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HISTORIC PRESERVATION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT
WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

February 26, 1997

Mr. Gary Gill, Director
Office of Environmental Quality Control
235 South Beretania Street, Room 702
Honolulu, HI 96813

Dear Mr. Gill,

Subject: Finding of No Significant Impact for Pelekunu Preserve Natural Area Partnership, District of Moloka`i, County of Maui, Hawai`i; TMK: Owned in full: 5-4-3-32, 5-9-7-17, Owned 83%: 5-9-6-11, 5-9-7-1, 5-9-7-4., 5-9-7-11, 5-9-7-14, 5-9-7-16, 5-9-7-21, 5-9-7-24, 5-9-7-30, 5-9-7-31, 5-9-7-32, 5-9-7-33, 5-9-8-5, 5-9-8-6, 5-9-8-7, 5-9-8-10, 5-9-8-12.

The Department of Land and Natural Resources, Division of Forestry and Wildlife has reviewed and responded to the comments received during the 30-day public comment period. The agency has determined that this project will not have significant environmental effect and has issued a Finding of No Significant Impact. Please publish this notice in the March 8, 1997 Environmental Notice.

We have enclosed a completed Publication Form and four copies of the final Environmental assessment.

Please contact Betsy Gagné at 587-0063 if you have any questions.

Sincerely,

Michael G. Buck, Administrator
Division of Forestry and Wildlife

encl

24

1997-03-08 - Mo - FEA - Pele Kunu Preserve Natural Area Partnership

FINAL ENVIRONMENTAL ASSESSMENT FOR PELEKUNU PRESERVE NATURAL AREA PARTNERSHIP

This document prepared pursuant to Chapter 343, HRS

Prepared by
The Nature Conservancy

February 1997

CONTENTS

Table

Figures

I. SUMMARY

CHAPTER 343, HAWAI'I REVISED STATUTES (HRS)
ENVIRONMENTAL ASSESSMENT

Project Name

Pelekunu Preserve Natural Area Partnership

Proposing Agency / Applicant

State of Hawai'i
Department of Land and Natural Resources
Division of Forestry and Wildlife
1151 Punchbowl Street
Honolulu, Hawai'i 96813

The Nature Conservancy
1116 Smith Street, Suite 201
Honolulu, Hawai'i 96817

Approving Agency

State of Hawai'i
Department of Land and Natural Resources
Division of Forestry and Wildlife

Project Location

Pelekunu Preserve, 5,759 acres in the District of Moloka'i, County of Maui, State of Hawai'i.

Note: The Nature Conservancy owns 100% of two parcels, and 83% of 17 others.

Tax Map Key	Acreage
Owned in full:	
5-4-3-32	460.822
5-9-7-17	.130
Owned 83%:	
5-9-6-11	5254.000
5-9-7-1	3.705
5-9-7-4	.282
5-9-7-11	2.920
5-9-7-14	.030
5-9-7-16	.040
5-9-7-21	.170
5-9-7-24	.890
5-9-7-30	.035
5-9-7-31	.180
5-9-7-32	.060
5-9-7-33	.250
5-9-8-5	7.170
5-9-8-6	4.700
5-9-8-7	13.240
5-9-8-10	5.000
5-9-8-12	4.980

Agencies Consulted During EA Preparation

(The individuals and agencies listed were provided with copies of the preserve long range management plan, and given 3–4 weeks to respond. All written comments received are included in Appendix 1.)

Federal

US Department of Agriculture/ Animal Damage Control
US Department of Agriculture/ Forest Service
US Department of Agriculture/ Natural Resources Conservation Service
US Department of the Army / Corps of Engineers
US Department of the Interior/ Fish & Wildlife Service
US Department of the Interior/ National Biological Service
US Department of the Interior/ Kalaupapa National Park
US Environmental Protection Agency

State

Department of Agriculture
Department of Agriculture, Moloka'i Irrigation System
Department of Hawaiian Home Lands
DLNR/ Aquatic Resources Division
DLNR/ Division of Conservation and Resources Enforcement
DLNR/ Division of Forestry & Wildlife—Maui District
DLNR/ Division of Land Management—Maui District
DLNR/ Na Ala Hele Moloka'i Advisory Council
DLNR/ Office of Conservation and Environmental Affairs
DLNR/ State Historic Preservation Division
Natural Area Reserves System Commission
Office of Hawaiian Affairs
Office of Planning
Representative David Morihara
Representative Joseph Souki
Representative Michael White
Senator Roz Baker
Senator Avery Chumbley
Senator Joe Tanaka
University of Hawai'i, Cooperative Extension Service
University of Hawai'i, Environmental Center
University of Hawai'i, Secretariat for Conservation Biology

County

County Council Department of Economic Development
Department of Public Works
Department of Water Supply
Maui County Council, Moloka'i Councilman

