests it, and (2) individuals authorized by such individuals who are alleged to have caused the abuse of a dependent adult. Release of information shall be restricted to notifications of whether the individual requesting the information is known to the Department as an individual alleged to have caused the abuse of a dependent adult and whether the allegations of abuse are confirmed or not confirmed. The individual requesting information shall not have access to information that violates the confidentiality of another person.

**CHAPTER 17-1439-HOME AND COMMUNITY BASED SERVICES FOR THE DEVELOPMENTALLY DISABLED/MENTALLY RETARDED**

**§17-1439-17. Sharing of Federal Financial Participation Payment Penalty Assessment.** This section is repealed as the Department has established hearings and appeals administrative processes for Medicaid service providers who may be impacted by any adverse action.

A public hearing will be held at the following date, time and place:

Hearing Date: July 24, 2000  
Time: 1:30 p.m.  
Place: Liliuokalani Building  
2nd Floor Conference Rooms 1 and 2  
1390 Miller Street, Honolulu, HI 96813

All interested persons are invited to attend the hearing and to state their views relative to the proposed rules either orally or in writing. Should written testimony be presented, five copies shall be made available to the presiding officer at the public hearing or within seven days before the hearing to:

Department of Human Services  
Social Services Division  
Adult and Community Care Services Branch  
810 Richards Street, Suite 400  
Honolulu, Hawaii 96813

Residents of Hawaii, Kauai, and Maui who wish to present oral testimonies may also contact the Social Services Division (SSD), Adult and Community Care Services (ACCS) office on the respective islands within seven days before the Honolulu hearing date to have their testimony recorded:

SSD-ACCS Section Administrator  
East Hawaii Section  
224 Haili Street  
Hilo, Hawaii 96720 (933-8820);

SSD-ACCS Section Administrator  
West Hawaii Section

**Public Hearings**

4370 Kukui Grove Street, Suite 205  
Lihue, Hawaii 96766 (241-3337);

SSD-ACCS Section Administrator  
Maui Section (Maui, Molokai, Lanai)  
1773-B Willi Pa Loop  
Wailuku, Hawaii 96793 (243-5151)

A copy of the proposed rules will be mailed at NO COST to any interested person by requesting a copy by writing to:

Department of Human Services  
Social Services Division  
Adult and Community Care Services Branch  
810 Richards Street, Suite 400  
Honolulu, Hawaii 96813

Or by calling 586-5560. Neighbor island residents may request a copy of the proposed rules at NO COST by contacting the Social Services Division, Adult and Community Care Services Branch office during regular business days and hours. The proposed rules may also be accessed via the Internet at [swat.state.hi.us/vrc.htm](http://swat.state.hi.us/vrc.htm).

Special accommodations (i.e., Sign Language interpreter, large print, taped materials, or accessible parking) can be provided, if requested at least five (5) working days before the scheduled public hearing on Oahu by calling 586-5560; on neighbor islands by contacting the Social Services Division, Adult and Community Care Services Section office on the respective islands with their requests.

DEPARTMENT OF HUMAN SERVICES  
SUSAN M. CHANDLER, DIRECTOR  
(HS&CPN05501598: June 12, 2000)

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

NOTICE OF PUBLIC HEARING  
ON PROPOSED LAND USE  
WITHIN THE CONSERVATION DISTRICT

DATE: July 7, 2000  
TIME: 6:00 P.M.  
PLACE: Kulano O Iwi Building, QLCC Activity Room  
Maunaloa Highway  
Kaunakakai, Molokai

The Department of Land and Natural Resources, State of Hawaii, pursuant to Chapter 183C, Hawaii Revised Statutes, will hold a public hearing to receive testimony on the following:

Conservation District Use Application (CDUA)  
MO-2986; Fence and Landscaping on private land at  
Kamalo and Kapualei, Molokai, County of Maui

A copy of the application, the project's Environmental Assessment and maps of the general location of the area under consideration are available for inspection at the Molokai Public Library, Kaunakakai, Molokai, County of Maui.

Any person may testify or present information on the application. If you have a legal interest that may be adversely affected by the application, you may have the right to request an administrative contested case hearing. However, you must make the request either orally or in writing by the close of this public hearing and file a written petition for a contested case hearing within 10 days after the date of this public hearing. If you do not make such a request, or fail to file a timely written petition with the Department of Land and Natural Resources, you may be precluded from obtaining a contested case hearing and judicial review. See Chapter 13-1 Hawaii Administrative Rules of the Department of Land and Natural Resources and Chapter 91 Hawaii Revised Statutes.

BOARD OF LAND AND NATURAL RESOURCES  
TIMOTHY E. JOHNS  
Chairperson  
Dated: June 5, 2000

(HS&CPN01502942: June 12, 2000)

**ATTENTION LEGAL ADVERTISERS - DI**

Notices that require two proofs prior to approval must be submitted **FIVE (5) WORKING DAYS** prior to the Monday of publication.

Notices that require one-proof service prior to approval must be submitted **FOUR (4) WORKING DAYS** prior to the Monday of publication.

Both final corrections and camera-ready materials must be submitted **FIVE (5) WORKING DAYS** prior to the Monday of publication.

**Public Hearings****NOTICE OF REQUEST**

The Department of Human Services is soliciting public comment on the proposed use and allocation of fiscal year 2001 Low-Income Housing Energy Assistance Program (LIHEAP) on Friday, June 16, 2000, at the Kalaniana'olaha Conference Center, Honolulu, Hawaii.

**PROPOSED USE OF FUNDS**

For each federal fiscal year LIHEAP funds, of the amount available shall be reserved for:

No less than sixty-four percent of the total amount shall be used for payments on behalf of eligible households; or twenty-five per cent of the total amount shall be used for eligible households; or federal fiscal year for households whose program year; and no more than ten percent of the program.

Households may apply for energy crisis assistance, but Energy crisis funds not added to the funds to be used for LIHEAP.

In no event shall the LIHEAP in any federal fiscal year receive federal allocation for LIHEAP. Interested parties are invited to submit their views orally or in writing, either to the presiding officer at the following address or to the Department of Human Services, Benefit, Employment, and Financial Assistance (LIHEAP) Section, 820 Miliilani Street, Suite 400, Honolulu, HI 96813.

Residents of Hawaii, Kauai, and Maui who wish to present oral testimonies may also contact the Social Services Division (SSD), Adult and Community Care Services (ACCS) office on the respective islands within seven days before the Honolulu hearing date to have their testimony recorded:

SSD-ACCS Section Administrator  
East Hawaii Section  
224 Haili Street  
Hilo, Hawaii 96720 (933-8820);

SSD-ACCS Section Administrator  
West Hawaii Section

Department of Human Services  
Benefit, Employment, and Financial Assistance (LIHEAP) Section  
820 Miliilani Street, Suite 400  
Honolulu, HI 96813

Residents of Hawaii, Kauai, and Maui who wish to present oral testimonies may also contact the Social Services Division (SSD), Adult and Community Care Services (ACCS) office on the respective islands within seven days before the Honolulu hearing date to have their testimony recorded:

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Benefit, Employment, and Financial Assistance (LIHEAP) Section  
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Benefit, Employment, and Financial Assistance (LIHEAP) Section  
820 Miliilani Street, Suite 400  
Honolulu, HI 96813



## Saving Molokai's Watershed - The Moloka'i Enterprise Community's Kapuaiei Watershed Project

by: Moloka'i Enterprise Community

**M**oloka'i's native rainforest is dying. Hundreds of acres of pristine forest are disappearing each year, as thousands of wild goats, pigs and deer eat the under-story plants that protect the roots of native trees. The southern slopes of Moloka'i are brown and barren from Maunaloa to Kamalo. Silt washes down the mountains, suffocating the coastal reefs and filling the fishponds. The Kamalo/Kapuaiei rainforest is the heart of the East Moloka'i watershed, and it is in grave danger.

The upper rainforest and shrub lands of Kamalo/Kapuaiei are home to one of the most pristine forests left on Moloka'i. The associated native forest shrub lands once provided dense vegetation as low as the 2000' elevation. Over 90% of the flora and fauna of the forest are endemic (found only in Hawaii and nowhere else in the world). Due to Hawaii's isolation and volcanic beginnings, our pristine native forest evolved without the presence of feral animals such as goats, pigs and deer, and consequently the forest has no defenses to the browsing, trampling and grazing of these introduced feral animals. Feral goats have denuded most of the shrub lands and are now destroying the upper forest, at about the 3,000-3,500 elevation.

To save the heart our native watershed,



the Moloka'i Enterprise Community has undertaken a watershed protection project that will help to reduce the number of animals that prey on the forest. The first steps in this project are the construction of a protective fence, and the creation of an aggressive community hunting plan. A 6-mile protective fence is planned for construction high in the mountains in Kamalo and Kapuaiei. The fence will keep goats and other ungulate predators out of the forest. The edge of the forest is referred to as the "browse line". The plan is to construct a fence along the contour just below the browse line to protect it from further damage. At the same time, residents of the Kamalo/Kapuaiei ahupua'a are working to design an aggressive hunting plan which is being implemented as part of this comprehensive project. Kamalo/Kapuaiei Schools and Kapuaiei Ranch,

the private landowners whose lands will be fenced, are actively working with the residents to develop the hunting plan.

Support has been pledged to this project by partners including the Moloka'i Enterprise Community, The Nature Conservancy, Maui County, the EPA, the state Department of Health, and Wildlife, the state Department of Health, the US Fish & Wildlife Service, US Geological Services, the Moloka'i/Lanai Soil and Water Conservation District, USDA Natural Resource Conservation Services, Kalaupapa National Historic Park, and landowners Kamehameha Schools and Kapuaiei Ranch. \$400,000 has been raised for the project to date, including funds to hire up to 6 fence builders. The construction of the fence will cost approximately \$200,000. The project partners are committed to this project because it is a comprehensive solution to a serious problem, and it is led by the Moloka'i community.

The watershed project will help to protect and restore the entire ecosystem, from mauka to makai. Below the forest is a middle eroded zone that is badly denuded due to years of impact from feral goats. The effects of the erosion can be seen clearly in the Kamahuehue fishpond. This fishpond was one of the biggest on Moloka'i, but has been filled in over the years with tons and tons of silt, so that now only a few acres of open water remain. Fisherman Moses Kaliikane has noticed the steady decline of the he'e grounds in the Kamalo reef due to the siltation. Thinning out the goat herds will help the vegetation recover in the eroded zone, which will in turn protect the reefs against further erosion damage.

The watershed protection project is one of the top priorities in the Moloka'i Enterprise Community plan. In 1998, Moloka'i became one of only 20 new federally-designated Enterprise Communities. This "EC" designation was based on the quality of a 10-year strategic plan that was developed by the Moloka'i community in the summer of 1998 through an island-wide grassroots planning effort. This effort was a comprehensive process that involved seven subcommittees and hundreds of community members who met several times weekly for a period of about four

bulk mailings, the local papers, and through the island's "coconut wireless".

The watershed protection project was given high priority in the EC plan based on feedback from the community that protection of the upper-elevation native rainforest, the community's primary source of water, is critical to preserving Moloka'i's cultural roots, reviving its rural economy, and preserving the island's lifestyle. When Moloka'i won an "EC" designation, a Board was formed to implement the EC projects, including the watershed protection project.

The EC Board, Ke Aupuni Lokahi, has been working hard to inform the community about this project, and to support its implementation. The Board believes that the proposed fence is a critical part of the project because it will keep goats from being pushed further into this forest once the hunting plan is implemented. Hunters know that if you put pressure on feral animals, they will move to other areas. The fence will help stop them from moving farther into the upper forest. And, as local boy Kauhane Adams puts it, "The fence is 24-7. No hunting program [alone] can insure protection of the forest on a 24 hour-7 days a week basis."

Although it will stop animals, the fence will not interfere with human access. Climb-over gates will be installed at regular intervals to insure that gatherers and hunters can climb over and enter the upper forest. And as noted above, the landowners in this project are working to open access for a community-hunting program.

In the long run, this project will provide valuable benefits for the environment, and for the people of Moloka'i. It will protect the coastline, reefs and fishponds from runoff and silt, as it helps to reverse the erosion that is occurring in the hills above. It will protect native plants that are prized by cultural practitioners for la'u lapa'au, lei-making and hula. It will aid in protecting ancient cultural sites that are in danger of eroding away due to loss of ground cover. And it will help to restore the upper forest as a place of spiritual renewal that can be passed on to future generations.

In addition, the project will aid in the Enterprise Community's efforts to create cul-



**Admissions**

**Day**

**August 18, 2000**

Celebrating 41 years as  
the 50th State of the  
United States of  
America

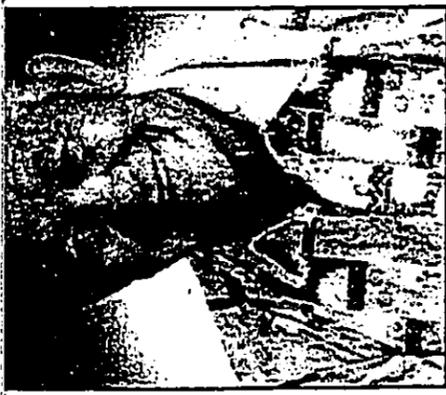
**Council Chair Pat Kawano**



**August 18, 2000**

Celebrating 41 years as  
the 50th State of the  
United States of  
America

**Council Chair Pat Kawano  
and the Kawano Family**



the reefs against further erosion damage.

The watershed protection project is one of the top priorities in the Moloka'i Enterprise Community plan. In 1998, Moloka'i became one of only 20 new federally-designated Enterprise Communities. This "EC" designation was based on the quality of a 10-year strategic plan that was developed by the Moloka'i community in the summer of 1998 through an island-wide grassroots planning effort. This effort was a comprehensive process that involved seven subcommittees and hundreds of community members who met several times weekly for a period of about four months. The community process for this endeavor was well advertised through several

valuable benefits for the environment, and for the people of Moloka'i. It will protect the coastline, reefs and fishponds from runoff and silt, as it helps to reverse the erosion that is occurring in the hills above. It will protect native plants that are prized by cultural practitioners for la'au lapa'au, lei-making and hula. It will aid in protecting ancient cultural sites that are in danger of eroding away due to loss of ground cover. And it will help to restore the upper forest as a place of spiritual renewal that can be passed on to future generations.

In addition, the project will aid in the Enterprise Community's efforts to create cultural and traditional economic projects. Many of the EC's economic projects focus on aquaculture and agriculture, both of which depend on an adequate supply of water, and on a healthy ecosystem.

Community hunters will also benefit as they finally get permission to enter the hunting grounds through the "front" door, rather than the "back" way, in order to help protect our forest. For more information about this important project, contact Project Leader Ed Misaki at 553-5236, Ke Aupuni Lokahi Chair Stacy Crivello at 558-8275, or EC Administrator Moloka'i Community Service Council (Karen Holt, Executive Director) at 553-3244.

## Wayland Baptist University



Open House

Saturday Aug. 26, 6:00PM at  
Kaunakakai Baptist Church

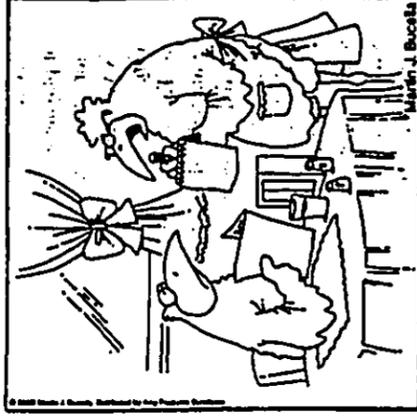
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BAPTIST UNIVERSITY



"I'm sorry, but we're all out of worms.  
They went early."

# MOLOKAI - LANAI SOIL AND WATER CONSERVATION DISTRICT



P.O. Box 398  
Hoolehua, HI 96729  
Phone (808) 567-6869  
FAX (808) 567-9062



September 13, 2000

Ms. Genevieve Salmonson  
Office of Environmental Quality Control  
236 South Beretania Street Suite 702  
Honolulu, HI 96813

Subject: Kamalo / Kapuaiei Watershed Management Project

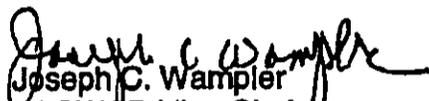
Dear Ms. Salmonson:

The Moloka'i-Lana'i Soil and Water Conservation District would like to thank you for your July 8, 2000 letter commenting on the above subject. On behalf of the applicants, Kamehameha Schools Bishop Estate and Mr. James W. Austin, we would like to respond to your comments as follows:

1. *Consultation with the Office of Hawaiian Affairs* – The draft environmental assessment was forwarded in July 2000 to OHA for their review.
2. *Revegetation* – It is anticipated that the natural vegetation will rejuvenate itself almost immediately with the proper weather conditions. For areas with more severe damage, vegetation recovery will not be less than three years.
3. *Expected Project cost* – The proposed budget is expected to be \$400,000.00 for the entire project. The fencing portion will be \$220,000.00.
3. *Measures to Handle Existing Feral Ungulates* – Activities such as controlled hunting, trapping and aerial shootings will be used to prevent entrapping animals in the upper region. Before the final closure is completed, aerial sightings will be done.

Again, we appreciate your input and have addressed your concerns in the final assessment as recommended. If you have any questions or require additional information, please feel free to contact our office.

Sincerely,

  
Joseph C. Wampler  
MLSWCD Vice-Chairman

JW:dk

SEP 13 2 51 PM '00

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BENJAMIN J. CAYETANO  
GOVERNOR



GENEVIEVE SALMONSON  
DIRECTOR

STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET  
SUITE 702  
HONOLULU, HAWAII 96813  
TELEPHONE (808) 586-4185  
FACSIMILE (808) 586-4185

July 8, 2000

Mr. Paul K. Elia  
Moloka'i-Lana'i Soil and Water Conservation District  
P.O. Box 396  
Ho'olehua, Moloka'i, Hawai'i 96729

Dear Mr. Elia:

The Office of Environmental Quality Control has reviewed the draft environmental assessment for the Kamalo/Kapualei Watershed Management Project, dated April 2000, and offers the following comment for your consideration and response required by Section 11-200-9(b), item 7, Hawai'i Administrative Rules (Department of Health, EIS Rules).

1. **CONSULTATION WITH THE OFFICE OF HAWAIIAN AFFAIRS:** On page 4 of the draft environmental assessment, we note that the Office of Hawaiian Affairs was not consulted in the preparation of this document. In all matters involving native Hawaiian gathering rights and/or ceded lands, it has been the practice of this office to recommend that applicants consult with the Office of Hawaiian Affairs. We recommend that prior to the preparation of the final environmental assessment and notice of determination for this project, you contact the Office of Hawaiian Affairs and obtain their advice regarding native Hawaii gathering and cultural practices in the general region of the project. In the final environmental assessment, please describe these gathering and cultural practices, if any.

Thank you for the opportunity to comment. If you have any questions, please call my Environmental Health Specialist, Leslie Segundo, at (808) 586-4185.

Sincerely,

  
GENEVIEVE SALMONSON, *by* *Director*  
Director

c: Dean Uchida, Administrator, Land Division, DLNR

BENJAMIN J. CAYETANO  
GOVERNOR



GENEVIEVE SALMONSON  
DIRECTOR

STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET  
SUITE 702  
HONOLULU, HAWAII 96813  
TELEPHONE (808) 586-4185  
FACSIMILE (808) 586-4186

July 8, 2000

Mr. Paul K. Elia  
Moloka'i-Lana'i Soil and Water Conservation District  
P.O. Box 396  
Ho'olehua, Moloka'i, Hawai'i 96729

Dear Mr. Elia:

This is a follow-up to our other July 8, 2000, letter sent to you concerning the draft environmental assessment for the Kamalo/Kapualei Watershed Management Project, dated April 2000. We offer the following additional comments for your consideration and response required by Section 11-200-9(b), item 7, Hawai'i Administrative Rules (Department of Health, EIS Rules).

2. **REVEGETATION - EXPECTED TIME TO OCCUR:** Please describe in the final environmental assessment the expected time for revegetation to occur after the project is completed.
3. **EXPECTED PROJECT COST:** Please provide in the final environmental assessment the expected cost of the project.
4. **MEASURES TO HANDLE EXISTING FERAL UNGULATES IN THE PROJECT AREA:** Please describe what measures you will take to remove existing feral animals from the project area prior to the start of your fencing project.

Thank you again for the opportunity to comment. If you have any questions, please call my Environmental Health Specialist, Leslie Segundo, at (808) 586-4185.

Sincerely,

A handwritten signature in cursive script, appearing to read "Genevieve Salmonson".

*for* GENEVIEVE SALMONSON *and by direction*  
Director

c: Dean Uchida, Administrator, Land Division, DLNR

DOCUMENT CAPTURED AS RECEIVED



## NATIVE HAWAIIAN LEGAL CORPORATION

1164 Bishop Street, Suite 1205 • Honolulu, Hawaii 96813 • Phone (808) 521-2302 • Fax (808) 537-4268

YEARS OF  
SERVICE TO  
THE COMMUNITY  
1974 - 1999

July 13, 2000

Paul Elia  
Molokai-Lanai Soil and Water  
Conversation District  
P. O. Box 396  
Hoolehua, Hawai'i 96729

Re: Public Comments on the Kamalo/Kapualei Watershed  
Management Project Draft Environmental Assessment

Dear Mr. Elia:

I am submitting on behalf of Walter Ritte, who is a Molokai resident and Native Hawaiian subsistence hunter, the following comments regarding the draft environmental assessment ("EA") for the Kamalo/Kapualei Watershed Management Project ("Project"). These comments largely concern the impact of the Project on subsistence hunting and other cultural activities which take place in the upper reaches of the ahupua'a of Kamalo and Kapualei. However, they are not intended to be and should not be regarded as either promoting hunting or opposing the restoration of native forest habitat. Rather, the purpose of these comments is to direct your agency's attention to several serious defects and omissions in the draft EA, and to point out several flaws in DLNR's analysis in support of its anticipated negative declaration.

### Project Description

Based upon the information contained in the draft EA, it appears that the primary structural component of the Project will be the construction of a four foot high-galvanized mesh barbed-wire fence across Kamalo and Kapualei, along the 3,000 to 3,500 foot elevation contour. A second lower fence will surround the land at Ka'apahu, at about the 1,000 foot level. The purpose of the fencing project is to prevent feral ungulates from gaining access to the forest located above the upper fence line; however, the fence will also prevent human access to the upper forest. See, EA at pp. 5a and 5d, et seq. ("Construct a fence for use as a barrier to wildlife, livestock, or people. Fence will allow one way (down) animal movement only.").

### Cultural Impacts Associated with the Fencing Project

As a preliminary matter, it should be noted that subsistence gathering, of which hunting forms a part, is of particular importance to Hawaiians on Molokai. Many Hawaiians rely upon subsistence gathering for a significant portion of their food, and approximately 25 percent of subsistence gatherers hunt. *Governor's Molokai Subsistence Task Force Final Report*, June 1994, at pp. 4-5 and 48 ("Task Force Report"). As explained below, the proposed fencing project

*Services made possible with major funding from the Office of Hawaiian Affairs.*

Niolo. Upright, straight, stately, tall and straight as a tree without branches; sharply peaked, as mountains. Fig., righteous, correct.

JUL. 17 2000

Paul Elia  
July 13, 2000

Page 2

will, by restricting feral animal foraging above the fence line, negatively affect subsistence hunting and other Hawaiian cultural practices. The draft EA is particularly deficient in this regard, as it omits any discussion of the cultural impact of the fencing project. Moreover, this omission is particularly troubling, in light of the fact that Kamalo is specifically identified in the Task Force Report as a subsistence hunting area. *Id.* at 80.

Limiting foraging habitat will reduce the size of the feral ungulate populations that are among the objects of subsistence hunting on Molokai, resulting in a negative cultural impact. While restoring native forest arguably benefits the environment, Chapter 343 of the Hawaii Revised Statutes ("H.R.S.") was recently amended to include within the chapter's definition of "significant effect", adverse effects relating to "cultural practices of the community." *See*, Act 50, Relating to Environmental Impact Statements, 2000 Sessions Laws. Thus, the cultural impact of the fencing project must be analyzed in the EA.

Rules adopted by the Environmental Council pursuant to H.R.S. § 343-6 provide, at § 11-200-10 of the Hawaii Administrative Rules ("H.A.R."), that every environmental assessment must identify and summarize the impact of the proposed action. This administrative rule also requires that an applicant proposing an action subject to Chapter 343 consult with citizen groups and individuals who will be potentially affected by the project, as part of the due diligence required in conjunction with the preparation of an environmental assessment. *Ibid.* (incorporating by reference H.A.R. § 11-200-9(b)(1)).

Although the East Molokai Watershed Partnership Memorandum of Understanding ("MOU") (EA at pp. 4a, *et seq.*) states on page five of the MOU that numerous community meetings were convened under the auspices of the Coordinating Committee of the Molokai Enterprise Committee Governance Board,<sup>1</sup> there is no discussion in the EA itself concerning whether the fencing project was disclosed to members of Molokai's subsistence hunting or gathering communities, and if it was, what their reaction was to the proposal. Moreover, the effect of feral ungulate population reduction on the island's subsistence hunting community and its concomitant secondary impact on bartering was neither identified nor summarized in the EA.<sup>2</sup>

The primary function of an environmental assessment prepared under the auspices of Chapter 343 is to "set[ ] forth sufficient information to enable the decision-maker to consider fully the environmental factors involved and to make a reasoned decision after balancing the risks of harm to the environment against the benefits to be derived from the proposed action." *Price v. Obayashi Hawaii Corp.*, 81 Hawaii 171, 182 (1996), quoting *Life of the Land v. Arivoshi*, 59 Haw. 156, 164-65 (1978). Because the environmental assessment that is the focus of these

<sup>1</sup> According to Mr. Ritte, only one informational meeting was held.

<sup>2</sup> Bartering plays an important part in Molokai's economy, as subsistence-gathered items are either unavailable in stores or are very costly. Task Force Report at 6.

Paul Elia  
July 13, 2000

Page 3

comments is absolutely devoid of any discussion relating to the impact of the fencing project on subsistence hunting and gathering, it fails to comply with the requirements of Chapter 343.

#### Impact on Traditional Cultural Properties

Aside and apart from its impact on subsistence hunting, the fencing project will, according to Mr. Ritte, also have a cultural impact because Ka'apahu where the lower encircling fence is proposed to be constructed, is a wahi pana or sacred site, being a kupua (demi-god) embodying Mo'o, the guardian of Kamalo. Constructing a fence upon a wahi pana will defile a sacred site. Accordingly, the draft EA also fails to comply with the requirements set forth in Chapter 343 because there is no analysis and discussion of the cultural impact of the fencing project on Ka'apahu and other sacred sites within the Project area.

Moreover, because the fence will be constructed with federal funds, EA at pp. 5f, et seq. (Natural Resources Conservation Service funds to be provided for fencing, constructing holding pens, and improving access roads in area), the fencing project is a "federal undertaking" within the meaning of Section 106 of the National Historical Preservation Act ("NHPA"). Actions subject to NHPA Section 106 require that project proponents consult with Native Hawaiian organizations in advance of any undertaking, where religious or cultural significance is attributed to historic properties eligible for inclusion on the National Register of Historic Places. The term "historic property" encompasses more than just archaeological sites and structures associated with human occupation, and includes natural landscapes which function as traditional cultural properties. See, Parker and King 1992, National Register Bulletin No. 38, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*.

Landforms associated with ethnic oral traditions, e.g., wahi pana, are among the types of traditional cultural properties eligible for inclusion on the National Register. National Register Bulletin No. 38, at 14. Therefore, it would not be unreasonable to anticipate that consultation with Native Hawaiian organizations will be required before the fencing project can meet the requirements set forth in the NHPA. As previously noted, in my review of the draft EA, I did not come across any analysis concerning the impact of the Project on traditional cultural properties, notwithstanding the fact that the EA discloses, at pp. 5b et seq., that cultural sites are known to exist at the lower elevations of Kamalo and Kapualei. Accordingly, the Molokai-Lanai Soil and Water Conservation District will need to evaluate for purposes of complying with Section 106, whether Ka'apahu is a historic property eligible for inclusion on the National Register.

#### Analysis of Alternatives

In addition to the foregoing comments, I also note that the draft EA fails to meet the substantive requirements of Chapter 343 because there is no mention of alternatives other than fencing as a means to reduce the impact of feral ungulate foraging in native forests above the

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3,000 foot elevation level at Kamalo and Kapualei, save for a single conclusory statement at page 7 of the EA, that "[l]imited controlled hunting for the past 10-15 years in this area has had no significant impact due to the large quantity of animals and remote, (sic) inaccessibility of the area." Analysis of alternatives to a proposed action is required pursuant to H.A.R. § 11-200-9(c), which provides that any agency approving a project subject to Chapter 343 "shall analyze the alternatives, in addition to the proposed action in the environmental assessment." H.A.R. § 11-200-10(6) further requires that an approving agency in its environmental assessment, identify and summarize the alternatives considered. These mandates are not to be taken lightly. "The purpose of preparing an environmental assessment is to provide the agency and any concerned member of the public with the information necessary to evaluate the potential effects of a proposed action. The public comment and notification provisions underscore the legislative intent to provide broad-reaching dissemination of proposed project so that the public may be allowed an opportunity to comment and the agency will have the necessary information to understand the potential environmental ramifications of their (sic) decisions." Kahana Sunset Owners Ass'n. v. County of Maui, 86 Hawai'i 66, 72 (1997). Moreover, in order to comply with Chapter 343, an environmental assessment must contain information sufficient to enable the agency charged with approving the project to make a "reasonable choice" among alternatives. Price, supra, 81 Hawai'i at 183.

In the instant case, there is no discussion, information, or analysis in the draft EA offered in support of the proposition that a managed hunting program will not result in the reduction of feral ungulate populations above the 3,000 foot elevation level at Kamalo and Kapualei. To the contrary, Mr. Ritte advises that helicopter and public access hunting have not to his knowledge been attempted in these areas of East Molokai. Accordingly, the draft EA lacks sufficient analysis of alternatives to comply with of Chapter 343. It is well settled that an agency "has a duty to study all alternatives that appear reasonable and appropriate for study . . . as well as significant alternatives suggested by other agencies or the public during the comment period." Dubois v. U.S. Department of Agriculture, 102 F.3d 1273, 1286 (1st Cir. 1996). Therefore, I strongly urge that the final environmental document for the Project incorporate a properly supported analysis of helicopter and public access hunting as an alternative to the fencing proposal, as "[t]he existence of a viable but unexamined alternative renders [the assessment] inadequate." Id. at 1286 (quoting Resources Ltd., Inc. v. Robertson, 35 F.3d 1300, 1307 (9<sup>th</sup> Cir. 1993) and Idaho Conservation League v. Mumma, 956 F.2d 1508, 1519 (9<sup>th</sup> Cir. 1992)).

#### Anticipated Negative Declaration

H.R.S. § 343-5(b) provides that an EIS must be prepared under the following circumstances:

Whenever an agency proposes an action . . . that agency shall prepare an environmental assessment for such action at the earliest

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practicable time to determine whether an environmental impact statement shall be required. For environmental assessments for which a negative declaration is anticipated, a draft environmental assessment shall be made available for public review and comment for a period of thirty days. . . . The agency shall respond in writing to comments received during the review and prepare a final environmental assessment to determine whether an environmental impact statement shall be required. *A statement shall be required if the agency finds that the proposed action may have a significant effect on the environment.* (Emphasis added).

The key to determining whether an EIS must be prepared is whether the proposed action "may" have a significant effect on the environment. In Molokai Homesteaders Cooperative Ass'n v. Cobb, 63 Haw. 354 (1981), the Hawaii Supreme Court in reviewing the potential environmental impact of a water pipeline project on the island of Molokai, held that the standard under Chapter 343 for determining whether a project may have any significant impact is whether the action is "one with a *probable* 'significant effect'". *Id.* at 465 (emphasis added).

The draft EA discloses at pp. 9-11, that because the Project is not anticipated to create any significant adverse environmental effects, it is anticipated by the Molokai-Lanai Soil and Water Conservation District that an environmental impact statement ("EIS") will not be prepared. However, the operative criterion in determining whether an EIS must be prepared is not whether there will be any adverse impacts on the environment, but rather whether the action being proposed "may have a significant effect". See, H.A.R. § 11-200-12(b). It is thus improper for an accepting authority -- which in this case is DLNR, the approving agency -- to issue a negative determination for a proposed action which may have a beneficial effect which is significant, particularly where, as is the situation here, there is substantial controversy over the adverse cultural impact of a environmentally beneficial action. See, e.g., Sierra Club v. U.S. Forest Service, 843 F.2d 1190, 1193 (9<sup>th</sup> Cir. 1988) (controversy as to effect of proposed action requires preparation of an EIS). Moreover, as explicitly stated in Act 50, supra, an action may have a significant effect if it adversely affects the cultural practices of a community, independent of its effect upon the environment.

In order to assist accepting authorities in determining whether a project may have a significant effect on the environment, the administrative rules adopted to implement to Chapter 343 provide 13 significance criteria that the agency must consider in evaluating environmental impacts. See, § 11-200-12, H.A.R. This administrative rule expressly requires the agency to make a finding which will usually trigger the preparation of an EIS if any one of the significance criteria, partially quoted in parentheses below, apply to the project. In the case at bar, there are at least five criteria that are triggered by the fencing project.

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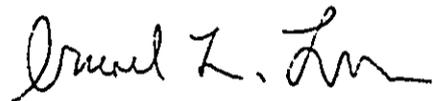
First, reducing feral ungulate populations will in turn directly affect subsistence hunting, which is a cultural resource ("involves an irrevocable commitment to loss or destruction of any . . . cultural resource"). The fence surrounding Ka'apahu will also irrevocably affect a wahi pana (ibid.). Second, providing fewer opportunities for subsistence hunting will curtail the range of beneficial uses of the environment ("curtails the range of beneficial uses of the environment"). Third, negatively impacting subsistence hunting will reduce the amount of food available for human consumption within Molokai's subsistence community ("substantially affects the economic or social welfare of the community"). Fourth, reducing feral ungulate populations will have a secondary impact, by affecting Molokai's subsistence bartering community ("involves substantial secondary impacts"). Fifth, the fencing project at Kamalo and Kapualei involves a commitment to a larger action ("involves a commitment for larger actions"), as the EA discloses, at numbered paragraph 8 on pp. 15, et seq., that the Project "might lead to expanding the same type of plan in other degraded areas on Molokai or elsewhere."

Because adverse cultural impacts are now included within Chapter 343's definition of "significant effect", it is particularly important that a specific finding be made concerning whether the fencing project may significantly affect subsistence hunting, gathering, and traditional cultural properties. As no analysis has yet been undertaken in this regard, it is premature for DLNR to anticipate that a negative declaration will be issued by it, following receipt of public comments.

#### Conclusion

For the foregoing reasons, we urge that DLNR withdraw its anticipated negative declaration and issue an EIS preparation notice for the Project, and that the Molokai-Lanai Soil and Water Conversation District prepare a draft EIS which incorporates the comments set forth herein.

Very truly yours,



ARNOLD L. LUM

ALL:co  
cc: Eric Hill, DLNR  
Walter Ritte  
C:\ritte\Paul Elia comments itr 7.13.00

## MOLOKAI - LANAI SOIL AND WATER CONSERVATION DISTRICT



P.O. Box 396  
Hoolehua, HI 96729  
Phone (808) 567-6869  
FAX (808) 567-9062



September 25, 2000

Mr. Arnold L. Lum  
Native Hawaiian Legal Corporation  
1164 Bishop Street, Suite 1205  
Honolulu, HI 96813

Subject: Kamalo/Kapualei Watershed Management Project

Dear Mr. Lum:

The Moloka'i-Lana'i Soil and Water Conservation District would like to amend a statement made in our September 5, 2000 response to your comments.

Listed on page 2, section 3; "The Office of Hawaiian Affairs has been contacted in regards to native Hawaiian cultural practices in the general region of this project and we are awaiting their response. Any information OHA provides will be incorporated into the final Environmental Assessment."

Unfortunately, the information from OHA was just received after the final EA was resubmitted and will not be included.

Please contact our office if you have any questions.

Sincerely,

  
Joseph C. Wampler  
MLSWCD Vice-Chairman

JW:dk

## MOLOKAI - LANAI SOIL AND WATER CONSERVATION DISTRICT



P.O. Box 396  
Hoolehua, HI 96729  
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September 5, 2000

Mr. Arnold L. Lum  
Native Hawaiian Legal Corporation  
1164 Bishop Street, Suite 1205  
Honolulu, HI 96813

Subject: Kamalo/Kapualei Watershed Management Project

Dear Mr. Lum:

The Moloka'i/Lanai Soil and Water Conservation District would like to thank you for your 7/13/00 letter, commenting on the Kamalo/Kapualei Watershed Management Project Draft Environmental Assessment for the applicants, Kamehameha Schools Bishop Estate and Mr. James W. Austin.

Your comments as to the EA fall into several categories: (A) Discussion of cultural impacts; (B) Discussion of impacts on subsistence hunting and bartering; (C) Discussion of input of hunters into the planning process; (D) Discussion of alternatives to the fence to reduce feral ungulates.

We would like to note the following in response to your comments, which are shown in bold in quotes:

### A. Cultural Impacts

1. "The draft EA ... omits any discussion of the cultural impact of the fencing project ... particularly troubling in light of the fact that Kamalo is specifically identified in the Task Force Report as a subsistence hunting area."
2. "[T]here is no analysis and discussion of the cultural impact of the fencing project on Ka'apahu and other sacred sites within the Project area."
  - The Watershed Management Project's fence is one aspect of a comprehensive management plan. This Project will have a positive cultural impact.
  - There are over 200 endemic (found nowhere else in the world) plants and animals that make up the native forest and shrublands of the Kamalo/Kapualei Watershed. By

fencing this upper watershed, the project will protect these endemic resources that are important component to the Hawaiian cultural practices such as the hula, la`au lapa`au, and lei making. Additionally, the intact forest is also significant in story telling (mo`olelo), for ceremonial protocol, and spiritual practices. It is essential to protect this forest which evolved with no natural defenses to introduced, feral animals such as goats, pigs and deer.

- The project will promote the long-term health of the fresh water resources flowing out of these ahupua`a. The native endemic forest has evolved and is the best forest community for the regeneration of our water resources. Culturally important practices such as taro farming, fishing, and fishpond restoration can be positively affected with the protection of the upper watershed.
- The wahi pana of Ka`apahu will also be protected by this project. Much of the ancient forest of Ka`apahu has been destroyed by goats and pigs, and the soil around the ancient stone structures in this area is eroding away. This erosion and the trampling and rooting of goats and pigs are destroying unique cultural sites.
- Under traditional Hawaiian culture, kapus were imposed by konohiki for protection of natural resources. The cultural resources found in these ahupua`a can't migrate like feral animals can, nor can they escape the destruction from feral animals. Kapus maintain natural resource balance and controls.
- The Watershed Management Project will limit this destruction and begin the process of healing at Ka`apahu and throughout the uplands of Kamalo and Kapualei.

3. **"Landforms associated with ethnic oral traditions, e.g., wahi pana, are among the types of traditional cultural properties eligible for inclusion in the National Register [citation omitted]. Therefore, it would not be unreasonable to anticipate that consultation with Native Hawaiian organizations will be required before the fencing project can meet the requirements set forth in the NHPA....Accordingly, the Molokai-Lanai Soil and Water Conservation District will need to evaluate for purposes of complying with Section 106, whether Ka`apahu is a historic property eligible for inclusion on the National Register."**

- The Office of Hawaiian Affairs has been contacted in regards to native Hawaiian cultural practices in the general region of this project and we are awaiting their response. Any information OHA provides will be incorporated into the final Environmental Assessment.