Mayor
Moloka'i Chamber of Commerce
Moloka'i/Lāna'i Soil & Water Conservation District
Moloka'i Planning Commission
Planning Department

Private

Billy Akutagawa
Bobby Alcain
Emmett Aluli
Bruce Anglin
Judy Caparida
Center for Plant Cons. Hawaiian Flora
Conservation Council for Hawai'i
Kathy Davis
Mike Donleavey
Leiala Elia
Anna Goodhue
Hawai'i Audubon Society
Hawaiian Botanical Society
Adolph Helm
Greg Helm
Hui Malama o Mo'omomi
Kawela Plantation Association
Noelani Joy
Joyce Kainoa
Yama Kaholoa'a
Moses Kim
Penny Martin
Moana's Hula Halau
Native Hawaiian Advisory Council
Native Hawaiian Legal Corporation
Native Hawaiian Plant Society
Masashi "Cowboy" Otsuka
Moloka'i 4-H
Moloka'i Cares
Moloka'i Earth Preservation Org.
Molokai Ranch, Ltd.
Keali'i Pang
Walter Ragsdale
Ron Rapanot
Eugene Santiago
Sierra Club Legal Defense Fund
Claud Sutcliffe
Sarah Sykes
Kenneth Takase
Walter Ritte
John Sabas
The Outdoor Circle
The Wildlife Society

II. PROJECT DESCRIPTION

In 1986 The Nature Conservancy purchased the area that is now Pelekunu Preserve from a number of private landowners (primarily Molokai Ranch Ltd.). This 5,759-acre preserve in the northeast sector of Moloka'i encompasses the majority of Pelekunu Valley and also the adjacent Waiohookalo Valley. Pelekunu Preserve contains one of Hawai'i's last remaining intact, perennial stream ecosystems.

The state's Natural Area Partnership Program (NAPP) provides matching funds ($2 state to $1 private) to managers of qualified private lands. Pelekunu was approved for NAPP funding in 1992; the contract is scheduled to be renewed in 1997. The renewal procedure includes the preparation of a new 6-year management plan, and public review via the Environmental Assessment process. Previous management work was conducted under a Conservation District Use Permit (number SH-5/7/87-2028). Approximately $943,000 in state funds, distributed over 6 years, will be needed to implement the work outlined in this document.

Summary Description of the Affected Environment

Location

Pelekunu Preserve (Figure 1) covers 5,759 acres in northeast Moloka'i, and is bordered by four other managed natural areas: state-owned Pu'u Ali'i and Oloku'i Natural Area Reserves (NARs), Kalaupapa National Historical Park, and the Conservancy's Kamakou Preserve (Figure 2). These managed areas protect more than 22,000 acres of contiguous ecosystems that range from sea level to 4,970 feet in elevation. The topography of Pelekunu Preserve is spectacular, with 3,000-foot valley walls dissected by a series of convoluted streams and ridges. This isolated preserve contains no roads and only a few rough trails. The Conservancy also cooperates with the state to undertake joint management projects in areas adjacent to Pelekunu.