#### **B. Impact on Subsistence Hunting and Human Access**

4. **"The purpose of the fencing project is to prevent feral ungulates from gaining access to the forest located above the upper fence line; however, the fence will also prevent human access to the upper forest."**

5. **"Limiting foraging habitat will reduce the size of the feral ungulate populations that are among the objects of subsistence hunting on Moloka'i, resulting in a negative cultural impact."**
6. **"Moreover, the effect of feral ungulate population reduction on the island's subsistence hunting community and its concomitant secondary impact on bartering was neither identified nor summarized in the EA."**
7. **"[T]he environmental assessment that is the focus of these comments is absolutely devoid of any discussion relating to the impact of the fencing project on subsistence hunting and gathering."**
  - Hunters will be recruited/asked to participate in the effort to reduce the numbers of goats. This will greatly increase hunting opportunities. The project will make these areas much more accessible to community members desiring to hunt. The present goat population is excessively high, so much so that they are virtually eating themselves out of their food source. The project's goal is to reduce goat number and maintain an appropriate population for subsistence use in the middle, eroded zone. It will take some time, effort and experience to determine the appropriate numbers that will help reverse the erosion levels, and still maintain a population for subsistence use.
  - The Watershed Management Project will reduce the number of feral animals in the uplands of Kamalo and Kapualei and the area of land that they range over. The project will not bring an end to subsistence hunting in the area. At present, the number of animals above the proposed fence is quite small. The main purpose of the fence is to prevent animals from the lower elevations from being pushed up into the upland forests as a result of increased community hunting pressure in the lower elevations.
  - Populations of feral animals vary all the time in all places in nature, whether due to controls, hunting, drought, development, or other causes. There is never any guarantee as to the numbers of feral animals available in any location or at any time for hunting. The fence itself will not reduce populations of feral animals.
  - In the much larger land area below the fences (approximately 3,500 acres), the project will facilitate improved access for community hunters who will reduce feral animal populations through subsistence hunting to a level that allows watershed vegetation to recover while maintaining animals for continued subsistence use.
  - The proposed fence will not block access to people. "Climb-over" gates will be installed at intervals along the entire length of the fence to allow hunters and others to cross freely. The fence is a barrier to animals and not to humans. The locations of these gates will be selected based on input by landowners, hunters, and other community members. Because of the openness of the applicant landowners to

community involvement in this project, it is expected that the project will actually facilitate greater community access to subsistence resources.

### C. Community Involvement in Planning

8. "There is no discussion in the EA itself concerning whether the fencing project was disclosed to members of Moloka'i's subsistence hunting or gathering communities, and if it was, what their reaction was to the proposal."
- The planning process that led to the design of this project involved one of the highest levels of community involvement ever seen on Moloka'i. This project is one element of a strategic plan submitted to the Federal Government in application for an Empowerment Zone (EZ) designation. The planning process was extensive and included numerous open meetings by literally hundreds of Moloka'i citizens who responded to the open invitation to participate. Walter Ritte, whom you are representing, was one of those participants. This watershed project was discussed extensively during several environmental subcommittee public meetings.
  - The task of the subcommittees meetings was to bring forth projects for the EZ application. There were a total of seven subcommittees and 40 projects were brought developed over a period of about 2-3 months and numerous meetings. The projects were all brought together before a larger "lokahi" group that met to discuss and prioritize all the projects. This Watershed Management Project was voted as one of the top projects.
  - Upon designation as an Enterprise Community, the Ke Aupuni Lokahi Board was formed whose task was to implement the projects. Subsequent to the board formation, a public meeting was conducted for the watershed project at Kilohana Community Center. At that meeting most community members were in favor of the fence. The testimony against the fence received at that meeting was considered and discussed at a Ke Aupuni Lokahi meeting. After this deliberation, a vote was taken on the project. The vote was unanimous in favor of the project in its entirety, including the fence.
  - Additionally, a Kamalo/Kapualei community task force has been formed and been meeting regularly to help with the project, including the fence. The task force consists of long-time Hawaiian families, residents, hunters, fisherman, cultural practitioners, area landowners, and The Nature Conservancy. The task force is primarily focusing on the animal control and subsistence use, but is also planning to look into other aspects of the project. The task force supports the fence and takes pride in their ahupua'a.
  - The applicants also regard the involvement of the community in this project as a significant, positive cultural impact. The project has been designed and will be implemented with widespread involvement of the Moloka'i community and, especially, the residents of the ahupua'a of Kamalo and Kapualei. This involvement

reflects the traditions of ahupua`a management and is a positive step toward maintaining the connection of the people with the land.

**D. Alternatives to Fencing**

9. “[T]here is no mention of alternatives other than fencing as a means to reduce the impact of feral ungulate foraging in native forests above the 3,000 foot elevation level at Kamalo and Kapualei, save for a single conclusory statement at page 7 of the EA, that “[l]imited controlled hunting for the past 10-15 years in this area has had no significant impact due to the large quantity of animals and remote, (sic) inaccessibility of the area.”
10. “[T]here is no discussion, information, or analysis in the draft EA offered in support of the proposition that a managed hunting program will not result in the reduction of feral ungulate populations above the 3,000 foot elevation level at Kamalo and Kapualei. To the contrary, Mr. Ritte advises that helicopter and public access hunting have not to his knowledge been attempted in these areas of East Molokai.... Therefore, I strongly urge that the final environmental document for the Project incorporate a properly supported analysis of helicopter and public access hunting as an alternative to the fencing proposal....”
- The project committee considered the full range of alternatives available to achieve the project’s goal, based on the extensive experience of local hunters, land managers, and conservation agencies that have worked in Moloka`i forests to manage feral animals over the past decades. These alternatives include:
- ◆ more extensive use of fencing than is proposed here
  - ◆ hunting without the use of fences
  - ◆ hunting augmented by helicopter access or shooting from helicopters by trained agency personnel
  - ◆ trapping of animals
  - ◆ driving animals out of sensitive areas with helicopters and ground personnel
  - ◆ taking no action.
- Management of feral animals in the adjacent Kamakou Preserve, Pelekunu valley, and Pu`u Ali`i Natural Area Reserve has demonstrated that the strategic use of fences is necessary to prevent feral animals from entering rugged, forested areas. It has shown that without the aid of fences, hunters are not able to prevent all damage to fragile, upland rain forests by these animals. It has also demonstrated that hunting by organized community volunteers in areas already heavily impacted by feral animals can successfully harvest animals for subsistence use in a manner that is safe to the hunters, with a resulting reduction of vegetation damage. Finally, experience from Moloka`i and other Hawaiian islands has shown that while hunting from helicopters can be a necessary tool for removing animals from remote, rugged sites, it is not

effective in dense vegetation such as exists in the uplands of Kamalo and Kapualei and cannot prevent animals from moving into these forested areas from adjacent lands. There are no natural barriers to animal movement in the project area that would substitute for the proposed fence. The fence is an essential tool in the overall Watershed Management Project.

- Other fencing projects in Hawai'i's natural areas vary in scope. They are a necessary tool for protection of natural and cultural resources. Fencing allows for a graduated approach to feral animal control which permits feedback over time to refine how the fence works with hunting. With the fence, managers can adapt techniques to the terrain based on other experience on a continual basis. The fence allows for and is part of an ongoing discussion on management of natural areas.

**11. "[T]here are at least five [significance] criteria that are triggered by the fencing project."**

**A. significance criteria: "involves an irrevocable commitment to loss or destruction of any ... cultural resource"**

1. **NHLC assertion: "reducing feral ungulate populations will in turn directly affect subsistence hunting, which is a cultural resource"**

- There is no irrevocable commitment to loss or destruction of any cultural resource. Subsistence hunting will continue in the project area. Even if the project were designed to remove all feral animals from the project area, this loss of subsistence resources would not be irrevocable; the lands could easily be restocked with feral animals at any time the landowners and the community decided to do so. The same is not true of the other cultural resources that are threatened by unabated damage from feral animals. The native plants and animals, water resources, cultural sites, and the cultural knowledge and traditions that stem from these, will be lost irrevocably if the current level of feral animal activity is allowed to continue.

**B. significance criteria: "curtails the range of beneficial uses of the environment"**

1. **NHLC assertion: "The fence surrounding Ka'apahu will also irrevocably affect a wahi pana"**

- As already described, the project will maintain the current range of cultural activities, and, as the forest and cultural sites on the land recover, cultural activities are expected to expand as the resources are more able to support them. The fence will increase the protection of the wahi pana from destruction from feral ungulates.

**C. significance criteria: "substantially affects the economic or social welfare of the community:"**

1. **NHLC assertion: "negatively impacting subsistence hunting will reduce the amount of food available for human consumption within Moloka'i's subsistence community."**

➤ Addressed above. Subsistence hunting will continue, water resources and other economically and socially important resources will be protected from further degradation and, hopefully, expanded. This project was identified as one of the top five priorities among 40 community-designed projects to increase the economic and social health of Moloka'i. The fence actually will enhance other cultural activities in these ahupua'a and other Moloka'i communities.

D. **significance criteria: "involves substantial secondary impacts"**

1. **NHLC assertion: "reducing feral ungulate populations will have a secondary impact, by affecting Moloka'i's subsistence bartering community"**

➤ As addressed above, subsistence hunting will continue, and the abundance and accessibility of subsistence resources both on land and in the adjacent coastal and reef areas are expected to grow as a result of improved watershed health from this project. This will be a positive influence on subsistence bartering in the community.

E. **significance criteria: "involves a commitment for larger actions"**

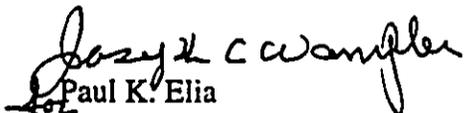
1. **NHLC assertion: "the fencing project might lead to expanding the same plan in other degraded areas on Molokai or elsewhere."**

➤ While the Watershed Management Project is expected to be a successful model that may be usefully applied in other places on Moloka'i, there is no element of this project that automatically leads to its expansion to other lands. The fence is very specific to this geographic area. The applicants expect that any subsequent, similar projects on other lands will require the consent and commitment of the affected landowners and community members, just as was the case in this project.

We thank you for your comments and recommendations. They will be very helpful in preparing the final EA for this project.

If you have any questions or require additional information, please feel free to contact our office:

Sincerely,

  
for Paul K. Elia  
MLSWCD Chairman

DOCUMENT CAPTURED AS RECEIVED

Kama Kahaloa Dr.  
Box 194 Hoolenua 96729  
Ph-567-9410

We, the undersigned residents of Molokai, have concerns about a plan to construct over five miles of fence line from Kamalo eastward to control feral animals. The Molokai community knows very little about this fence line, and has not been allowed sufficient input into this matter. Therefore, we strongly recommend that more community meetings be held, and that community concerns be addressed and incorporated into this plan.

- |     | Name (PLEASE PRINT) | Address                             |
|-----|---------------------|-------------------------------------|
| 1.  | Laureth K. Duda     | General Delivery, K'Kai HI 96748    |
| 2.  | Paul Samit          | P.O. Box 1035 K'Kai HI 96748        |
| 3.  | John Jucit          | P.O. Box 1035 K'Kai HI 96748        |
| 4.  | Theodore L. Davis   | P.O. Box 1269 M. Kai 96748          |
| 5.  | CAREY AMIMOTO       | 203-B JACK LANE HON HI. 96819       |
| 6.  | RYCE INAYOSHI       | 2055 NUUANU AVE #203, HON. HI 96817 |
| 7.  | Ben Dinn            | P.O. Box 1814 K'Kai 96748           |
| 8.  | Glen K. Dosa        | 246 Kalipani St, Waimanu HI 96796   |
| 9.  | Brian K. Paha       | P.O. Box 1876 K. Kai, HI. 96748     |
| 10. | Cameron K. Davis    | P.O. Box 409 K. Kai, HI. 96745      |
| 11. | Tracy Ann K. Davis  | P.O. Box 409 K'Kai, HI 96745        |
| 12. | Chuck Miller        | P.O. Box 350 K'Kai HI 96748         |
| 13. | Mike Kim            | 96757-0267                          |
| 14. | Busty Marcellino    | 567-4216                            |
| 15. | Walter Rette        | 5679415                             |

T- 238 signatures  
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	Name (PLEASE PRINT)	Address
15.	Julius DUDUIT	HC-01 - Box 808 - 96748
16.	Moki Kuanhiga	PO Box 1344 HI 96727
17.	Kehau Low	P.O. 04 Kualapuu HI 96757
18.	Dixie Low	P.O. Box 09 Kualapuu HI 96707
19.	Kenay Kahoopa	P.O. Box 1914 Hilo/Hua HI 96726
20.	Natasha Kahoopa	P.O. Box 46 Hoolahua HI 96729-004
21.	Jacob Kahoopa	P.O. Box 46 Hoolahua HI 96729-005
22.	Rick Kuanhiga	P.O. Box 61 Hilo/Hua HI 96726
23.	Edward K. Lani	P.O. Box 71 Maunaloa, 96770
24.	Raymond	P.O. Box 272 K'Kai 96748
25.	David Nawad	P.O. Box 710 K'Kai 96748
26.	Herbert Hoe	P.O. Box 155
27.	Julia Hoe	P.O. Box 155 K'Kai 96748
28.	George Gramberg	HC01-22 K-Kai 96748

We, the undersigned residents of Molokai, have concerns about a plan to construct over five miles of fence line from Kamalo eastward to control feral animals. The Molokai community knows very little about this fence line, and has not been allowed sufficient input into this matter. Therefore, we strongly recommend that more community meetings be held, and that community concerns be addressed and incorporated into this plan.

Name (PLEASE PRINT)	Address
Henry Kipo Kaloua	P.O. Box 524 K'Kai HI 96748
Peter C. Dudoit @	P.O. Box 82 K'Kai HI 96748
Gleason Gleason	P.O. Box 1512 K'Kai 96748
Scott Dudoit	P.O. Box 721 K'Kai 96748
Jeremy Bush	P.O. Box 518 K'Kai 96748
Kawehi Scores	PO BOX 1154 K'Kai 96748
Keolu Nahaakiki	PO BOX 524 K'Kai HI 96748
Paul Mokua	P.O. Box 291 K'Kai HI 96748
Peter Mainaupo	P.O. Box <del>28</del> <sup>312</sup> Na'aula, HI 96717
Ernest Kahaika	P.O. Box 1074 K'Kai HI 96748
Gavin Wong	2454 Kawohi Pl. Hon HI 96819
Jeannie Mainaupo	P.O. Box 312 Na'aula, HI 96717
Peter G. Mainaupo Jr.	P.O. Box 312 Na'aula, HI 96717
Mark Pave Jr.	P.O. 350

We, the undersigned residents of Molokai, have concerns about a plan to construct over five miles of fence line from Kamalo eastward to control feral animals. The Molokai community knows very little about this fence line, and has not been allowed sufficient input into this matter. Therefore, we strongly recommend that more community meetings be held, and that community concerns be addressed and incorporated into this plan.

Name (PLEASE PRINT) Address

Gilbert Paecua Jr. P.O. Box 1324 K'kai HI 96748

KAHINA FALL P.O. Box 154 KUALAPUHI HI 96757

Aulani Puulika P.O. Box 1780 K'kai HI, 96748

Utefanie Furlong P.O. Box 1646 Kaunakakai, HI 96748

Lilani Simmons P.O. Box 900 K'kai, HI 96748

LIMA SAWYER P.O. BOX 900 K'KAI, HI. 96748

Ekolu Tancayo P.O. BOX 743 K'KAI, HI. 96748

Joe Kalizra P.O. Box 452 K'KAI HI 96748

Bonny Place P.O. Box 1535 K'kai HI 96748

Tammy Gomes P.O. Box 1876 K'kai HI 96748

Walter B. Nak P.O. Box 1269 " " "

Ron Rapant Sr P.O. Box 263 KUALAPUHI HI 96757

Gregory Rapant " " "

Melvin Chung P.O. Box 1008 Kaunakakai, HI 96748

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Name (PLEASE PRINT)	Address
Henrietta Molikao	P.O. Box 482, K'kai Hi, 96749
STELLA Taea	P.O. Box 405 - K'kai Hi, 96748
LAWRENCE REYES	P.O. Box 699 " "
DENNIS KAMELUA	P.O. Box 163 " "
POMERO DOMINGO	P.O. Box 434 " "
Alfred Eldridge Spencer	PO BOX 41
Sonja V. Deidat	P.O. Box 201 K'pua
BLAINE KABEL	P.O. Box 1679 K'KAI
Alfred DeMello	P.O. Box 1463 K'KAI
Margaret Staki	P.O. Box 739
Patrick Hanson	P.O. Box 1433
J. S. Tangu	P.O. Box 1 K'kai
Baron Okun	P.O. Box 19 K'kai Hi
E. Pancher	P.O. Box 87 K'kai Hi

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Name (PLEASE PRINT)	Address
Josette Mawae Mollena	P.O. Box 3, H'hua, HI. 96729
Asheley Reis Mawae	P.O. Box 3, H'hua, HI. 96729
Stone Kawika	PO Box 361 Hihua HI 96729
Stone Mark	PO Box 361 Hihua HI 96729
Low Robert	PO Box 4 Kualapuu HI 96729
Low Dolly mae	" 4 " 96729
Low Robert D JR	" 4 " 96729
Low Kehau	" 4 " 96729
Low Dixie	" 4 " 96729
Han Lambert	" 34 Hookehua
Han Lokeiani	" 34
Mawae Joseph JR.	P.O. Box
Mawae Jeanette	"
Mawae Joseph JR	" M'loa 967
Han James JR	Hookehua

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Name (PLEASE PRINT)	Address
William Sr. Kahaloaa	P.O. Box 191 Hahaione Molokai
Caroline "	"
William Jr "	"
iShay Kahaloaa	"
Jeremiah Kahaloaa	"
Elias Kahaloaa	"
Steven Kahaloaa	"
Annice Kahaloaa	"
Tilden Han	P.O. Box 34 Hahaione
Julie Aglan	P.O. Box M'loa Molokai
Rufino Aglan Sr	P.O. Box 69 Kualapuu Molokai
Rufino Aglan Jr	P.O. Box 69 M'loa
Pat Fanne Aglan	P.O. Box 69 Kualapuu
Fina Aglan	P.O. Box 69 Kualapuu
Helene Stone	P.O. Box 69 Hahaione

## MOLOKAI - LANAI SOIL AND WATER CONSERVATION DISTRICT



P.O. Box 396  
Hoolehua, HI 96729  
Phone (808) 567-6869  
FAX (808) 567-9062



August 01, 2000

Mr. Yama Kaholoaa Sr.  
P.O. Box 194  
Hoolehua, Hawaii 96729

Subject: Kamalo / Kapualei Watershed Management Project

Dear Mr. Kaholoaa:

The Molokai - Lanai Soil and Water Conservation District would like to thank you for attending the July 07, 2000, Public Hearing and for submitting your testimony and petition commenting on the above subject. On behalf of the applicants, Kamehameha Schools Bishop Estate and Mr. James W. Austin, we would like to note the following.

There was an extensive community process that led to the creation of this project. This watershed project was proposed approximately two years ago. An Environment Committee comprised of volunteers from many segments of the community was convened for the EZ/EC application. This committee discussed the watershed project extensively and the fence was debated fully. The original plan was to construct a fence 25 miles in length. A compromise was reached and the fence was scaled down to the proposed 5.5 miles in length.

This project was presented at several community-wide meetings between August 1998 through January 2000. A copy of the Moloka'i Enterprise Community News, January 1, 2000 issue, was distributed to Box Holders island-wide. Included in this newsletter was an announcement of a community meeting to be held on January 13, 2000, and invited everyone on Moloka'i to learn more about EC's projects including the Watershed Project. The Moloka'i Enterprise Community also provided the community with copies of the 40 Projects in Moloka'i's 10-Year Strategic Plan that listed the Watershed Project and discussed fencing and open access for hunters. The public hearing notice was published in the June 12, 2000 issue of the Hawaii State & County Public Notices that also noted the project's Environmental Assessment was available at the Molokai Public Library for review and comments. The June 28, 2000 issue of the Molokai Advertiser News included an article regarding the project fencing and public comment deadline. Copies of the underlined publications have been enclosed for your review.

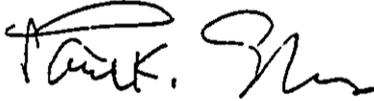
Access for hunters and gatherers will not be restricted by the proposed fence, as plans call for gates to be made along its entire length, so that human visitors can easily enter and leave the native forest. With respect to hunters, both of the landowners on whose property the fence will be constructed have agreed to provide even greater access to their lands for hunting. Kamehameha Schools would like a community-based and community-controlled hunting plan, to increase the numbers of hunters using the area.

Through the installation of the proposed fence and the increased hunting access, the number of feral animals in Kamalo and Kapualei should decrease allowing the severely eroded environment a chance to heal itself.

We believe that this has been a fair process for the Molokai community, and that two years of extensive planning through a committee and community members throughout our island home is sufficient. Thank you for your comments and concerns. They will be included in the final Environmental Assessment.

If you any questions or require additional information, please feel free to contact our office.

Sincerely,



Paul K. Elia  
MLSWCD Chairman

PE:zp

**MOLOKAI - LANAI SOIL AND WATER CONSERVATION DISTRICT**



P.O. Box 396  
Hoolehua, HI 96729  
Phone (808) 567-6869  
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August 02, 2000

Mrs. Stacy Crivello, President  
Ke Aupuni Lokahi  
The Moloka'i Enterprise Community Governance Board  
P.O. Box 1046  
Kaunakakai, Hawaii 96748

Subject: Kamalo / Kapualei Watershed Management Project Draft Environmental Assessment

Dear Mrs. Crivello:

The Molokai - Lanai Soil and Water Conservation District would like to thank you for your July 24, 2000 comment letter supporting the above subject. This project is truly a community-driven project, and on behalf of the applicants, Kamehameha Schools Bishop Estate and Mr. James W. Austin, we would like to thank you for your assistance and continued support.

We look forward to completing the final Environmental Assessment for the Kamalo / Kapualei Watershed Management Project in which your comments will be included.

If you have any questions or require additional information, please feel free to contact our office.

Sincerely,

Paul K. Elia  
MLSWCD Chairman

PE:zp



## University of Hawai'i at Mānoa

Environmental Center  
A Unit of Water Resources Research Center  
2550 Campus Road · Crawford 317 · Honolulu, Hawai'i 96822  
Telephone: (808) 956-7381 · Facsimile: (808) 956-3980

July 24, 2000  
EA: 1203

Mr. Paul Elia  
Molokai-Lanai Soil and Water Conservation District  
P.O. Box 396  
Hoolehua, Hawaii 96729

Dear Mr. Elia:

Kamalo/Kapualei Watershed Management Project  
Draft Environmental Assessment  
Kamalo/Kapualei, Molokai

Kapualei Ranch and the Kamehameha Schools Bishop Estate propose to install a fence within the Kamalo and Kapualei Watersheds. Additionally, the applicants plan to monitor feral animal populations and vegetation reestablishment in animal-degraded areas. The purposes of the project are to reduce soil erosion, to improve soil quality, to protect surface and ground water quality, to enhance habitat for aquatic and terrestrial wildlife, to improve water use efficiency, to enhance forest productivity and sustainability, to protect and restore grazing lands, and to reduce the potential for air pollution. This review was conducted with the assistance of Sherri Hiraoka, Environmental Center.

### General Comments

The draft Environmental Assessment (EA) was a confusing document that could have benefited from a closer adherence to the EA content guidelines in the Hawaii Administrative Rules §11-200-10. Some of the documents that were included in the EA, while helpful, would probably be better placed in an appendix section, with their contents and relevant information summarized in the actual body of the document. Such documents include: Memorandum of Understanding, East Moloka'i Watershed Partnership (page 4a); KSBE Conservation Plan (page 5b); Kapualei Ranch Conservation Plan (page 5c); excerpts from the Moloka'i Enterprise Community News, dated January 1, 2000 (page 5f); article from the Molokai Advertiser-News, dated November 17, 1999; article from the Honolulu Advertiser, dated November 12, 1999; Soil/Plant Analysis Report by UH College of Tropical Agriculture and Human Resources.

Mr. Elia  
July 24, 2000  
Page 2

Additionally, correspondence should be grouped in a separate correspondence section or appendix. References may be made to individual letters in the text to clarify or substantiate claims. Such letters include: letter from Larry Shinshiro, Conservation Agronomist, USDA, dated May 8, 2000 (page 5d); letter from Timothy Johns, State Historic Preservation Office, dated June 29, 1999 (page 5f); and letter from Paul Henson, Fish and Wildlife Service, dated December 16, 1999.

This document lacks the level of detail found in most EAs prepared under Chapter 343, Hawaii Revised Statutes. The section on Plants found on page 5g, for example, doesn't list any of the endangered species found in the area. This is standard in most other assessments. The section on Water, also numbered 5g contains references to a DOH report without a citation or even a summary of what the DOH says in that report.

This draft EA would have been much easier to review had it used a more understandable method of pagination.

#### Purpose of Project

The purpose of the project is stated on page 1 to be the "installation of wildlife/native forest protection fence/line and monitoring of feral animal numbers and vegetation regrowth in animal damaged areas." This is actually a summary of the project and not its purpose. The purpose seems to be listed on the section on Economics (page 5e) that indicates that this project, as a "conservation practice" will help to reduce soil erosion, improve soil quality, protect surface and ground water, enhance habitat for aquatic and terrestrial wildlife, improve water use efficiency, enhance forest productivity and sustainability, protect and restore grazing lands, and reduce the risk of air quality degradation.

#### Technical

The article in the Molokai Advertiser-News (November 17, 1999) stated that "the first initiative of the East Moloka'i partnership is to implement a...fencing and animal control project." This implies that there is a greater plan for the area than just this project. Eventual goals should be discussed, as well as how this project fits into those goals.

The technical section covers the fencing portion of this project. If revegetation is a goal, what other efforts might be employed to achieve those objectives? Active feral animal control (i.e. hunting) coupled with outplanting may speed up the areas' recovery. The article in the Molokai Advertiser-News (November 17, 1999) states that "an organized hunting program will provide community hunters with access to safe, accessible areas of the upper middle zones to help reduce goat and pig populations." This aspect of the project should be discussed. If these methods are not included in this phase of your plan, then that should also be stated. When might they be included, if at all?

Mr. Elia  
July 24, 2000  
Page 3

Fence Specifications

The proposed fence is intended to allow for the movement of feral animals from the upper zone into the middle zone, with no reverse movement allowed (page 5a). How will this be accomplished?

The Resources Management (RM) Division of the National Park Service has begun increasing fence heights for their exclosures. This height increase was made in response to the occurrence of Muflon sheep jumping over the existing fencing. Although there are no sheep in the area of your project, it is likely that Axis deer are able to jump at least as high as sheep. Recent fencing operations at Kalaupapa used 6' hog wire fencing and 2 to 3 barbed wire strands placed above. The total height is at least 7' to prevent deer ingress.

To ensure that the fence will exclude pigs, the fence should be clipped at ground level. Substrate is also important. If the ground is soft and loose, the fence should be low and tight because pigs may dig and lower the ground level.

For more information regarding the best fencing methods, it may be useful to consult the Resources Management Division of the National Park Service at either Haleakala or at the Hawaii Volcanoes National Park (HAVO). Both parks currently run programs that are trying to control feral animal populations through such methods as fencing, and may be able to provide advice and/or assistance in designing a proper exclosure for your needs. Additionally, RM-HAVO has previously been contracted to construct fencing on Molokai by the Nature Conservancy, and may therefore have useful knowledge on materials and methodology.

Social

Are there currently cultural sites located in the two watersheds? If so, will there be any restrictions on access to those sites once the project begins?

What is the extent of the hunting that exists within these two watersheds? There has been much conflict on other islands between hunters and those who wish to construct animal exclosures. What has been the reaction of hunters to this plan?

Conclusion

We approve of every effort to improve the health of our watersheds and we appreciate the concerted efforts of the many agencies and organizations that are collaborating on this project. This project has the opportunity to become a blueprint for future partnerships between government and private organizations in restoring our natural systems. Therefore, it is important that the proper planning be done. We believe, however, that a well written environmental assessment is an important part of the planning effort. This document is poorly written and confusing to the reviewer. It also lacks the detail normally found in this type of document. We believe that the project proponents should use the guidelines published by the Office of Environmental Quality Control or seek the assistance of one of the local consulting firms to prepare the final EA.

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JUL-24-00 MON 12:32

UH ENVIRONMENTAL CENTER

FAX NO. 8089563980

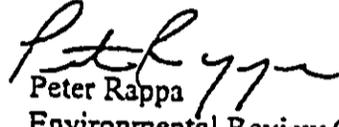
P. 05

Mr. Elia  
July 24, 2000  
Page 4

We hope that our suggestions will be helpful in preparing the final Environmental Assessment, and in developing a long-range plan for protecting the Kamalo and Kapualei watersheds.

Thank you for the opportunity to comment on this drafts environmental assessment.

Sincerely,



Peter Rappa  
Environmental Review Coordinator

cc: Eric Hill, DLNR  
OEQC  
James Moncur, WRRRC  
Sherri Hiraoka, Environmental Center

DOCUMENT CAPTURED AS RECEIVED

## MOLOKAI - LANAI SOIL AND WATER CONSERVATION DISTRICT



P.O. Box 396  
Hoolehua, HI 96729  
Phone (808) 567-6869  
FAX (808) 567-9062



August 01, 2000

Mr. Peter Rappa, Environmental Review Coordinator  
University of Hawaii, Environmental Center  
2550 Campus Road, Crawford 317  
Honolulu, Hawaii 96822

Subject: Kamalo / Kapualei Watershed Management Project

Dear Mr. Rappa:

The Molokai - Lanai Soil and Water Conservation District would like to thank you for your July 24, 2000 letter commenting on the above subject. On behalf of the applicants, Kamehameha Schools Bishop Estate and Mr. James W. Austin, we would like to note the following.

The Kamalo / Kapualei Watershed Management Project Draft Environmental Assessment was prepared through a partnership effort, and is the first EA completed by MLSWCD. We apologize for the confusion you encountered during your review and thank you for your comments and recommendations. It will be very helpful in preparing the final EA for this project. Your questions and concerns will be included.

If you any questions or require additional information, please feel free to contact our office.

Sincerely,

Paul K. Elia  
MLSWCD Chairman

PE:zp

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment**

**APPENDICES**

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment**

**KAMALO/KAPUALEI  
TWO YEAR WATERSHED MANAGEMENT  
PROJECT PROPOSAL**

November 1999

**APPENDIX A**

## INTRODUCTION

The Kamalo/Kapualei Management Project Proposal reflects goals of the East Molokai Watershed Partnership (attachment 1). The plan proposes management activities over a two-year period that will begin long term management practices for the protection and preservation of this watershed area. The Kamalo/Kapualei Project Proposal is a product of the recent USDA Empowerment Zone (EZ) application process, where broad based community planning has identified and developed this project as a key component to the sustainability and health of Molokai's culture, traditions, and natural resources, and to the improvement of the island's economic stability.

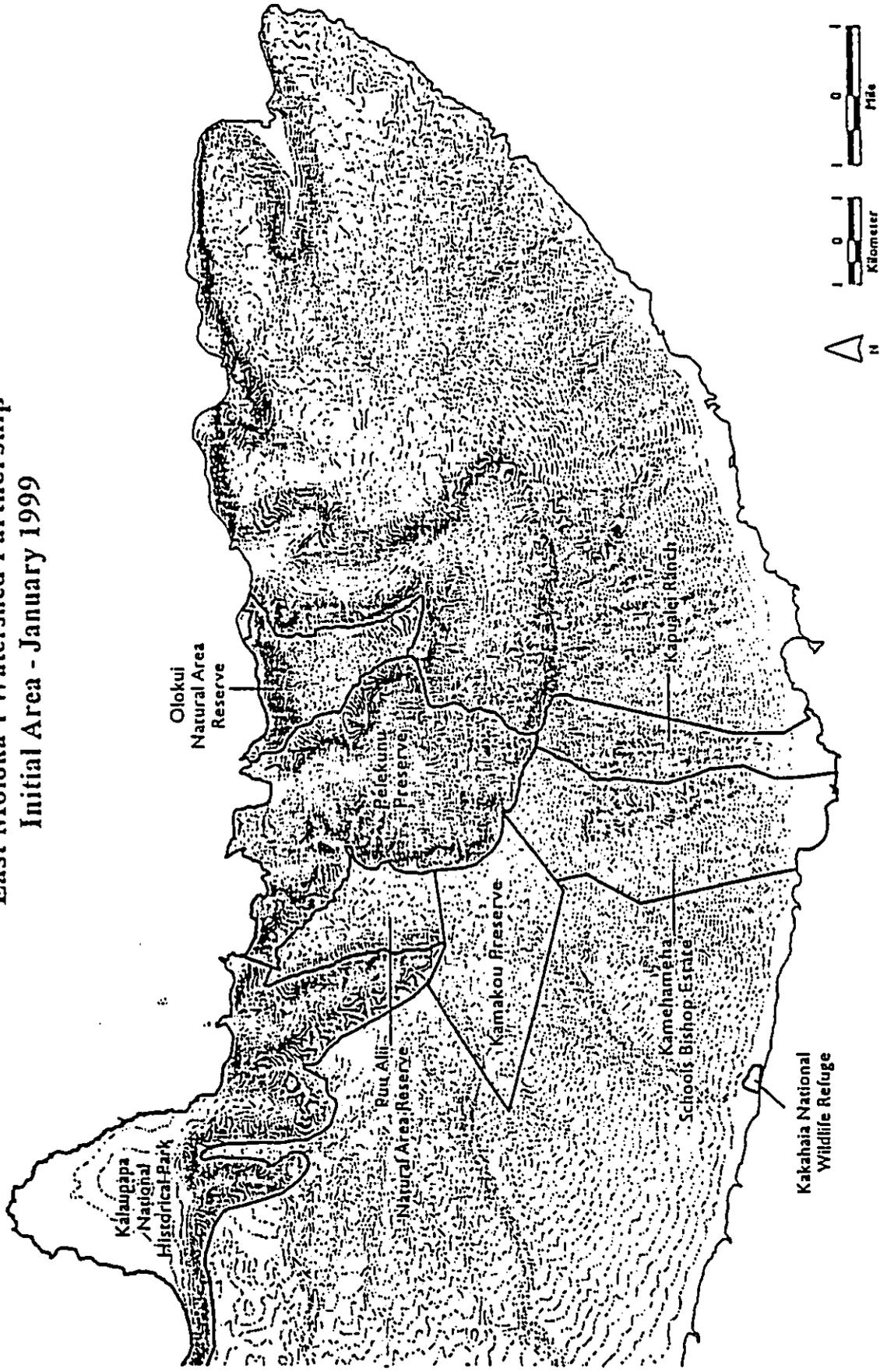
Kamalo is dominated by a steep canyon, 1500 feet deep and over half a mile wide at its head. The canyon is the most striking feature of East Molokai's ruggedly beautiful southern slopes (Figure 1). The incredible topography of the canyon and the stream-cut upper slopes that feed into it limits human access to the region. In the 1500 years human have been on Molokai, probably only a few dozen people have explored the lands above Kamalo's famous waterfalls, Hina, Haha and Mo' oloa. Kamalo is owned by Kamehameha Schools Bishop Estate.

Kapualei is comprised of a series of steep gulches/ridges east of Kamalo Canyon. The steep ridges culminate at the highest peak on Molokai, Kamakou (4974'). Like Kamalo, the upper reaches of Kapualei have remained relatively unexplored. Kapualei is owned by the Austin Estate.

Together, the two *ahupua'a* (land division) encompass about 5,000 acres, with about 3,000 of those acres within State Forest Reserve Conservation Zone. The "upper zone", above 3,500' elevation, contain the heart of some of the best remaining lush, intact Hawaiian forest that once covered the entire mountains of East Molokai and are home to hundreds of *endemic* Hawaiian plant and animal species.

Developed over millions of years, this forest is uniquely adapted to Molokai and to its variety of climate and soil. The forest acts as a protective "sponge," absorbing the abundant rainfall, preventing rapid soil loss, time releasing water into streams, and contributing water flow (and nutrients) to the reef as well.

East Moloka'i Watershed Partnership  
Initial Area - January 1999





### Degradation of the Watershed

The upper elevation rain forest above 3,500' elevation remains virtually intact between Haha falls/Kuana ridge (Kamalo) east to Wawa'ia gulch (Kapulei). Surveys into this area have revealed minimal if any, signs of pigs or alien (introduced, non-native) plant species. Pigs do occur west of Haha falls/Kuana ridge, especially above "Kamalo flats", at the head of the Kamalo gulch.

Feral animals have proven to be the main carriers, soil preparers, fertilizers and scarifiers of and for weed seeds. Pigs impact the understory (low growing ground cover plant communities) of this forest area which diminishes the water carrying capacity and allows non-native weeds a chance to become established in open soils of this area. Goats are the primary reason for the degradation of the rugged "middle zone". Goats roam in large numbers, free from natural predators and safe on the steep terrain, from hunters. These animals have pushed back the native forest and shrubland cover nearly 2 miles to about 3,500 feet in elevation, where a "browse line" is quite evident. The areas just below the browse line is a denuded grass land with many dead tree stumps, remains of a dying forest. The last wild cattle were removed from these areas in 1972-73. Axis deer prefer the low elevation kiawe forest and are very rarely seen in the elevations above 3,000 feet.

Ka' apahu, the most prominent landmark, is now a barren, stony desert where *'ohi'a* rain forest once stood and is representative of the bare, eroding ground that dominates the rugged landscape in the middle zone. There are still some small patches of remnant dry forest clinging to life on the steep walls. West of Kamalo gulch, remnants of native shrubland persists, spared from unrestricted goat browsing as hunters are able to access and hunt this area safely.

To maintain and/or increase the watershed capacity, it is essential to keep the upper zone free of animal intrusion and reduce erosion of the middle zone by promoting recovery of vegetation. Increased stream flow will directly benefit the landowners and tenants of these *ahupua'a* by having water available for cultural and economic activities, while reducing siltation that impact the near-shore reefs and fishponds.

### Management Plan

The Management Plan reflects priority strategies and costs for a two year period. The implementation of the strategies of this plan will help determine the long term management strategies. The plan is divided into four programs: Ungulate Control, Weed Control, Monitoring, and Partners. The goals and strategies for each program are discussed first, followed by a table projecting specific jobs and associated costs. Staff time allocations in person days are estimated with cost averaging \$100 a day. This includes a wide range of personnel levels and covers taxes, benefits, administrative and overhead costs.

#### Feral Animal Control

**Goal:** To keep the upper zone free of feral animals by preventing their movement into the upper zone and eliminating animals that may enter, and to reduce the number of goats in the middle zone to a level that will allow for vegetation recovery.

The protection of the rainforest in the upper zone (3500 feet to the summit) from feral animal (mainly pig and goat) intrusion and the reduction of goats in the "middle" zone (1000 -3500 feet elevation) will be the main management priorities in the first two years.

The construction of a fence along the lower edge of the upper zone is a key strategy to reduction and control efforts. The fence is needed primarily to control the movements of animals during control activities. The fence will be designed to allow animals to pass through the fence from the upper zone to the middle zone, but will prevent movement from the middle zone to the upper. Aerial shooting will be employed as a "last resort" effort, in the steep, inaccessible areas, of the upper zone (at the browse line) where fences cannot be constructed.

In the steep areas of the middle zone, helicopter herding will be used to push large goat herds from the steep walls of Kamalo canyon and Kapualei gulches into holding pens. The captured goats will then be distributed to the community.

A hunting program will be developed that organizes and involves community hunters in the safe, accessible areas of the upper middle zones to help reduce goat and pig populations.

Finally, Feral animal monitoring detects the level animals by actual sighting or by detecting their level of activity. Both methods will be deployed. In the upper zone, where vegetation dominates, survey transects will be established to detect

feral animal activity levels. In the middle zone, where vegetation is void, surveys can be conducted to estimate feral animal population numbers. Monitoring is essential in gauging the programs progress in the control of feral animal levels.

1. Construct Upper Zone Fence—complete by end of year 1

	person days		Costs
Survey/Mark Fence Route	10	personnel helicopter	1,000 2,000
Hire/Train Fence Crew (5)	10	personnel field gear safety gear	1,000 1,000 1,000
Purchase fence materials for 7 miles		150 rolls 5' hogwire 7,500' 8' t-post 50 rolls of barbed wire equipment/supplies one-way and access gates welding	30,000 60,000 3,000 3,000 2,000 1,000
Develop Campsites/remote shelters	10	Personnel 2 Remote Shelters helicopter camp gear	1,000 1,000 2,000 1,000
Construct Fence	400 16 wks	(5 crew, 1 leader) personnel helicopter Food & Supplies	70,000 30,000 10,000
		Fencing Total	220,000

2. Reduce middle zone goat populations--helicopter herding, holding pens

	person days		Cost
Construct Wing Fences and holding pens	40	10 rolls 400 6' post gates/welding personnel	2,000 4,000 1,000 4,000
Helicopter herding	30	personnel heli @ \$750/hr x 50 hrs	3,000 40,000
		Total	54,000

### 3. Community Animal Removal Hunting Program

	person days		Cost
Road Improvement-access to middle zone		Contract Bull dozer	4,000
Trail Improvement-access to upper zone		volunteer recruitment	1,000
Liability issues/legal costs			10,000
		Total	15,000

### 4. Remote Areas Animal Removal

	person days		Cost
Contract Pig Hunter-upper remote areas		contract pig hunter.	10,000
		helicopter	10,000
Limited aerial shooting-middle zone		helicopter	10,000
		Total	30,000

### 5. Feral Animal Monitoring

	person days		Cost
Establish 8 pig activity transects	15	personnel	2,000
500 meters each in upper zone, and goat		helicopter	3,000
population surveys in middle eroded zones		food/supplies/camp gear	1,000
		Total	6,000

### Weed Control Planning

Goal: To identify, map and develop strategies for the prevention and removal of key weed species that may cause further degradation.