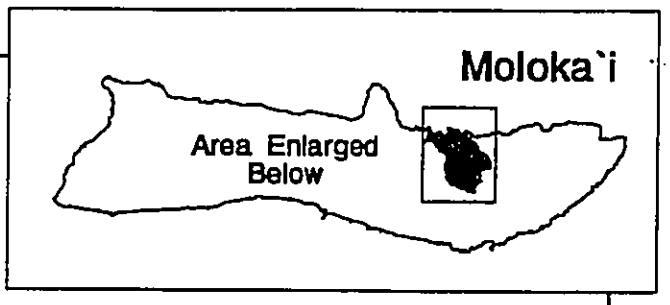
Native Natural Communities

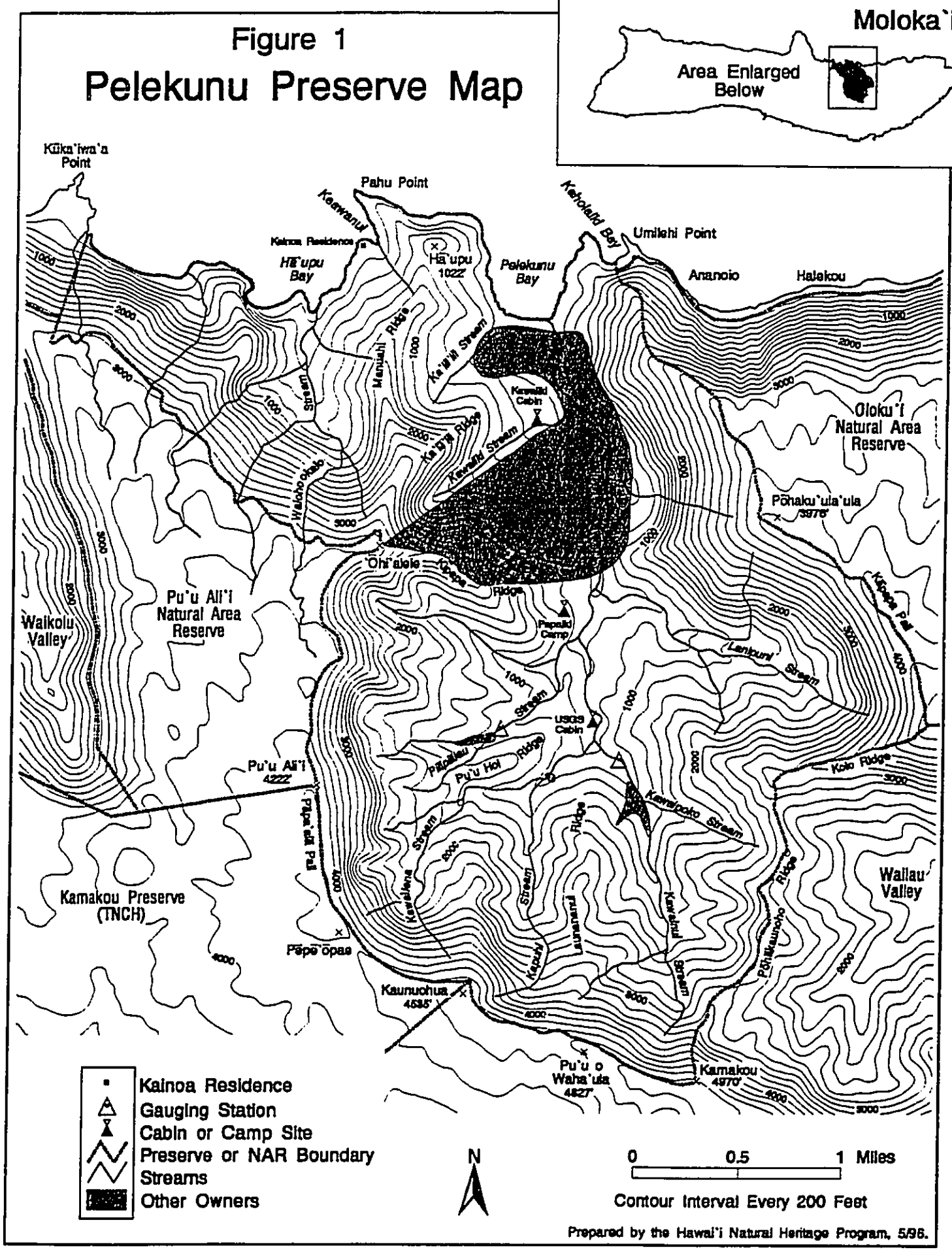
Pelekunu Preserve contains 14 native natural communities (Figure 3, Appendix 2). Of these, the Hawaiian Continuous Perennial Stream community is considered rare, as it is found in fewer than 20 sites worldwide. The other communities are more widespread aquatic and terrestrial communities, including a variety of coastal, lowland, and montane grassland, shrubland, and forest types.

Pelekunu Stream is an exemplary Hawaiian Continuous Perennial Stream, characterized by the presence of native diadromous species whose life cycle requires an oceanic phase. The stream and its tributaries contain a variety of native aquatic insects and healthy populations of four native gobioid fish species (collectively referred to as 'o'opu) and one hardy fish, 'o'opu owao (*Eleotris sandwicensis*) that is not a true goby. The freshwater mollusk hīhīwai (*Neritina*

Figure 1

Pelekunu Preserve Map





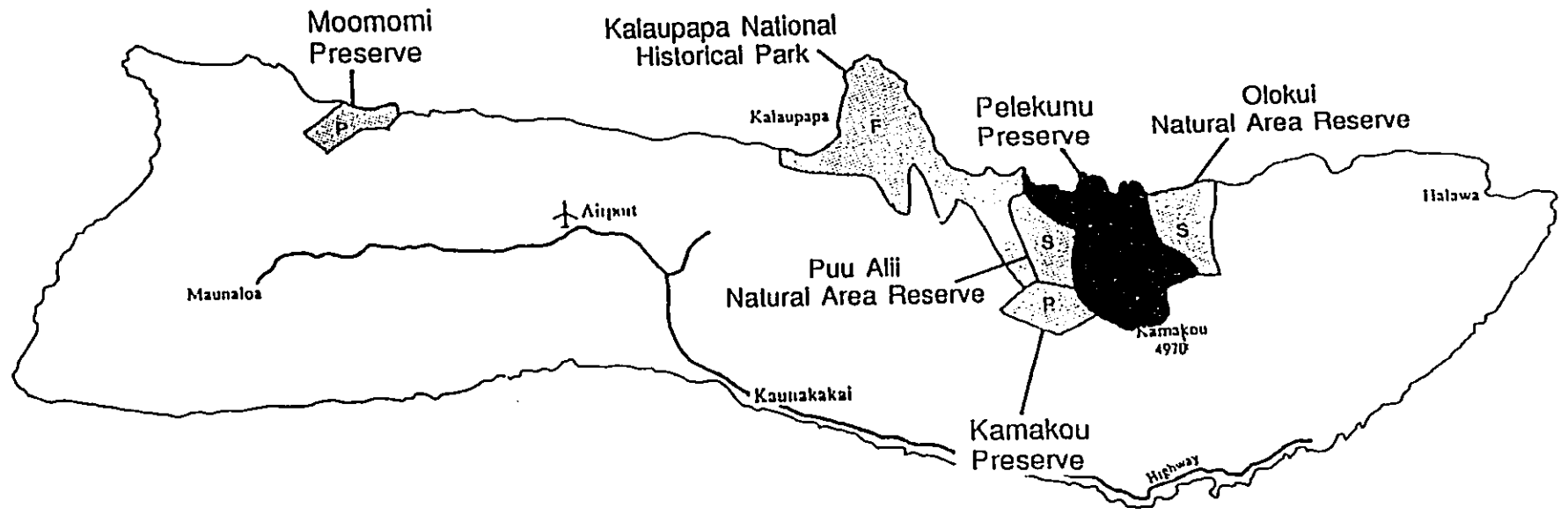
Prepared by the Hawai'i Natural Heritage Program, 5/96.