The development of strategies for the prevention and/or removal of key weed species is essential for long-term management of watershed areas, especially in the upper zone.

	person days		Cost
Weed Survey/Mapping	15	personnel	1,500
Prevention/Removal Strategic Plan		helicopter	1,500
		Total	3,000

**Water/Soil Monitoring and Planning**

**Goal:** To gather baseline information for measuring resource change to provide information needed for decision making in the management of the watershed.

Measuring changes in natural resources is an essential component to any land management program. Water and vegetation monitoring will measure the changes in the overall increase (or decrease) of these resources over time. Changes may not be detected in the first two years, and the methods deployed will be used to detect long term changes.

	person days		Cost
Install stream/rain gauge station		USGS Program (shared costs)	30,000
Field Survey/Planning for Erosion strategies		MLSWCD	20,000
Establish Vegetation and Photo plots	10	personnel/supplies	2,000
		Total	52,000

**D. Partners**

**Goal:** To establish a partnership that will provide funding, resources, administration, and community support and involvement for management of the Kamalo/Kapualei watershed.

The establishment of the East Molokai Watershed Partnership (EMoWP) is essential to provide the resources and coordination needed to implement management for this project. The EMoWP Memorandum of Understanding is the legal document that expresses the commitment of the signed members of the EMoWP.

	person days		Cost
Coordinating meetings, planning, reporting, and field activities	30	Personnel	4,000
		supplies	1,000
		Travel/vehicles	2,000
		helicopter	3,000
Recruit and Develop funding sources	30	Personnel	3,000
Outreach planning and activities	30	Personnel	3,000
		supplies	1,000
		Helicopter	3,000
		Total	20,000

**Budget Summary**

Upper Fence	220,000
Wing Fences/Goat Herding	54,000
Community Hunt Program	15,000
Remote Area Animal Removal	30,000
Feral Animal Monitoring	6,000
Weed Control	3,000
Monitoring	52,000
Partners - Coordinating Partnership	20,000
<b>Total</b>	<b>400,000</b>

**Funding/Match Summary**

Federal Funding Sources	Funds	Require dMatch	State/County/Private Funding Sources	Funds	Inkind Services
USFWS PFW	50K	1:1	KSBE Kapualei Ranch	40K	5K
NRCS WHIP -- Kamalo	25K	3:1	Maui County Board of Water Supply	50K 25K	
NRCS WHIP -- Kapualei	25K	3:1	TNCH	50K	20K
Ke Aupuni Lokahi	100K		DOFAW MLSWCØ		5K 5K
<b>Total</b>	<b>200</b>			<b>165</b>	<b>35</b>

**Attachment 1: Partners Description and Roles**

**Kamehameha Schools Bishop Estate (KSBE):** KSBE was established in 1884 under the Will of Bernice Pauahi Bishop. Princess Pauahi was a great granddaughter of Kamehameha and the last descendant of his line of Hawai'i ali'i. Through her Will, Pauahi committed more than 378,500 acres of her inherited lands to the creation and maintenance of Kamehameha Schools. Thousands of Hawaiian youth from across the state are served through the programs of the Schools. On the island of Moloka'i, KSBE has joined with other ali'i trusts and Hawaiian organizations to create the Kulana 'Oiwi multi-service center at Kalama'ula. The Estate's landownership includes the 4,000 acre ahupua'a of Kamalo, running from the ridgeline adjoining Pelekunu to Kamahu'ehu'e fish pond.

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**Maui Board of Water Supply (Board):** The Board is responsible for the control, management and operation of the county's water systems and water sources. The Board is required to implement with the county general and community plans in carrying out its responsibilities. The mission of the Board is to "provide clean water efficiently." Recognizing that resources protection is inherent in both preserving water quality, and efficient use of resources, the Board's commitments to water resources protection and management have increased steadily over the past decade. Public-private partnerships such as the East and West Maui Mountains Watershed Partnerships have already proven to be useful for several reasons. The combined efforts of many, bring more energy, expertise, and focus to the protection of the watershed. United decision making and work management helps to improve planning and implementation, make projects run more smoothly, and to leverage funds for resource protection. The higher profile attached to partnerships increases the public's interest level and assists in generating public awareness and thereby in educating the general public as to their role in water protection. For these reasons, the Board is committed to on-going participation in partnerships, and in the East Moloka'i Watershed Partnership specifically. The Board is prepared to dedicate as needed, staff assistance, public outreach efforts and funding as appropriate.

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and to promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self sufficiency of the State. As a political subdivision of the State, then, the County has responsibility to monitor and protect its resources in a manner consistent with State policy. In recent years, the county has increased its commitments to resource protection in general, and to watershed protection specifically. The county has provided funding for watershed protection and miconia removal in Maui County over and above that contribution made by it's semi-autonomous water board. The County will support the East Moloka'i Watershed Partnership with funding or assistance from County personnel as appropriate.

**Moloka'i Enterprise Community Governance Board (Ke Aupuni Lokahi):** The Moloka'i Rural Empowerment Zone application was prepared in the summer of 1998 as part of a national competition between rural communities for USDA designation as a Rural Empowerment Zone (EZ) or an Enterprise Community (EC). The community planning process was spearheaded by a volunteer Coordinating Committee made up of representatives of Moloka'i's business, academic, social service, and government sectors. Seven subcommittees were created to address specific subject areas within the plan: Economic Development, Education, Environment, Hawaiian Culture, Health and Human Services, Recreation and Fine Arts, and Youth Leadership Development. In all, over 60 meetings were held by the various committees during a four month planning period, and these meetings involved nearly 200 individuals from all walks of life on Moloka'i. Two general public meetings were also held and about 300 people attended these meetings. Moloka'i's strategic plan is based on a vision statement that describes the way the island should be a decade from now. The statement paints a picture of strong and self-reliant community, a healthy and productive natural environment, and a living Hawaiian culture that nurtures and sustains the island and her people. Protection and enhancement of the island's environment was deemed critical to the health of Moloka'i's people and economy, and projects in this area were given high priority in the plan. Protection of water resources was a major concern, since a project looks at the islands natural resources as being connected through the ancient ahupua'a (mountain to seashore) system. Fittingly, the ahupua'a system also links natural resources to economic and human health activities.

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Watersheds, Moloka'i Heifer Project, the Moloka'i Agricultural Community (MAC) Program, and County Grading Reviews, Etc. The District continues to promote an awareness of our environment by working with community members and cooperation partners.

**The Nature Conservancy of Hawaii (TNCH):** TNCH is an affiliate of The Nature Conservancy, an international non-profit organization, whose mission is to preserve plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. TNCH manages three preserves on Moloka'i: Kamakou (Mountain/Leeward rainforest, shrublands and bog systems); Pelekunu (Windward rainforest and river systems); and Moomomi (coastal sand dunes). TNCH manages the three preserve out of their Moloka'i Office/baseyard located at the Moloka'i Industrial Park, off highway 760 in Kalamaula. TNCH also conducts Island wide community outreach and volunteer programs out of this office. Presently, there is a staff of 6 people. TNCH's role in the East Moloka'i Partnership is to: assist with the formation of the Partnership, develop community support and involvement, and provide administrative and operational support for the Kamalo-Kapualei watershed project.

**Natural Resource Conservation Services (NRCS):** NRCS, an agency of the U.S. Department of Agriculture works hand-in-hand with people and organizations, conservation districts, and other agencies to conserve natural resources primarily on private lands. The mission of NRCS is to provide leadership in a partnership effort to help people conserve, improve, and sustain our natural resources and environment. NRCS has a number of cost-share programs designed to provide technical assistance, coordination and funding for conservation projects. NRCS can contribute to the East Moloka'i Partnership in any of these ways.

**State Division of Forestry and Wildlife (DOFAW):** The Division of Forestry and Wildlife under the Department of Land and Natural Resources (DLNR) is responsible for the management and protection of all State-owned Forest Reserve lands, Natural Area Reserves, Bird and Plant Sanctuaries, and public hunting areas. The division has a number of programs in cooperative forest and wildlife management with private and public agencies and individuals that provide technical assistance and cost-sharing. The role of DOFAW in this partnership will be to provide technical assistance and in-kind services in the feral ungulate and alien plant control programs, and fire protection.

**State Department of Health, Polluted Runoff Control (PRC) Program:** The Polluted Runoff Control Program is a section within the Department of Health's Clean Water Branch. The mission of the PRC is to protect and improve the quality of water resources for enjoyment of and use by the people of Hawaii through preventing and reducing nonpoint source pollution, balancing health, environmental, economic and social concerns. The program is committed to the watershed initiative and recognizes the importance of watershed management as a tool in reducing polluted runoff. The PRC Program distributes federal CWA Section 319(h) grants along with state revolving fund loans to local entities for the promotion of practices or activities that reduce

polluted runoff, assists in the development of a coastal nonpoint pollution control program that is consistent with federal CZARA Section 6217; and sponsors numerous environmental outreach and educational activities.

**United States Fish and Wildlife Services (USFWS):** The mission of the USFWS is working with others to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of the American people. This statement acknowledges that working cooperatively with partner organizations, private landowners, and local communities is the best way to approach long-term conservation of our native ecosystems. The USFWS has a number of programs designed to provide technical assistance, coordination, and cost-share funding for conservation projects. It is anticipated that the USFWS will contribute to the East Moloka'i Partnership in all these ways.

**U.S. Environmental Protection Agency (EPA):** EPA Offers a variety of training and assistance programs to support local watershed management efforts. EPA's Watershed Academy provides technical watershed information and outreach through live training courses, the Internet, and published documents. EPA has a variety of grant programs that may provide financial support for projects on Moloka'i, including Environmental Justice, Sustainable Development Challenge Grants, Environmental Education, and Wetlands Protection Grants. In addition, EPA has obtained new funding to assist in the restoration of fish ponds on Moloka'i.

**KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment**

**MEMORANDUM OF UNDERSTANDING  
East Moloka`i Watershed Partnership**

**APPENDIX A**

05 10 99

**MEMORANDUM OF UNDERSTANDING**  
**East Moloka'i Watershed Partnership**

THIS MEMORANDUM OF UNDERSTANDING, made and entered into on the 12<sup>th</sup> day of November, 1999, by and between the US Environmental Protection Agency, Hawai'i Department of Health, Hawai'i Division of Forestry and Wildlife, Kalaupapa National Historical Park, Kamehameha Schools Bishop Estate, Kapualei Ranch, Maui County, Maui Board of Water Supply, Moloka'i Enterprise Community Governance Board, Moloka'i-Lana'i Soil and Water Conservation District, USDA Natural Resources Conservation Service, The Nature Conservancy, US Fish and Wildlife Service, and US Geological Survey - Water Resources Division, herein known as the EAST MOLOKA'I WATERSHED PARTNERSHIP (EMoWP) and hereinafter called the PARTNERS, agree to participate in cooperative management activities of the East Moloka'i watershed, on the basis of the following facts and circumstances:

WHEREAS, East Moloka'i's native ecosystems are important to the water resources for the island of Moloka'i; and

WHEREAS, active management is needed to maintain a healthy watershed in order to sustain the future quality and quantity of Moloka'i's water supply; and

WHEREAS, active management of these watersheds would also benefit Hawai'i's native flora and fauna; and

WHEREAS, the Hawaiian concept of the ahupua'a acknowledges that all parts of a watershed, from the mountains to the sea, are interconnected, and that activities carried out in one portion of a watershed can affect the rest of the watershed; and

WHEREAS, active management of the East Moloka'i watershed is also important to the programs of each the PARTNERS (Attachment 1); and

WHEREAS, the lands managed by some of the PARTNERS share common boundaries (Figure 1); and

WHEREAS, many of the threats to the forested watershed, such as feral ungulates, fire, insects, diseases, and invasive non-native plants, occur across these common boundaries; and

WHEREAS, significant economic and staffing advantages will accrue to the PARTNERS if the management of these threats is shared; and

WHEREAS, effective management is best achieved through the coordinated actions of all major landowners in the watershed.

NOW, THEREFORE, the PARTNERS hereby agree in principle as follows:

1. To develop jointly, where appropriate, watershed management plans for areas within the East Moloka'i Watershed Partnership, that will document resource values and identify priority watershed management objectives and strategies within the areas included in the Partnership.
2. To consider jointly, at such places and at such intervals as may be mutually agreed upon by the PARTNERS, general programs and management projects for the East Moloka'i Watershed Partnership.
3. To determine costs of watershed management programs and projects agreed upon in #2, and join in cooperative efforts to raise outside funds for those projects to the extent each PARTNER is authorized by law.
4. To develop and implement specific agreements and working plans for individual projects considered by all or some of the PARTNERS having mutual interests. Such agreements and working plans may be developed whenever appropriate.
5. To enter into specific agreements between all or some of the PARTNERS, as the occasion demands and to the extent each PARTNER is authorized by law, for the use of specialized equipment, hiring and supervision of personnel, transfer of funds, purchasing of supplies, and other matters pertaining to the general purposes of management agreed upon by all or some of the PARTNERS, on terms and conditions to be agreed upon between the affected PARTNERS. Expenditures under this Memorandum of Understanding will be determined by specific working agreements entered into under authority of this instrument.
6. That any partner may terminate its involvement in this Memorandum of Understanding by providing 90 days prior written notice to the other PARTNERS.
7. That this Memorandum of Understanding is not to be construed as an instrument which commits any "partner" to any specific expenditure of funds or to any exchange of funds for any purpose.
8. That additional partners may join the EMoWP, at a later date, by amendment of this agreement, if such addition is deemed appropriate by the current partners.
9. The use of the term "partnership" in this document is not intended to evidence formation of a legal partnership but rather to express a spirit of cooperation in attaining mutual goals among those identified as "partners." Hence there shall be no sharing of profits or losses, assets or liabilities. Those identified as "partners" shall not have the liability of partners, nor the power to bind others identified as partners. Rather each "partner" organization agrees that it shall be responsible for

any contract it makes or any injury it causes or any injury or damage suffered by it or by its own personnel or equipment.

10. That this Agreement does not modify any agency's existing authorities by reducing, expanding, or transferring any of the statutory or regulatory authorities and responsibilities of any of the signatory agencies.

IN WITNESS WHEREOF, the PARTNERS hereto have executed this Memorandum of Understanding as of the first date above written.

KAMEHAMEHA SCHOOLS BISHOP ESTATE

By: *[Signature]*

Date: 11-14-99

HAWAII DEPARTMENT OF HEALTH

By: *[Signature]*

Date: 11/17/99

KAPUALEI RANCH/JAMES AUSTIN OWNER'S REPRESENTATIVE

By: *[Signature]*

Date: 11-12-99

HAWAII DIVISION OF FORESTRY AND WILDLIFE

By: *[Signature]*

Date: 11/12/99

MOLOKA'I ENTERPRISE COMMUNITY GOVERNANCE BOARD

By: *[Signature]*

Date: 11-12-99

KALAUPAPA NATIONAL HISTORICAL PARK

By: *[Signature]*

Date: 11/12/99

US ENVIRONMENTAL PROTECTION AGENCY

By: *[Signature]*

Date: 11-29-99

MAUI COUNTY

By: *[Signature]*

Date: 11-12-99

MAUI BOARD OF WATER SUPPLY

By: [Signature]

Date: Nov 12, 1999

MOLOKA'I-LANA'I SOIL & WATER  
CONSERVATION DISTRICT

By: [Signature]

Date: 12 NOV. 99

USDA NATURAL RESOURCES  
CONSERVATION SERVICE

By: [Signature]

Date: Nov. 21, 1999

THE NATURE CONSERVANCY

By: [Signature]

Date: Nov. 12, 1999

US FISH AND WILDLIFE SERVICE

By: [Signature]

Date: November 17, 1999

US GEOLOGICAL SURVEY - WATER  
RESOURCES DIVISION

By: [Signature]

Date: Nov. 22, 1999

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**Kalaupapa National Historical Park (NPS):** The National Park Service mission is to manage units of the national park system so as to conserve the scenery and the natural and historic objects and the wild life therein in an unimpaired condition for the enjoyment of future generations. The NPS strives to manage natural resources at the ecosystem scale, and recognizes the essential role of cooperative partnerships to preserve ecosystems across administrative boundaries. Cooperative management of Kalaupapa NHP land with adjoining land managers in the control of feral ungulates, alien plants, and water quality and quantity has proven to be cost effective and efficient. The NPS will provide technical assistance in the monitoring and management of feral ungulates and invasive alien plants.

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CONSERVATION PLAN

Client: Ed Misaki Kam Schools Bishop Estate  
 Assisted By: dk

LAND UNITS		PLANNED			PLANNED CONSERVATION TREATMENT
TRACT	FIELD	AMOUNT	MONTH	YEAR	
					dryland forest
0869	1	1598.0ac			Pasture will be intensively grazed and managed. The proposed grazing management system will improve or maintain forage production, reduce erosion, and protect nearby coastal waters from sedimentation and other pollution.
0869	1	18480.0ft	08	2000	FENCE (382) Construct a conventional fence to control livestock movement at location shown on plan map. An exclusion fence will be erected between the 3000' and 3500' elevation to protect native forest from damage by feral animals.
0869	1	1400.0ac	08	1999	UPLAND WILDLIFE HABITAT MANAGEMENT
	1	1400.0ac	08	2000	Create, maintain or enhance area(s) to provide upland wildlife food and cover.
	1	1400.0ac	08	2001	After fencing is complete area will be monitored to document regrowth of native forest.
	1	1400.0ac	08	2002	
	1	1400.0ac	08	2003	

NONDISCRIMINATION STATEMENT

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

0869

RESOURCE IMPACT SUMMARY  
 FOR  
 Kam Schools Bishop Estate

	Tract	Field	Subfld	Acres
1400de fence	0869	1		1400.0
outside fence	0869	2		198.0

Benchmark SYSTEM  
 Plateau, Benchmark

Landuse/history: TMK 5-5-01:16 is a 1193 acre parcel owned by Kamehameha Schools Bishop Estate. Past landuse of the lower elevations include cattle ranching. More recently the land is not in any agricultural use. Feral goat herds have severely impacted the upper dryland forest and are working their way up to the rain forest and nature preserves. Several endangered species occur in this area and the State DoFAW maintains several protected exlosures. Rainfall ranges from 10" to 150" per year at upper elevations. Soils are mostly rough broken land and severely eroded soils.

Benchmark PRACTICES

Planned SYSTEM  
 Plateau, Grazing

Pasture will be intensively grazed and managed. The proposed grazing management system will improve or maintain forage production, reduce erosion, and protect nearby coastal waters from sedimentation and other pollution.

Planned PRACTICES

FENCE (382)  
 UPLAND WILDLIFE HABITAT MANAGEMENT

RESOURCE CONCERN Category	EFFECTS Benchmark	EFFECTS Planned	IMPACTS (Difference/Change)
ANIMALS (WILDLIFE) HABITAT, Upland Wildlife Habitat	Native wildlife is being adversely affected by loss of native habitat and habitat alteration.	Wildlife will benefit by improved vegetation.	
ANIMALS MANAGEMENT, Population-Resource Balance	Feral goat numbers are out of control and are seriously damaging the upland resources.	Fencing, trapping, aerial hunting and on foot hunting will control animal numbers.	
HUMAN CULTURAL, Absence or Presence	Cultural sites are known to exist at the lower elevations of this property. No archeological survey available for higher elevations.	Cultural resources will be excluded from planned agricultural activities.	
HUMAN SOCIAL, Private & Public Values	This effort is part of a community supported plan to restore degraded areas of the island.	Good public relations effort which will focus on environmental restoration.	