Figure 2

Parcel Information

Pelekunu Preserve

Molokai



N

0 5 10 MI

0 5 10 15 KM

PARCEL INFORMATION:

S = State-owned
F = Federally-owned
P = Privately-owned
⊡ = Already Protected

Prepared by the Hawaii Natural Heritage Program, 5/96.

CORRECTION

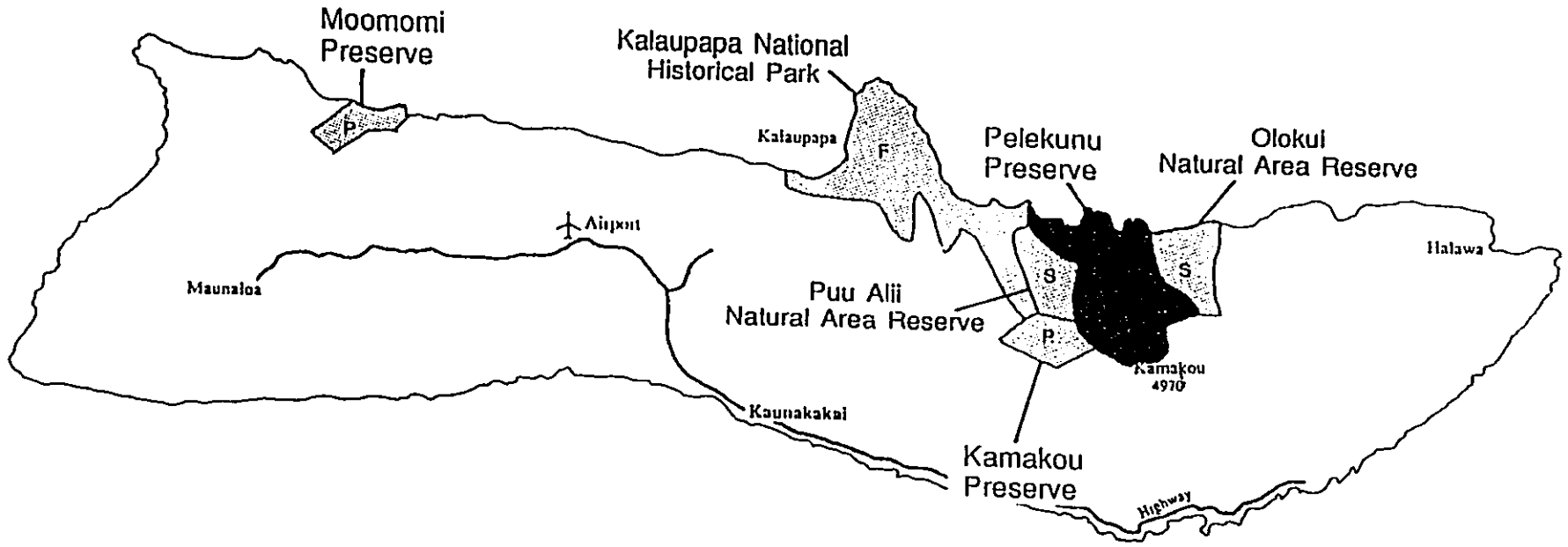
THE PRECEDING DOCUMENT(S) HAS BEEN REPHOTOGRAPHED TO ASSURE LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

Figure 2

Parcel Information

Pelekunu Preserve

Molokai



N

0 5 10 MI

0 5 10 15 KM

PARCEL INFORMATION:

S = State-owned
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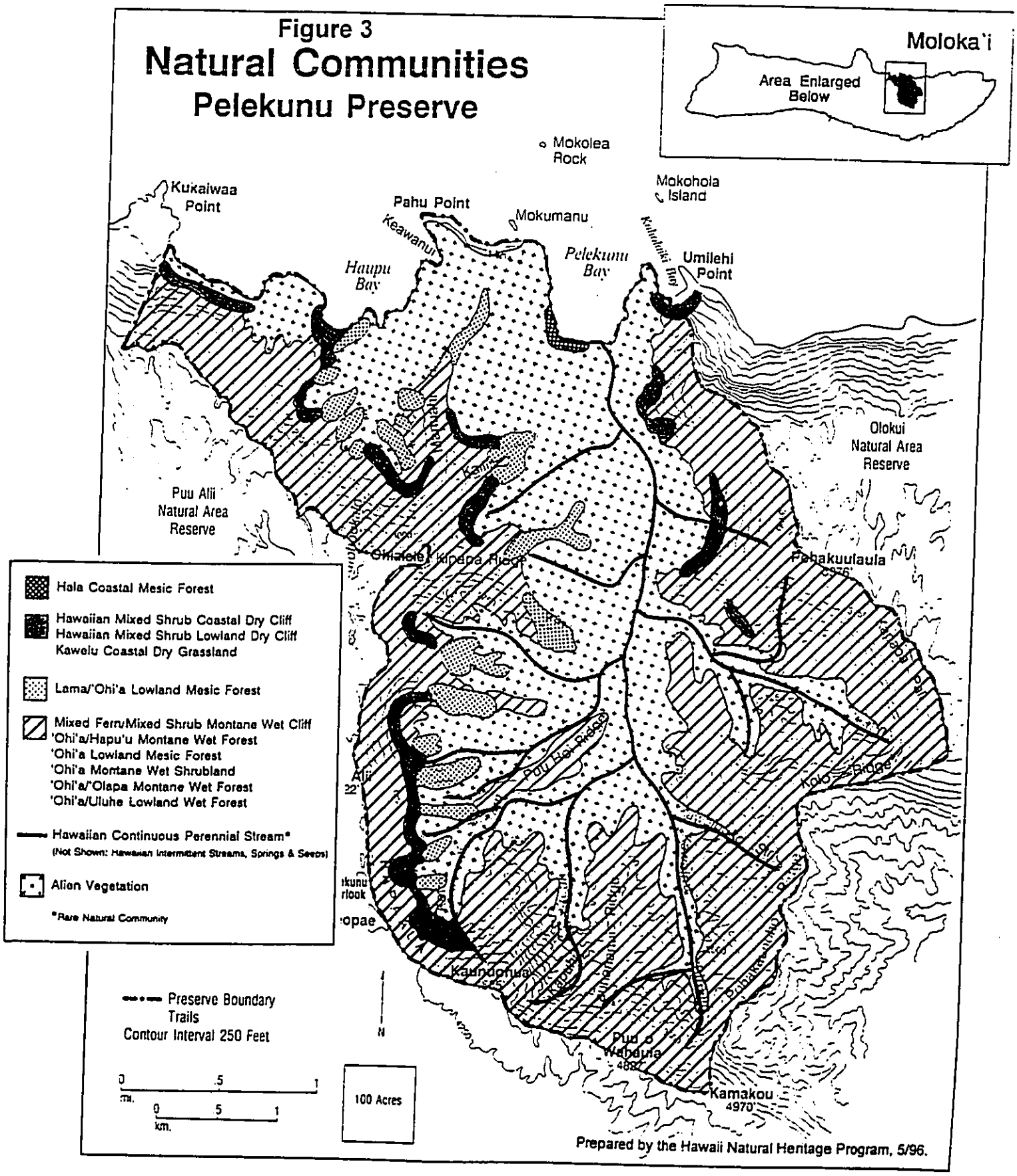
⊡ = Already Protected

Prepared by the Hawaii Natural Heritage Program, 5/96.

Figure 3

Natural Communities
Pelekunu Preserve



Prepared by the Hawaii Natural Heritage Program, 5/96.

granosa) and other invertebrates such as the native shrimp ʻōpae kalaʻole (*Atyoida bisulcata*), and the native prawn ʻōpae ʻoehaʻa (*Macrobrachium grandimanus*) (Appendix 3) are found in the streams as well.

Native Flora

Twenty-seven rare plant taxa have been reported from Pelekunu Preserve; seven of these are endemic to eastern Molokaʻi (Appendix 4). Of the 27 rare plant taxa reported from the preserve, 8 are federally listed endangered species and 1 is listed as threatened.