APPENDIX B

0869

RESOURCE IMPACT SUMMARY  
 FOR  
 Kam Schools Bishop Estate

RESOURCE CONCERN Category	EFFECTS Benchmark	EFFECTS Planned	IMPACTS (Difference/Change)		
PLANTS CONDITION, Plants Health & Vigor	Those plants remaining are in poor condition due to trampling, rubbing and lack of nutrient cycling.	Plants will have the chance to re-establish naturally.			
PLANTS CONDITION, Productivity, Kinds, Amt. & Distrib. plant prod	Dryland forest cover has been severely affected by uncontrolled grazing by overpopulation of feral goats.	Implementation of a grazing management plan and installation of other appurtanent structures increase forage production.			
PLANTS MANAGEMENT, Other	Presently, there is no management plan for plant protection or regeneration.	Area will be monitored to assess plant recovery.			
PLANTS MANAGEMENT, Threatened and Endangered Species	Some threatened and endangered species are known to occur in this and adjacent locations. DoFAW manages a few exclusions to protect some known locations.	Area around threatened and endangered plants will be excluded from operations.			
SOIL CONDITION, Other	Soils are described as being strongly acid at surface and strongly acid in subsurface layer. Little to no nutrient cycling as there is limited vegetative cover.	Soils will not be fertilized. Natural plant decomposition will enhance soil.			
SOIL EROSION, Sheet & Rill	Soil loss exceeds acceptable tolerance level. Sheet & rill erosion estimated at 70 tons/acre/year. Upper elevations of this tract are almost devoid of vegetation due to goat damage.	Sheet & rill erosion will be reduced to an acceptable soil loss tolerance.	Significant Reduction		
SOIL EROSION, Sheet & Rill, USLE					
Tract	Field	Subfld	Tons/Ac/Yr	Tons/Ac/Yr	Tons/Ac/Yr
0869	1		70.100	4.200	65.900 reduced
0869	2		70.100	4.200	65.900 reduced
SOIL EROSION, Streambank	Stream banks and bottoms are not stabilized.	Removal of feral animals will allow vegetation to recover.			

APPENDIX B

0869

RESOURCE IMPACT SUMMARY  
 FOR  
 Kam Schools Bishop Estate

RESOURCE CONCERN Category	EFFECTS Benchmark	EFFECTS Planned	IMPACTS (Difference/Change)
SOIL EROSION, Wind	Strong winds in this area contribute to erosion problem.	Amount and velocity of wind will be reduced in treated area.	Slight Reduction
WATER QUALITY, Surface Water Contaminants, turbid surface water	Suspended sediment and turbidity adversely affects aquatic habitat, recreational waters, and other intended uses. According to DOH reports, state water quality standards have been exceeded for turbidity in some coastal waters.	Amount of sediment in runoff water is minimized.	
WATER QUANTITY, Excess Amounts, runoff/flooding	Floodwaters cause damage to cropland and residential areas.	Amount of vegetation will increase allowing improved water infiltration and a slowing of overland flow.	

NONDISCRIMINATION STATEMENT

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

CONSERVATION PLAN

Client: Maioho, George W Kapualei Ranch  
 Assisted By: dk

LAND UNITS		PLANNED			PLANNED CONSERVATION TREATMENT
TRACT	FIELD	AMOUNT	MONTH	YEAR	
					upland reserve
001	1a	550.0ac			TMK 5-6-06:1 is a 1678 acre parcel owned by James "Kimo" Austin. Land use at the lower elevations is cattle and horse grazing. Upper elevation is not in agricultural use and is in the State resource conservation district. Feral goat herds have severely impacted upper dryland forest and are working their way up to the rainforest and nature preserves. Several endangered species occur in this area and the State DoF&W maintains several protective exclusions. Rainfall ranges from 10" to 150" per year at upper elevations. Soils are mostly rough broken land and severely eroded soils.
001	1a	8140.0ft	03	2001	FENCE (382) Construct a fence for use as a barrier to wildlife and livestock. A barrier fence will be used to protect upland forest from further damage by goats. Fence will allow one way (down) animal movement only.
001	1a	550.0ac	09	2000	UPLAND WILDLIFE HABITAT MANAGEMENT
	1a	550.0ac	03	2001	Areas inside protective fence will be monitored periodically to establish the rate of plant regeneration and the amount. Information from this project may be used as the basis of other funding requests for various agencies.
	1a	550.0ac	03	2002	
	1a	550.0ac	03	2003	
	1a	550.0ac	03	2004	

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0822

RESOURCE IMPACT SUMMARY  
 FOR  
 Kapualei Ranch

	Tract	Field	Subfld	Acres
upland habitat	001	1a		550.0

Benchmark SYSTEM  
 Plateau, Benchmark

Upper elevation fenceline will protect forest from further goat damage and will allow for regeneration. Goat numbers will be reduced by trapping and hunting and plant populations are expected to increase as grazing pressure is reduced.

Planned SYSTEM  
 Plateau, Grazing

TMK S-6-06:1 is a 1678 acre parcel owned by James "Kimo" Austin. Land use at the lower elevations is cattle and horse grazing. Upper elevation is not in agricultural use and is in the State resource conservation district. Feral goat herds have severely impacted upper dryland forest and are working their way up to the rainforest and nature preserves. Several endangered species occur in this area and the State DoPaW maintains several protective exclusions. Rainfall ranges from 10" to 150" per year at upper elevations. Soils are mostly rough broken land and severely eroded soils.

Benchmark PRACTICES

Planned PRACTICES

FENCE (382)  
 UPLAND WILDLIFE HABITAT MANAGEMENT

RESOURCE CONCERN Category	EFFECTS Benchmark	EFFECTS Planned	IMPACTS (Difference/Change)
ANIMALS (WILDLIFE) HABITAT, Upland Wildlife Habitat	Native wildlife is being adversely affected by loss of native habitat and habitat alteration.	Wildlife will benefit by improved vegetation.	
ANIMALS MANAGEMENT, Population-Resource Balance	Feral goat numbers are out of control and are seriously damaging the upland resources.	Fencing, trapping, aerial hunting and on foot hunting will control animal numbers.	
HUMAN CULTURAL, Absence or Presence	Cultural sites are known to exist at the lower elevations of this property. No archeological survey available for higher elevations.	Cultural resources will be excluded from planned agricultural activities.	
HUMAN SOCIAL, Private & Public Values	This effort is part of a community supported plan to restore degraded areas of the island.	Good public relations effort which will focus on environmental restoration.	

APPENDIX C

0822

RESOURCE IMPACT SUMMARY  
 FOR  
 Kapuaiei Ranch

RESOURCE CONCERN Category	EFFECTS Benchmark	EFFECTS Planned	IMPACTS (Difference/Change)		
PLANTS CONDITION, Plants Health & Vigor	Those plants remaining are in poor condition due to trampling, rubbing and lack of nutrient cycling.	Plants will have the chance to reestablish naturally.			
PLANTS CONDITION, Productvty, Kinds, Amt, & Distrib. plant prod	Dryland forest cover has been severely affected by uncontrolled grazing by overpopulation of feral goats.	Implementation of a grazing management plan and installation of other appurtanant structures increase forage production.			
PLANTS MANAGEMENT, Other	Presently, there is no management plan for plant protection or regeneration.	Area will be monitored to assess plant recovery.			
PLANTS MANAGEMENT, Threatened and Endangered Species	Some threatened and endangered species are known to occur in this and adjacent locations. DoFAW manages a few exclusions to protect some known locations.	Area around threatened and endangered plants will be excluded from operations.			
SOIL CONDITION, Other	Soils are described as being strongly acid at surface and strongly acid in subsurface layer. Little to no nutrient cycling as there is limited vegetative cover.	Soils will not be fertilized. Natural plant decomposition will enhance soil.			
SOIL EROSION, Sheet & Rill	Soil loss exceeds acceptable tolerance level. Sheet & rill erosion estimated at 70_ tons/acre/year. Upper elevations of this tract are almost devoid of vegetation due to goat damage.	Sheet & rill erosion will be reduced to an acceptable soil loss tolerance.			
SOIL EROSION, Sheet & Rill, USLE					
Tract	Field	Subfld	Tons/Ac/Yr	Tons/Ac/Yr	Tons/Ac/Yr
001	1a		70.100	4.200	65.900 reduced
SOIL EROSION, Streambank	Stream banks and bottoms are not stabilized.	Removal of animals will allow vegetation to recover.			
SOIL EROSION, Wind	Strong winds in this area contribute	Amount and velocity of wind will be			

APPENDIX C

0822

RESOURCE IMPACT SUMMARY

FOR

Kapualei Ranch

RESOURCE CONCERN Category	EFFECTS Benchmark	EFFECTS Planned	IMPACTS (Difference/Change)
	to erosion problem.	reduced in treated area.	
<b>WATER QUALITY, Surface Water Contaminants, turbid surface water</b>	Suspended sediment and turbidity adversely affects aquatic habitat, recreational waters, and other intended uses. According to DOH reports, state water quality standards have been exceeded for turbidity in some coastal waters.	Amount of sediment in runoff water is minimized.	
<b>WATER QUANTITY, Excess Amounts, runoff/flooding</b>	Floodwaters cause damage to cropland and residential areas.	Amount of vegetation will increase allowing improved water infiltration and a slowing of overland flow.	

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KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment

United States  
Department of  
Agriculture

Natural  
Resources  
Conservation  
Service

P.O. Box 50004  
Honolulu, HI  
96850

*Our People...Our Islands...In Harmony*

DATE: May 8, 2000

TO: Sheila Cox  
USDA Natural Resources Conservation Service  
Hoolehua Field Office

SUBJECT: Fence Standards

I would recommend the use of triple galvanized fencing materials to prolong the effective life span of the fencing project. It is especially pertinent for this wildlife fencing project since access is extremely difficult.

Please call me at (808) 54102600 x 111 if you have any questions.

Sincerely,

LARRY SHINSHIRO  
Conservation Agronomist

cc: Terrell Kelley, Biologist

OPTIONAL FORM 10 (7-20)

FAX TRANSMITTAL

# of pages = 1

TO SHEILA COX	From SHINSHIRO
Dept./Agency NRCS	Phone # (808) 541-2600 x 111
Fax #	Fax #

NSN 7540-01-317-7388

5010-101

GENERAL SERVICES ADMINISTRATION

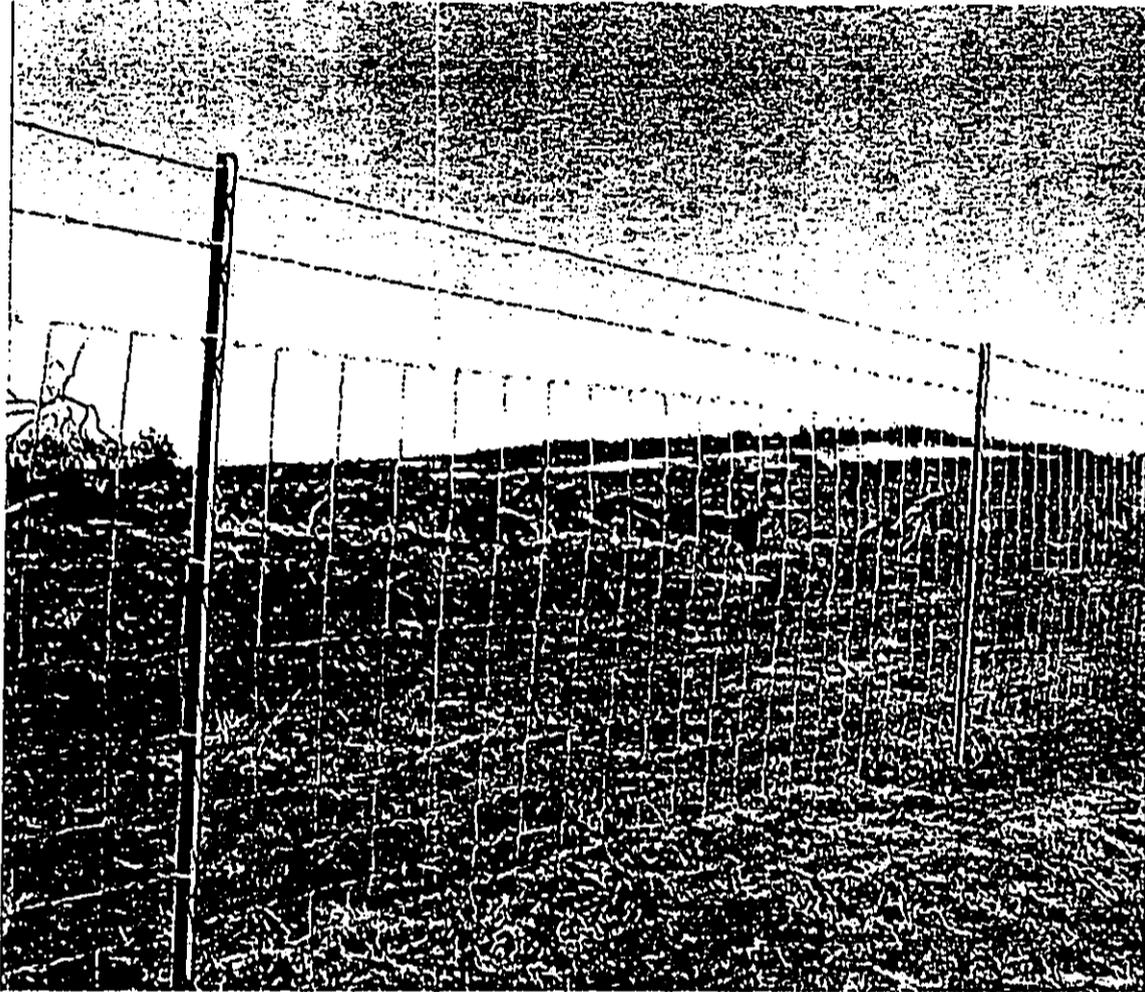
The Natural Resources Conservation Service works hand-in-hand with the American people to conserve natural resources on private lands.

**APPENDIX D**  
AN EQUAL OPPORTUNITY EMPLOYER

DOCUMENT CAPTURED AS RECEIVED

KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment

Kamalo/Kapualei Fence Specifications



- 47" Hog wire mesh, triple-dipped galvanized
- 7' galvanized t-post
- Standard galvanized barbed-wire – two top strands (4"-6" spacing between each barbed wires and top of mesh), one bottom strand below bottom of wire mesh (if possible embedded in surface of the ground)
- 8 fence clips per post – 5 on wire mesh, 3 for each barbed wire
- Corner bracing – see attachment
- Kamalo Section Approx. 3.0 miles
- Kapualei section Approx. 2.5 miles

**BRACING HARDWARE FOR T-POSTS**

Part #101 Universal Collar  
Fits any U.S. (Small, Medium or Heavy), Canadian or Mexican T-post. It is locked in place between tugs by Heavy Wedge #102. Collar accepts and holds bracing sockets and accessories. These can be attached on all 4 sides of collar.



Part #102 Heavy Wedge  
Fits all American (small, medium & heavy) Mexican and Canadian T-posts. Slip over rear flange of post to lock collar in place. When using Canadian made T-posts, use 1/4" bolt to secure to post.



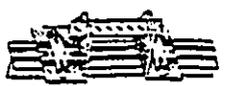
Part #106 60° Socket  
This socket attaches to collar, accepts and holds in place T-post used for diagonal brace. May also be used to brace wooden post with T-post.



Part #107 90° Socket  
This socket attaches to collar, accepts and holds in place T-post used for horizontal brace. May also be used to brace wooden post with T-post.



#115 - Gate Hinge  
Allows you to hang a gate on a T-post up to 10'.

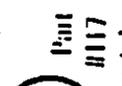


**ACCESSORIES FOR THE WEDGE-LOC™ SYSTEM ACCESSORIES FIT ON THE COLLAR. PREPUNCHED HOLES FOR BOLTS, SCREWS, ETC. FOR SECURING 2x4, 2x6, etc.**  
*For each accessory you will need one collar & one wedge*

Part #116 Universal Bracket  
can be used as a hot wire holder (with insulator insert), for making a shed roof, mounting a mail box or bird house, etc, just by bending to the needed angle.



Part #120 Plywood Holder for sheds... (reverse for holding the top of the board)  
Part #117 Supra-tube insulator insert for hot wire  
Part #119 2x4/2x6 Holder for wood members, rafters, etc.



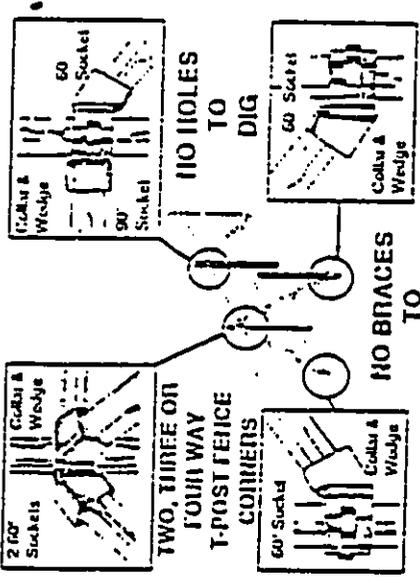
**Wedge-Loc™ Bracing Hardware for T-posts**

**YOU'LL NEVER HAVE TO DIG ANOTHER POST HOLE FOR CONCRETE OR SET EXPENSIVE HEAVY WOODEN POSTS!**

**ERECT A CORNER IN APPROXIMATELY 15 MINUTES OR LESS!** Now you can quickly and economically erect a corner with the bracing needed for tight stretched wire fencing using regular steel fence posts, commonly known as "T-posts".

Wedge-Loc™ hardware fits all steel U.S., Canadian & Mexican T-posts and works with ALL types of fence material for both permanent and temporary fencing needs. The Wedge-Loc™ collar will hold up to 4 sockets to let you build 2, 3 or 4 way corners. Start and finish a fence line or barricade fence anywhere! Build a fence for total grazing, temporary pastures, snow fence, trellising for fruit... virtually any kind of fence you want that needs to be braced.

**BUILD A CORNER IN NO TIME!!!**



Tests performed at the University of Arizona proved the durability of Wedge-Loc™ hardware. The wires broke at 2900 lbs. of pull and the testing was stopped. (The average combined pull on a 4-strand 12.5 ga. wire fence is 500 - 700 lbs.)

**WEDGE-LOC™ HARDWARE WAS STILL EFFECT AND DURABLE FOR**



**Bracing Hardware for T-posts**

FOR THE FIRST TIME... WITH WEDGE-LOC™ BRACING HARDWARE... AND NO HOLES TO DIG... NO MORE WOODEN POSTS... WE SAVE MONEY!



**INSTALLATION with a POST DRIV and FENCING PLIERS**

Bracing system using T-posts with T-Fits all!

U.S., Canadian & Mexican steel T-posts

Wedge-Loc™ Co. Inc.

1500 N. Pendleton Drive, Rio Rico, AZ. 85648  
U.S. Patent - #4,889,322 - #4,979,724  
#5,046,705 - #5,224,241  
Mexico Patent - #166,700 Canada Patent - #1,331,684  
Patents Pending

**1-800-669-7218**

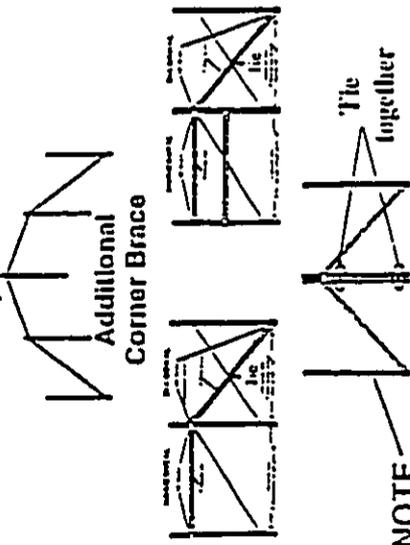
Made in U.S.A. ©1991 Wedge-Loc™ All rights reserved

KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment

# WEDGE-LOC™

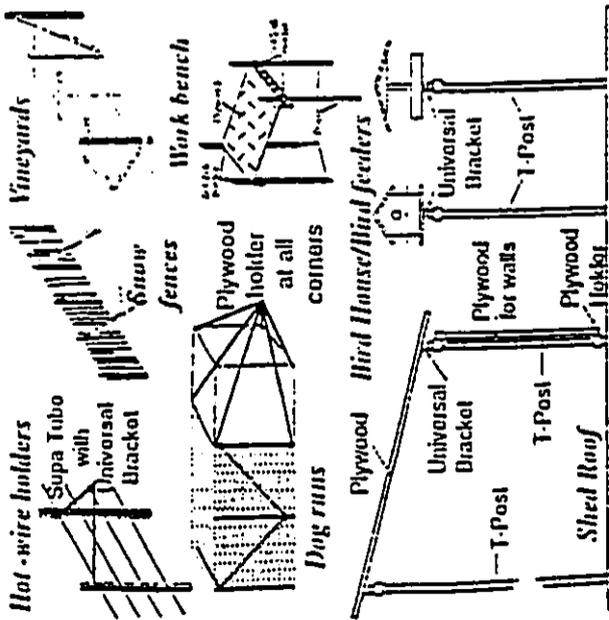
Bracing suggestions & ideas

Mix and match diagonal & horizontal braces to build your own style of brace.