Native Terrestrial Fauna

Vertebrates

Five endemic forest birds have been reported from Pelekunu Preserve and adjacent areas. These include two federally listed endangered birds: the kākāwahie (Molokaʻi creeper, *Paroreomyza flammea*), which is probably extinct, and the olomaʻo (Molokaʻi thrush, *Myadestes lanaiensis rutha*), which may also now be extinct. The Molokaʻi population of ʻiʻiwi (*Vestiaria coccinea*) is considered endangered by the state (Appendix 5). Two common endemic forest bird species are also found in Pelekunu Preserve, ʻapapane (*Himatione sanguinea*) and ʻamakihi (*Hemignathus virens wilsoni*). The indigenous ʻaukuʻu, or black-crowned night-heron (*Nycticorax nycticorax hoactli*), and the migratory ʻūlili, or wandering tattler (*Heteroscelus incanus*), have been reported along the main branch and tributaries of Pelekunu Stream. Koaʻe kea, or the white-tailed tropicbird (*Phaethon lepturus dorotheae*), an indigenous seabird, can often be seen along the sea cliffs in the back of the valley.

Invertebrates

Terrestrial arthropods include some of the most diverse taxonomic groups at Pelekunu, and are known to perform important ecosystem functions. These functions include pollinating native plants and serving as a food resource for insect-eating forest birds. However, most of Pelekunu's terrestrial invertebrate species have not been studied and are not well documented; work in this area needs to be conducted.

Although much more remains to be learned about the molluscan fauna, two endemic achatinellid land snail species, *Partulina mighelsiana* and *Partulina tessellata*, have been reported within or near the boundary of the preserve (Appendix 6).

Historical/Archaeological and Cultural Sites

The State Historic Preservation Division (SHP) recently reviewed its historic reports, maps, and aerial photographs for the Pelekunu area; no field inspection was made of the preserve. According to SHP, at least eight historic sites form what is called the Pelekunu Valley Agricultural Complex. This is a large pre-western contact taro agricultural complex. It appears that two of the sites that comprise the complex are within Pelekunu Preserve: Hekilikahi or Kekilikaha Heiau, and the Pu'uhonua of Kukaua. However, since a thorough archaeological inventory has not been conducted, more historic sites, particularly those related to taro cultivation, are likely to be present within Pelekunu Preserve.

The State Historic Preservation Division (SHP) has determined that, in general, the proposed activities will have no effect on significant historic sites.

Adjacent Natural Resources

Pelekunu Preserve is bordered by four other managed natural areas: state-owned Pu'u Ali'i and Oloku'i Natural Area Reserves (NARs), Kalaupapa National Historical Park, and the Conservancy's Kamakou Preserve (Figure 2). These managed areas protect more than 22,000 acres of contiguous ecosystems that range from sea level to 4,970 feet in elevation.

About half of the natural communities found in Pelekunu are also known from Pu'u Ali'i and Oloku'i NARs (Appendix 2). Ten of Pelekunu's 27 rare plant taxa, both of the rare snail species, and all of the three rare birds reported from Pelekunu have also been reported (currently or historically) from the adjacent NARs.

Sensitive Habitats

The habitats and resources listed above and in the appendices are regarded as sensitive, and are found both within and adjacent to Pelekunu Preserve. The intent of all proposed management activities is to provide long-term protection to these habitats and resources. Potential negative effects of management activities such as introduction of new weeds along newly constructed fences, trails, or monitoring transects are recognized, and special precautions will be taken to minimize these risks. Management activities that affect adjacent sensitive habitats such as Pu'u Ali'i NAR, Oloku'i NAR, and Kalaupapa National Historical Park will be coordinated with appropriate staff from these organizations to reduce any potential negative impacts.

General Description of the Action's Technical, Socio-economic and Environmental Characteristics

Technical Characteristics

This project is long term, consisting of several different phases. The primary goal is to maintain native natural communities, particularly aquatic communities, and protect the habitat of rare plants and animals in the designated area. In addition to the NAPP contract currently in place, the Conservancy has entered into a number of agreements related to its management at Pelekunu Preserve. These are summarized below.

- The Nature Conservancy and the National Park Service have signed a Memorandum Of Understanding (MOU) to allow the National Park to conduct a hydrological and biological attributes study comparing the Waikolu and Pelekunu Stream systems. This agreement expires on September 30, 1997.

- Pelekunu Preserve is covered under a state-wide MOU with the state Department of Land and Natural Resources for wildfire suppression.

- The Nature Conservancy also participates in the Moloka'i Hunter's Working Group, which includes conservation agencies, hunters, and other community members. The group's purpose is to involve community hunters in ungulate control efforts on state Natural Area Reserves, National Park lands, and Conservancy preserves on Moloka'i. Although members have not signed any legally binding agreements, the Conservancy has agreed, informally, to follow certain guidelines established by the group.

Management Considerations

Management goals for six fiscal years (1998–2003) are discussed on the following pages. (The Nature Conservancy has adopted a July 1–June 30 fiscal year.) The Nature Conservancy will be responsible for the completion of the management work.

This section describes specific management strategies that the Conservancy employs to maintain and enhance the native ecosystems and species of Pelekunu Preserve. These management strategies are shaped by the following considerations.

1. Pelekunu Preserve is extremely remote and the terrain is very rugged. There are no roads to the valley; access is only by boat, helicopter, or a long and hazardous foot trail. To accomplish management objectives, the Conservancy relies on helicopters for year-round access. Boats serve only the front of the valley, and only during the summer months, when seas are calm. Foot access is impractical due to the long (12-hour) hike over terrain too rugged to carry necessary supplies.

2. A number of landowners retain a total of more than 350 acres in the valley (Figure 1). These people and other members of the Moloka'i community exercise traditional access, gathering, and other rights within the valley, as recognized by law. Conservancy management does not alter these rights.

3. Our primary management activity to protect the preserve's native plants, animals, and natural communities is to protect the watershed by reducing feral ungulate damage and limiting the spread of non-native, habitat-modifying plants. Rats are not known to be an immediate threat to the preserve's rare species. However, if rare species monitoring data indicate a need to control rats, we will implement such control as needed. Currently, the most effective means available to natural area managers in Hawai'i involves using bait boxes to deploy bait containing the anti-coagulant diphacinone. Diphacinone has been approved for use in natural areas in Hawai'i under a Section 24c registration (also known as a special local use registration). Any diphacinone use at Pelekunu will be in accordance with the special local use registration. Bait will be deployed in tamper-proof or tamper-resistant bait boxes. All areas baited will be posted in accordance with requirements. Once approved for use in Hawaiian natural areas, we may also deploy other types of rodenticides that are shown to be safe and effective.

4. As previously stated, Pelekunu Preserve lies between Pu'u Ali'i and Oloku'i NARs, is adjacent to the Conservancy's Kamakou Preserve, and is partly bordered by Kalaupapa National Historical Park. The Conservancy's ungulate control priority in Pelekunu is to prevent ungulates from moving into Oloku'i NAR from Kolo Ridge. The Oloku'i plateau is thought to be one of the few natural areas in Hawai'i that has not been damaged by feral ungulates.

5. Because the majority of the lower valley is dominated by vegetation introduced by early Polynesians, Conservancy management focuses on the upper valley.

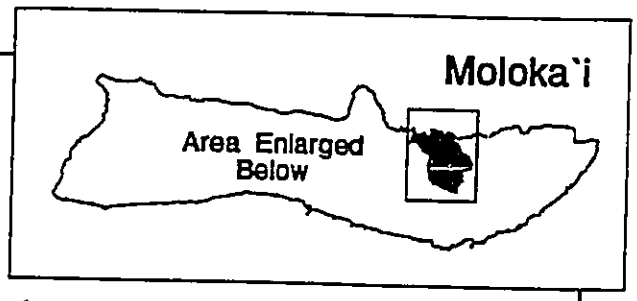
Management Units

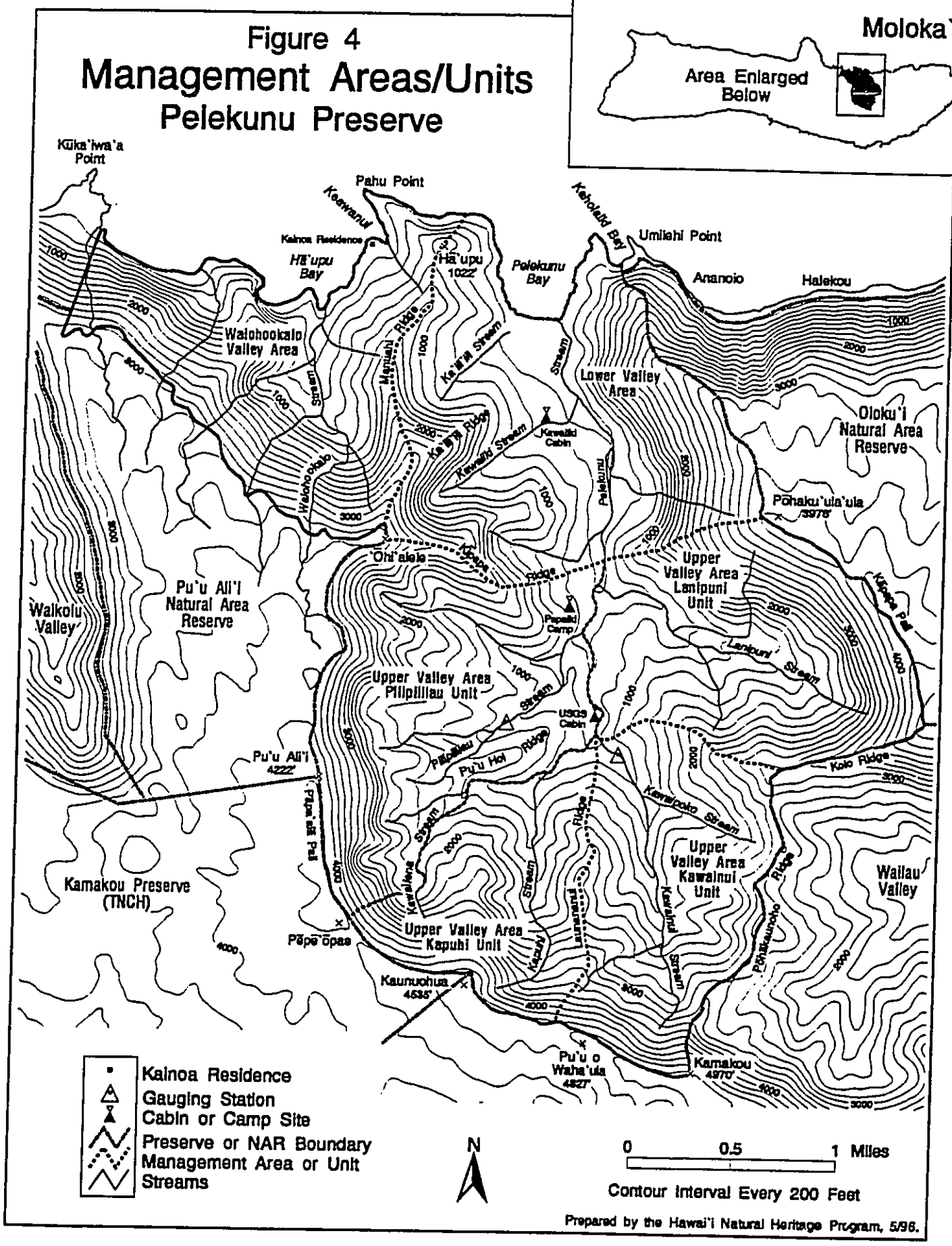
The preserve is divided into three *management areas* (Figure 4): upper Pelekunu Valley, lower Pelekunu Valley, and the Waiohookalo Valley area. The upper Pelekunu Valley management area is further divided into *management units*, as described below.