**NOTE**

If you have a corner that is not square, and is running off on a different angle, just install two separate single diagonal braces in the direction of your fence line and wire the posts together.



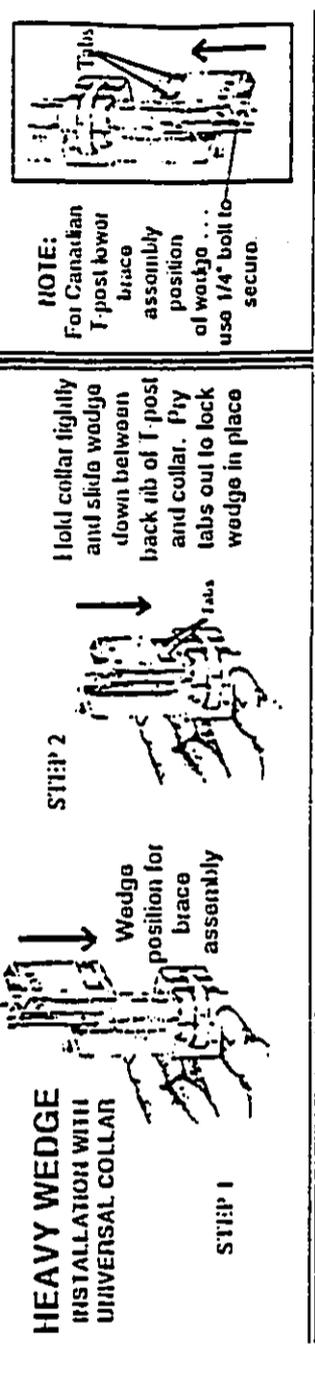
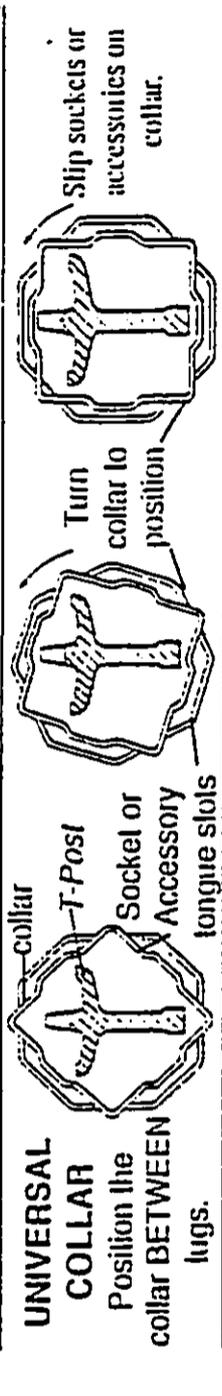
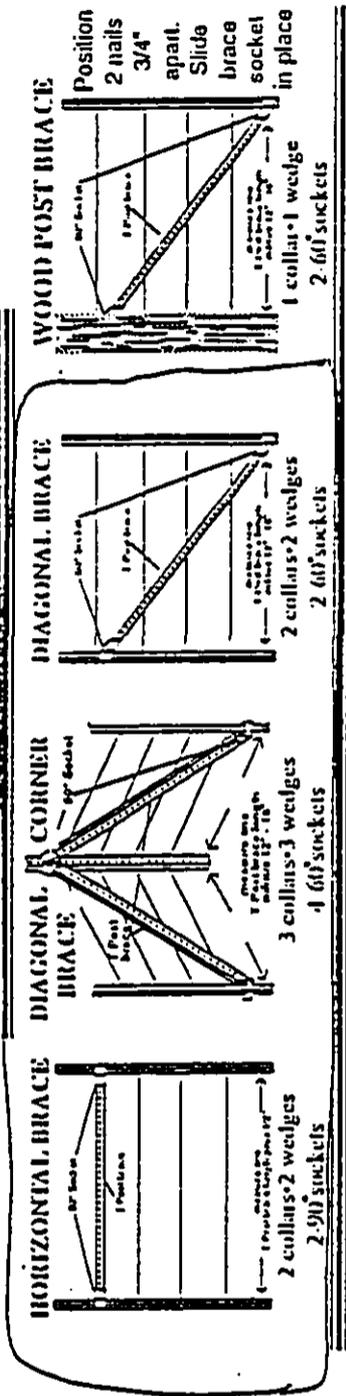
**ALL WEDGE-LOC™ PARTS ARE REUSEABLE AND COMPLETELY GUARANTEED!**

## INSTALLATION with a POST DRIVEN and FENCING PLIERS Bracing system using T-posts with T-posts. Fits all U.S., Canadian & Mexican steel T-Posts

• **IMPORTANT** • Follow these instructions for best results.

For maximum strength, face lugs on T-Post in direction of brace where Wedge-Loc™ hardware is installed. Choose the type of bracing system you need (in-line or corner brace)

\*\*\*BE SURE ALL POSTS ARE IN LINE & SQUARED UP\*\*\*



**NOTE:** For Canadian T-post lower brace assembly position of wedge... use 1/4" bolt to secure.

**TIPS:**

- On main corner & end posts, wrap wires alternately, first one direction, next the other direction, to prevent post from twisting.
- If T-post turns in the ground causing misalignment, take a pipe wrench and connect to T-post at ground level. Then slowly twist T-post back into proper alignment.
- For heavy pulls, use a diagonal brace wire (opposite direction of brace) and tie the brace post to brace wire where they cross in center.
- Use 7' or 8' T-Post in corners, drive in 2' - 3' where needed in some soils. (If 7' or 8' T-Posts are unavailable, drive two posts back to back with one post deeper.)
- Install bottom wire first. For additional strength, use cross wires.
- On the brace T-post, remove spade with hammer. To adjust tension on brace if it's too loose or tight, tap one of the other up-right post deeper into the ground.
- For additional strength and stability use a diagonal brace when using horizontal brace.

**IF NEEDED:** For more strength in the corners, tubular posts by putting T-Posts back to back, as shown in diagram, wire together with one post higher to hold collar for Wedge Loc bracing system.

**TOP VIEW**

BENJAMIN J. CAYETANO  
GOVERNOR OF HAWAII

KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment



TIMOTHY E. JOHNS, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES  
JANET E. KAWILO

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION  
Kakuhewa Building, Room 555  
501 Kamehameha Boulevard  
Honolulu, Hawaii 96807

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
CONSERVATION AND RESOURCES  
ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
LAND  
STATE PARKS  
WATER RESOURCE MANAGEMENT

REF: HP-JEN

JUN 29 1999

MEMORANDUM

LOG NO: 23631 ✓  
DOC NO: 9906SC20

TO: Denise Light  
USDA-Natural Resources Conservation Service  
Moloka'i Field Office  
P.O. Box 396  
Ho'olehua, Hawai'i 96729

FROM: Timothy Johns, Chairperson, and *Timothy E. Johns*  
State Historic Preservation Officer

SUBJECT: National Historic Preservation Act, Section 106 Compliance - Proposed  
Kamalo/Kapualei Two-Year Management, Funding, and East Molokai  
Watershed Partnership Memorandum of Understanding (MOU) Proposal  
Kamalo and Kapualei Ahupua'a, Moloka'i  
TMK: 5-5 and 5-6

Thank you for the opportunity to review the proposed partnership among Kamehameha Schools Bishop Estate (KSBE), The Nature Conservancy, and Kapualei Ranch. These entities plan to establish, over the initial two-year period, a long-term program of protection and preservation of the relatively intact rain forest which exists above the 3,500-foot elevation (the "upper zone") between Haha Falls and Kuana Ridge in Kamalo east to Wawa'ia Gulch in Kapualei. The major management problem for this region is the presence of feral ungulates (pigs and goats) whose foraging destroys the vegetation and degrades the ground surface. A secondary goal is the reduction of feral ungulates in the "middle zone," between the 3,500-foot and 1,000-foot elevations, and restoration of the vegetation. In order to protect the upper zone, the partnership plans to construct a fence along its lower border. Additional activities in the upper zone include the development of campsites or remote shelters and the improvement of trails in the area. In the middle zone, the management plan calls for the construction of wing fences and holding pens, and the improvement of access roads in the area. The role of the National Resources Conservation Service (NRCS) is financial, with federal funds being supplied to the participants through the WHIP program.

APPENDIX E

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DOCUMENT CAPTURED AS RECEIVED

Ms. Denise Light  
Page 2

According to our records, SIHP No. 50-60-04-305, an old fort or *heiau*, was said to be on top of Ka'apahu Peak, which is near the fenceline separating the upper and middle zones of the subject project area. A field inspection conducted in 1968 did not confirm the site's presence in that location. It is possible that other pre-Contact Hawaiian sites are present on the ridge flats of the upper zone; such sites would include temporary habitation and agricultural features. The ridge flats of the middle zone may also have some archaeological sites of similar types. Portions of SIHP No. 50-60-04-308, a large archaeological site complex comprising over 500 features may lie in the lowest reaches of the middle zone (between the 250-foot and the 500-foot elevation lines in the Wawaia and Kapualei drainages). SIHP No. -308 includes habitation, religious, agricultural, and burial features. There may be similar types of features on other ridge flats at these elevations in the project area.

In view of these facts, we would recommend that the fenceposts at the lower margins of the middle and upper zones be installed by hand, with no mechanical grubbing or clearing of the fenceline corridors. If this is done, then we believe that there will be "no effect" on significant historic sites which may be present in the project area.

Should you have any questions, please feel free to call Sara Collins at 692-8026.

c: Cultural Resources Comm, Maui Png Dept, 250 S. High St, Wailuku, HI 96793  
Ms. Barbara Haliniak, Chair, Molokai Png Comm, P.O. Box 976, Kaunakakai 96748  
Ms. Carol T. Kawachi, Cultural Resource Specialist, USDA, Natural Resources  
Conservation Service, P.O. Box 636, Kealahou, HI 96750

KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment

# MOLOKA'I ENTERPRISE COMMUNITY

40 Projects in Moloka'i's 10-Year Strategic Plan

- **Purchase/Acquire Land from Offshore Owners for the Community.** 35% of Moloka'i's land is owned by large landowners, most of whom are not residents of Moloka'i. In fact, Moloka'i has the highest percentage of foreign-owned land of any island in Hawaii. Many of the island's most divisive controversies have been sparked by the plans of offshore landowners to develop projects that may not be compatible with Moloka'i's environment, lifestyle or culture. As long as most of Moloka'i's land is controlled by non-resident owners, the Moloka'i community will never have the ultimate say over how these resources are used. The problem is compounded by the fact that Moloka'i is not self-governing, and thus must look to off-island politicians and administrators to protect its interests. Other communities across the nation have resolved similar problems by creating community-based land trusts and negotiating for the sale or donation of lands to these trusts. This project calls for the creation of such a land trust, governed by the community, in hopes that we may eventually bring ownership of our island back home to the people who live here.

- **Watershed Protection for East End Native Forests.** Moloka'i's last native forests are disappearing as a result of damage by goats, deer and pigs. These East End forests serve as the watershed for the rest of the island. This test project combines fencing with open access for landowners in areas where private landowners are willing to enter into conservation partnerships. The fences will keep the animals from moving freely in and out of the forest, enabling hunters to capture them more easily. The combination of fences and increased access for hunters should help to control the feral animals that are helping to destroy our watershed.

- **Leadership & Associate Training.** The young people who participated in this committee recommended just one general project, aimed at building the future leadership of our island. The various components of this project include:

1. Leadership training workshop.
2. A young voter registration drive.
3. Entrepreneurship programs.

4. Revival of the Moloka'i Jaycees
5. Partnership Projects:
  - (1) Kaunakakai Revitalization.
  - (2) Other projects.
  - (3) Mentoring program.
  - (4) Develop a ways and means committee.
  - (5) Develop a list of resource people and agencies.
  - (6) Help redevelop youth leadership sector.

- **Taro and Fishpond Production Development.** This project calls for the restoration and planting of 400 acres of taro lo'i, primarily on the East End and North Shore of Moloka'i, and the restoration and operation of Moloka'i's ancient fishponds. Taro: Hawaii currently has only 275 acres in taro production, total, which translates into \$12 million in sales. Local growers cannot meet the demand for taro. If Moloka'i can restore 400 acres for taro production, this crop alone will generate a huge boost to our economy. The project will require the partnership of a number of private landowners, as well as land-clearing equipment and taro cuttings. Fishponds: The fishponds may be used for contemporary aquaculture, which should provide at least a subsistence living for the families that work them. In addition, restoring the fishponds will create a protective barrier along our coastline for our offshore reefs and fisheries. The fishponds will also be economically valuable as destinations for "cultural tourism," since they are found nowhere else in the world. An existing non-profit organization, Hui O Kuapā, could be used to coordinate the fishpond project, which will include trying to streamline current fishpond permit requirements.

- **Learning Centers in Each Community District.** Many Moloka'i residents do not have ready access to educational facilities. The Headstart program has been phased out, leaving just one site in Kaunakakai. Pre-school children from Maunaloa or the East End must now be bused up to 20 miles each way in order to attend classes in town. As a result, few children from Moloka'i's outlying areas now attend Headstart. Adults who want to continue their educations have similarly limited

opportunities. This project would create learning centers in each of Moloka'i's geographical districts, where classes from early education to adult education would be offered. These centers could be added to existing community facilities in order to minimize costs.

- **Food processing facilities** (commercial kitchens, packing plants, poi shops). If Moloka'i is to be a production-based, agricultural community, we need places to process the food that we produce. Many people expressed a need for these kinds of facilities, from taro growers on the East End to farmers in Ho'olenua.

- **Moratorium on Additional Water Transfers Pending a Water Management Plan.** The most recent scientific estimates of Moloka'i's sustainable water resources show that the island does not have enough water for all of the developments planned by the island's major landowners. The most recent estimates put Moloka'i's total sustainable water yield at only 33.5 million gallons per day (mgd). But the estimated future demand for water is 61.95 mgd, much of it for the dry West End. The most heated controversies on the subject have involved attempts by West End landowners to transport water from the East End watershed to the dry western part of the island. Because wells in the island's main wellhead area at Kuaiapu are becoming saltier, and because recent large-scale diversions of stream water from the forests of the East End have caused concern among forestry and aquatic resource experts, this project proposes a moratorium on the transfer of any more water from east to west until a comprehensive water management plan can be prepared. This water management plan will build on the report issued by the DLNR Water Working Group in 1993, and on recent water studies by the U.S. Geological Survey.

- **Multi-Disciplinary Human Services Center.** This project would consolidate compatible human services into one agency, and bring multiple government contracts for these services home to a Moloka'i-based organization. The committee estimates there are up to seventeen government contracts for

#### 4 ■ Moloka'i Enterprise Community - 40 Projects in Moloka'i's 10-Year Strategic Plan

inadequate to serve the needs of our community, or of sports events that could draw off-island participants and spectators. In the long range, a new recreational complex is needed that will include a larger gym, an enclosed track and field, a regulation-sized pool, outdoor courts, and rooms for various activities from weight-lifting to naha practice.

- **Moloka'i Museum Improvements.** The Moloka'i Museum already exists. This project would expand and improve its facilities. The Museum is a tourist attraction, and the number of people who visit it has been increasing. With the additional proposed improvements, it would be even more attractive to visitors.

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## 3 • Moloka'i Enterprise Community - 40 Projects in Moloka'i's 10-Year Strategic Plan

• **Fish Hatchery.** A fish hatchery with associated research and technical facilities is needed to provide fry to stock the fishponds, and the reefs. Plans are already underway and some funds have been received to establish such a facility on land owned by Bishop Estate at Keawanui. This "aquaculture institute" has already received start-up funding, but may need additional assistance to develop fully.

• **West End Erosion Control.** Erosion on the West End has reached disastrous proportions, and is threatening to destroy the coastal resources on that part of the island. Although erosion has been a problem on the south shore ever since cattle were introduced over a century ago, current overgrazing is increasing soil runoff on the relatively pristine north shore, and the damage to reefs there is of great concern to those who are working to conserve the north shore's ocean resources. This project proposes aggressive erosion control measures in the main gulch that flows into the Mo'oinani area, Kaka'a'auku'u gulch. These measures will include rock dikes (gabions), hedgerow plantings, siltation ponds, and reforestation at the top of the Maunaica mountain. If this demonstration project is successful at Kaka'a'auku'u, it should be expanded to other West End gulches.

• **Disinfestation Plant.** Moloka'i is the only major agricultural island without the papaya ring-spot virus. We can market papayas globally if we have adequate heat treatment facilities. U.H.-CTAHR anticipates that a family can earn enough to support itself completely with just one acre of papayas. Several large Moloka'i commercial growers have set up treatment facilities, but they cannot accommodate even these farmers' crops. Plans are to build a larger facility next to the Cooling Plant, and charge papaya farmers for treating their crops.

• **500-Seat Theater.** Moloka'i has no indoor theater that can accommodate groups as large as 500 people. Plays, musical performances, community meetings, and similar events must currently be scheduled for community center facilities or for the various school cafeterias. A 500-seat theater could accommodate theatrical and artistic events, and could also serve the dual purpose of being a "convention center" that could house conferences for visitors.

• **Special Management Area (SMA) Designation for the Whole Island.** Businesses in Kaunakakai and at Kaluakoi are now required to get SMA permits before constructing anything that might harm the shoreline or the ocean. Most of the rest of the island is not in the SMA zone, however, and this means that many large-scale developments can proceed without any analysis of the effect they may have on coastal resources. For the past 15 years, Moloka'i's Community Plan has called for SMA boundaries to be expanded, but the County has not acted to implement this provision of the Plan. In order to provide the highest degree of environmental protection to our ocean, the County should designate the entire island of Moloka'i as an SMA permit area.

• **Clean-Up Old Moloka'i Electric Plant, Build a Shared Warehouse, Business Incubator, Movie Theater.** The old Moloka'i Electric site is badly contaminated from years of oil spills at the old plant. Using federal incentives for cleaning up "brownfields," we would clean up the site and establish a shared warehouse for local merchants, many of whom lack adequate space to hold inventory, a business incubator for small businesses, and a family amusement center, including a theater. The shared warehouse could enable local merchants to buy in bulk, thus reducing prices in our stores. The business incubator center could be one of the Learning Centers described above, with telecommunications equipment. And a family amusement center would bring the focus of our island's indoor recreational activities back to Kaunakakai, which has been identified in our Community Plan as the "urban" core of our island.

• **Affordable Housing.** Although Moloka'i has a few "affordable" housing projects, most Moloka'i residents cannot afford to buy these homes because their prices are based on Maui County's higher average income, rather than on Moloka'i's income. Habitat for Humanity has a Moloka'i chapter, and would like to promote more self-help housing construction. This project would create a revolving affordable housing loan program for self-help builders.

• **Hawaiian Rights Research and Education Initiative.** Many Moloka'i residents are unfamiliar with the laws and court rulings that protect the rights of native Hawaiians. Since Moloka'i's

population is largely Hawaiian, this project is proposed as a way to educate our entire community on the legal rights of the descendants of the first inhabitants of Hawaii. Such educational programs may help to minimize conflicts over these laws in the future.

• **Inventory of Hawaiian Sites.** Because it is largely undeveloped, relative to the other Hawaiian islands, Moloka'i has a wealth of ancient historical sites. They have not been documented adequately for future generations. This project would create an inventory of historical sites, which includes interpretation of their cultural significance. The project would be spearheaded by archeologists, and would create both visual and written records of the sites.

• **Long-Distance Learning.** The Moloka'i branch of Maui Community Colleges cannot meet local demand for advanced degrees. Residents want to further their educations, but must often move away in order to attend school. Modern technology makes it possible to link us to distant learning centers, and we need to build on the limited programs now offered here.

• **Renovate County Recreational Facilities and the MHIS Softball Field.** The County's recreational facilities are badly deteriorated, and the Moloka'i High and Intermediate School softball field needs improvements. This project would provide the needed improvements. If we renovate these facilities, Moloka'i will be able to host State tournaments and other events that will create additional economic benefits to the community.

• **Ho'olehua Wind Breaks.** Although the Ho'olehua plain has extremely fertile soil and access to irrigation water, its high winds cause crop damage and loss of water due to evaporation. This project will build on an earlier 1989 Ho'olehua windbreak plan, and will extend the Palau reforestation project that was completed half a century ago. The windbreaks will be planted along the coastal pali, around the central plain, and eventually along individual farmers' lots. Native trees and trees with secondary market value (fruit trees and hardwoods) will be used in the windbreaks.

• **New Recreational Complex.** Moloka'i's existing Kaunakakai recreational complex is outdated and

## 4 • Moloka'i Enterprise Community - 40 Projects in Moloka'i's 10-Year Strategic Plan

inadequate to serve the needs of our community, or of sports events that could draw off-island participants and spectators. In the long range, a new recreational complex is needed that will include a larger gym, an enclosed track and field, a regulation-sized pool, outdoor courts, and rooms for various activities from weight-lifting to nuna practice.

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# Moloka'i Enterprise Community News

January 1, 2000 ■ Vol. I, No. 1

## 10-Year "EC" Designation Brings Federal Help for Moloka'i

In a national competition with more than 160 other rural communities, Moloka'i was picked by the federal government to be one of only 20 new Rural Enterprise Communities ("EC's"). This federal designation gives Moloka'i many benefits, including the following:

- ★ Tax credits of up to \$2,400 per employee for businesses that hire workers with challenges, like welfare recipients, vocational rehab clients, and at-risk youths.
- ★ Tax deductions for cleaning up polluted "brownfields."
- ★ Extra points on grant applications for federal funds.
- ★ Special tax-credit bonds for schools.
- ★ \$250,000 in cash each year for the next 10 years.
- ★ Eligibility (along with other EC's) for \$109 million in USDA housing, infrastructure, and economic development funds.

The U.S. Department of Agriculture oversees the rural Enterprise Community program, which is a White House initiative set up 5 years ago to help revitalize economically depressed communities across the nation. Hawai'i was not eligible to compete in the first round of funding, but legislation spearheaded by Sen. Dan Inouye gave Hawai'i the chance to apply. Of the 4 Hawai'i applications submitted (from Kaua'i, O'ahu, Ka'u, and Moloka'i), Moloka'i was the only community to win an EC designation, which is good through the year 2009. ■

## Moloka'i's EC Plan

Moloka'i won its EC designation based on a 10-year strategic plan that was developed by hundreds of community volunteers in the summer of 1998. Moloka'i's strategic plan was judged among the best in the nation. Many other communities used paid consultants to design their plans, but on Moloka'i, the process was truly grassroots. Anyone who wanted to help was welcome, and all of the ideas in the plan came from

Moloka'i people. The 40 projects in Moloka'i's plan fall into 4 main categories:

**E**nvironment: Protection the island's environment is critical to the health of Moloka'i's people and economy, and projects in this area were given high priority in the plan. Protection of water resources was a major concern, since a sustainable supply of clean water is necessary to support agriculture and aquaculture, as well as to meet the island's domestic needs. Erosion was another area of critical concern, since Moloka'i's rich coastal ecosystem cannot survive much more silt run-off.

**E**conomy: The island's economic recovery plan is based on diversified agriculture, aquaculture, small entrepreneurial businesses, and cultural tourism. Moloka'i's future economy should be primarily production-driven, rather than service oriented. Many of the economic projects in the plan will create an infrastructure that supports these kinds of economic activities, from food-production facilities to agricultural cooperatives to a cultural park where traditional handicrafts can be made and marketed, and visitors can learn about the authentic culture of the island.

**S**elf-Governance: Because 85% of Moloka'i is owned by off-shore landlords, and has no local government, many decisions about Moloka'i are made by those who do not live here. Moloka'i's plan addresses this problem by strengthening educational and leadership development opportunities for island residents, encouraging local ownership of Moloka'i lands, and strengthening local regulatory control over the island's resources.

**H**ealthy Community: Health, housing, recreational, and human services on Moloka'i need to be improved in order to nurture the physical, mental and spiritual strength of Moloka'i's people so that we can meet the challenge of building a healthier community. A multi-disciplinary human services complex, a revolving self-help housing loan program, and a new hemodialysis facility are some of the projects in this category of the plan. ■

Moloka'i Community Service Council  
P.O. Box 1046  
Kaunakakai, Hawaii 96748

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## Two-Year Workplan

Of the 40 projects in Moloka'i's 10-year strategic plan, 15 are slated for immediate implementation. The \$500,000 that Moloka'i will receive in EC funds for the next two years will be divided between these projects and the expense of administering the EC program. The majority of funds for all of these EC projects will be raised from other sources.

1999 - 2001 EC Projects	EC Funding
Aquaculture/Fishponds	30,000
Moloka'i Electric Site Redevelopment	5,000
Community Land Trust	10,000
Dialysis Facility	40,000
Historic Sites Inventory	17,000
Ho'olehua Commercial Kitchen	20,000
Learning Centers	50,000
Moloka'i Logo and Marketing Plan	23,475
Native Plant Nursery	-
Slaughterhouse	25,000
Taro Production	53,625
Visitor Coordinator	30,000
Waste Management	17,000
Watershed Protection	100,000
Youth Leadership	3,900
EC Administration	75,000
<b>TOTAL</b>	<b>500,000</b>

## Who's In Charge?

One of the most important requirements for a rural EC is that the community must be actively involved in planning and implementing EC projects. The Moloka'i community created the 10-year strategic plan, and now a team of citizen volunteers is leading the implementation process. The 20-member EC Board is made up of the following community servants:

### ■ Ke Aupuni Lōkahi Board Members ■

- |                           |                                  |
|---------------------------|----------------------------------|
| Scott Adams               | U'ilani Lima, 2nd Vice President |
| Charlene Aquino           | Iwalani Kadowaki                 |
| Charles Coggins           | Ed Misaki                        |
| Rik Cooke                 | Stephen Petro                    |
| Shannon Crivello          | Walter Ritte, 1st Vice President |
| Stacy Crivello, President | Gandharva Ross                   |
| April DeMello             | Claud Sutcliffe                  |
| B.J. Dudoit, Treasurer    | Larry Swenson                    |
| Frances Feeter            | Benny Venenciano                 |
| Dean Fujii, Secretary     | Sonya Yuen                       |

The Board's name, Ke Aupuni Lōkahi, may be loosely translated as "leaders working together." Members serve two year terms, and meet at least once a month.

The volunteer Ke Aupuni Lōkahi Board has contracted with the Moloka'i Community Service Council (MCSC) to administer the EC program requirements. MCSC produced the Moloka'i's EC application to the federal government, and its staff is working to help the Board to implement the EC plan. Founded in 1974, MCSC is one of Moloka'i's oldest non-profit organizations, and besides the EC program, it administers the Friendly Isle United Way campaign, the Moloka'i Youth Center, and other community projects. MCSC's administrative staff members are:

- Karen Holt, Executive Director
- Zessica Apiki, Deputy Director
- Punahale Alcon, Bookkeeper
- Ian Chun, Program Developer
- Alma Trinidad, Program Developer

MCSC is the contact point for all questions regarding the Moloka'i Enterprise Community. The MCSC office is located in the old MCC building, across from the Phone Mart. Office hours are from 8:00am - 5:00pm. ■

## E Komo Mai

Information about the Moloka'i Enterprise Community will be shared in town meetings 3 times a year, and in newsletters. Members of the public are welcome to get involved on the Board's seven subcommittees: Economy, Education, Environment, Hawaiian Culture, Health & Human Services, Recreation & Fine Arts, or Youth Leadership. To apply for a subcommittee, contact MCSC:

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 Fax: (808) 553-3370  
 E-mail: mcsc@aloha.net

## Community Meeting Thursday, January 13

Ke Aupuni Lōkahi invites everyone on Moloka'i to learn more about the Moloka'i Enterprise Community at a Community Meeting on January 13, 2000. Learn about the EC's Watershed Protection, Aquaculture, and Dialysis Treatment projects, all of which are moving quickly. The meeting will be held at Mitchell Pauole Center from 6:30 - 9:00 pm. Please come and join us! ■

KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment

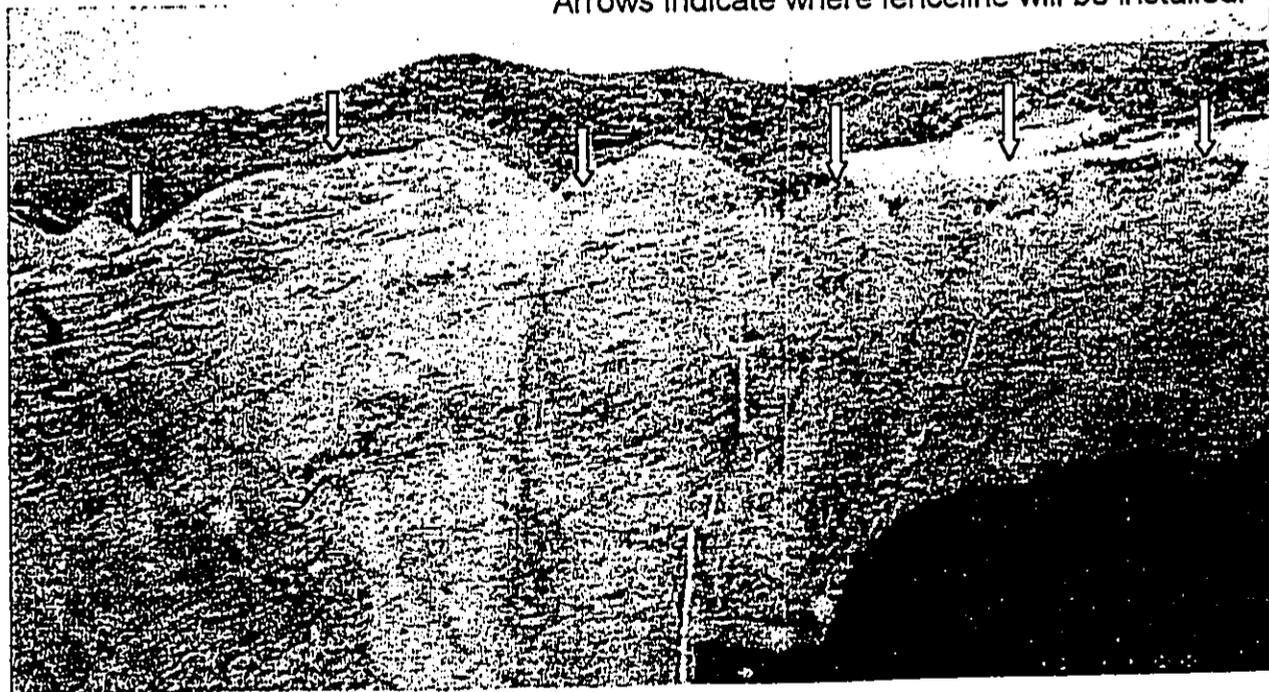
Area Designated Protective Subzone

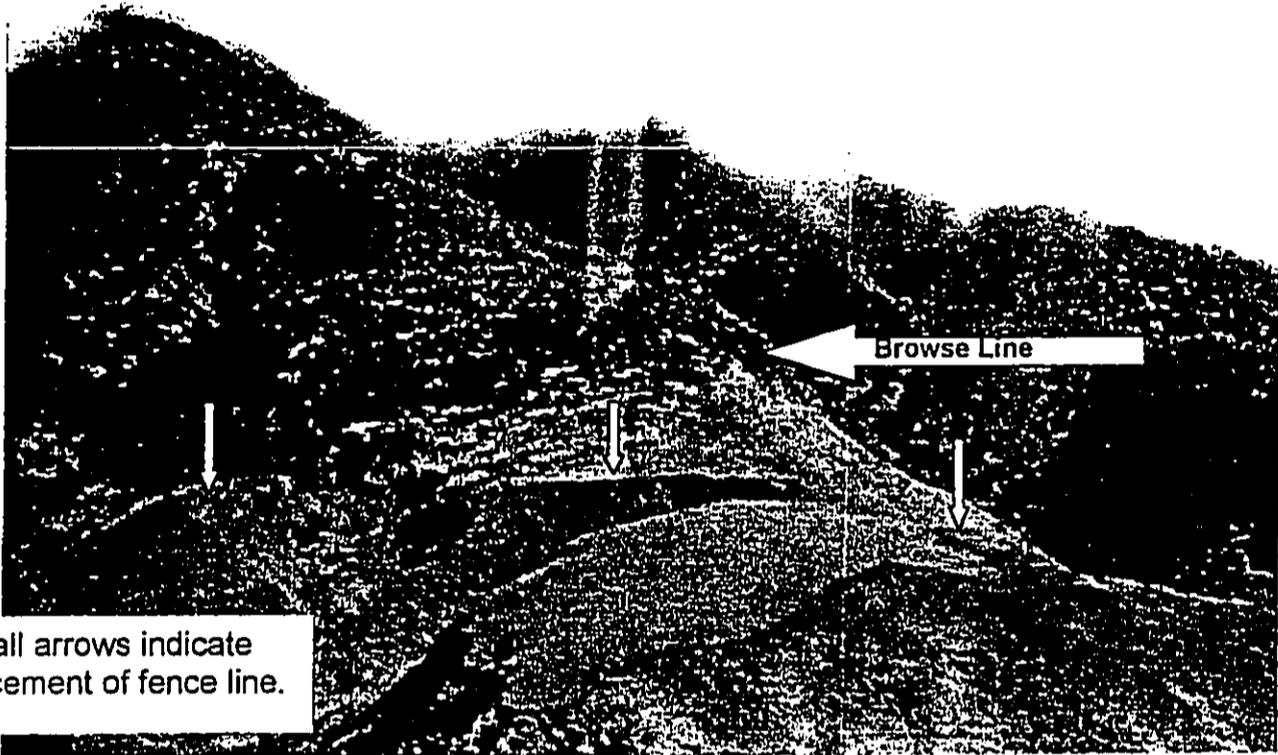
See Enlarged View



Kamalo / Kapualei Watershed Project  
(Area indicated is Hina Falls)

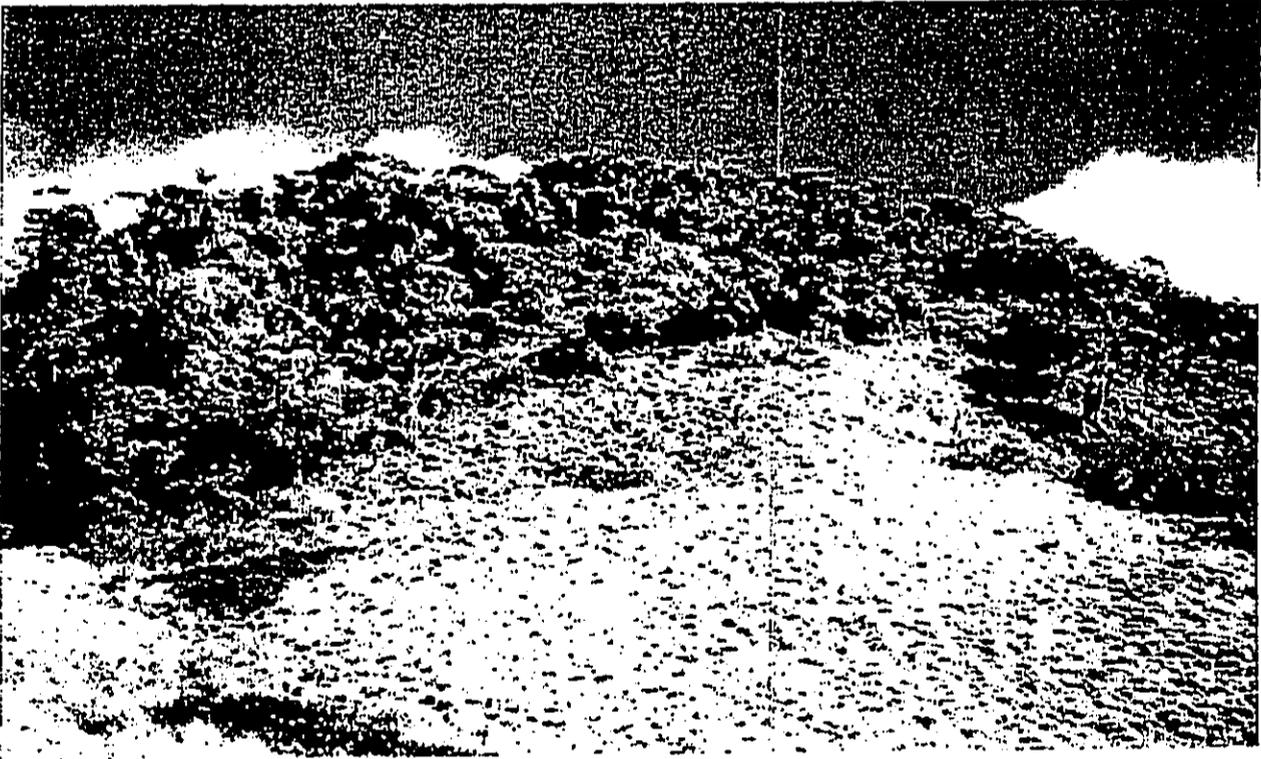
Arrows indicate where fenceline will be installed.



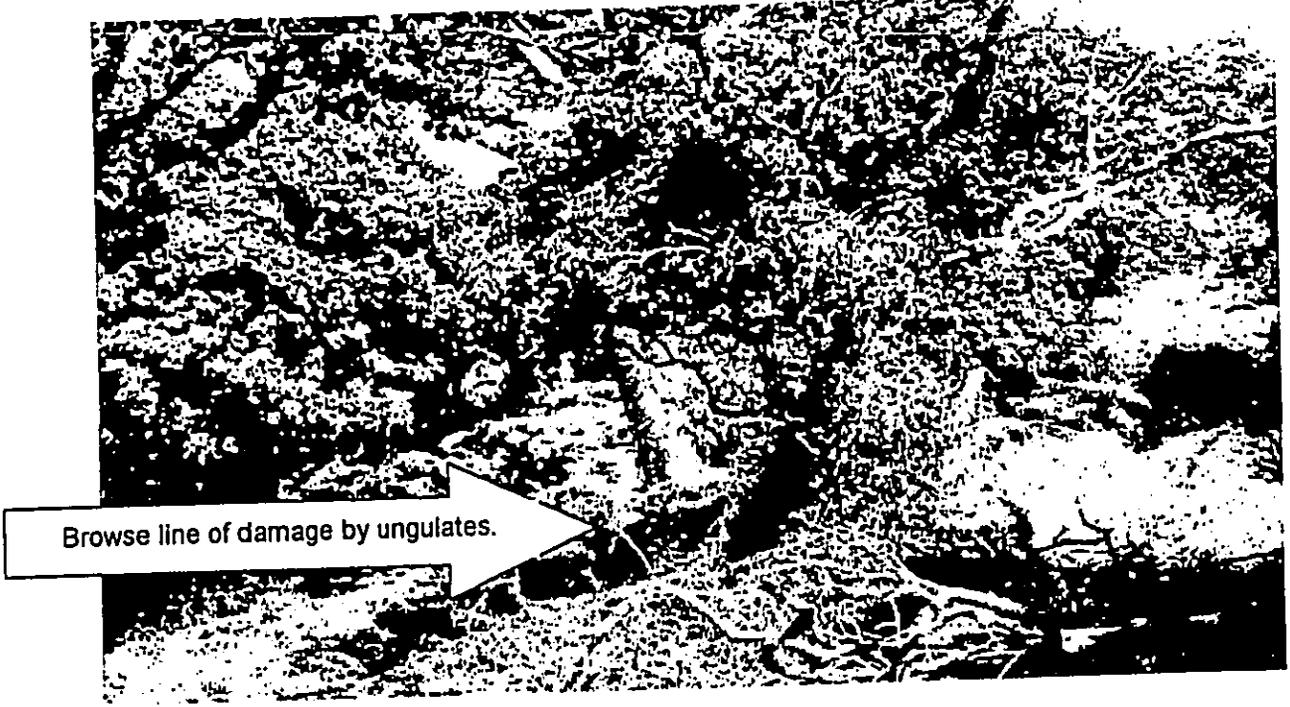


Small arrows indicate placement of fence line.

**Kamalo / Kapualei Watershed Project**  
( Areas indicate where animal damage continues upward towards dense vegetation)



KAMALO / KAPUALEI WATERSHED MANAGEMENT PROJECT  
Environmental Assessment



**Kamalo / Kapualei Watershed Project**

(Indications of movement towards dense vegetation. Project is to prevent or control this type of degradation from continuing.)