Upper Pelekunu Valley is separated from the lower valley area by the Kīpapa and Pōhaku'ula'ula Ridges. The upper valley area was formerly divided into five numerical management units, but is now divided into four place name units: Pilipililau, Lanipuni, Kawainui, and Kapuhi. (Naming the units after their associated main streams allows for better communication between staff and volunteer hunters.) To date, the upper valley area (with the exception of Kapuhi unit and the upper reaches of Kawainui and Lanipuni units) is where we have focused most of our management. We will continue to concentrate on this area to maintain

Figure 4

Management Areas/Units
Pelekunu Preserve





Prepared by the Hawai'i Natural Heritage Program, 5/96.

and improve the integrity of the this upper watershed, and to prevent ungulates from entering the adjacent Oloku'i NAR. However, within the next 6 years, we will also explore and implement ungulate control in the relatively unknown portions of the upper valley, especially Kapuhi and the upper reaches of Kawainui and Lanipuni units.

Lower Pelekunu Valley has been substantially altered by humans. Historically, the lower valley had the most inhabitants and was the most heavily cultivated part of Pelekunu Preserve. This is mainly due to this area's proximity to ocean resources, and the fact that the wider valley floor is well-suited for taro cultivation. Management in this area consists mainly of informal monitoring of the impacts of present-day humans. Ungulate populations in this area can get very high due to limited hunting. Therefore, we will involve community hunters as needed to prevent large-scale migration into the upper valley area.

Waiohookalo Valley, to the west, is separated from lower Pelekunu Valley by Manuahi Ridge. Almost no management occurs in this area. Long-time resident Joyce Kainoa and her family live in this area just above the Keawanui inlet. Joyce is a key communication and emergency response link for the Conservancy's field operations. Her family members know the Waiohookalo area very well. By Year 5 (2002) we plan to begin exploring and planning management for Waiohookalo with the involvement of Joyce and her family.

Management Goals

The management programs that follow are listed in order of priority for the next 6 years of work. Each program goal is followed by a brief description of program strategies, and how we foresee these strategies changing over the next 6 years. A timetable is provided for each program.

Program 1: Non-native Species Control

Ungulate Control

Program Goal: To hold ungulate activity[1] in the upper valley to less than 10% and prevent the movement of ungulates from the valley up to the Oloku'i plateau. To hold ungulate populations in the lower valley to levels that prevent negative impact on the upper valley.

In 1991 (when we started to implement the FY1992–1997 long-range plan), we began a snaring program to reduce pig populations in the upper valley areas of Pelekunu. By 1993, with help from the state's aerial shooting program, we were successful in reducing both pig and goat activity to less than 10%. We also established three campsites (USGS cabin, Kawaiiki cabin, and

[1] "Ungulate activity" is determined by monitoring belt transects for ungulate sign (e.g., tracks, scat, wallows, evidence of browsing). For example, if fresh sign is present in 10 out of 100 transect stations, the activity level is said to be 10%.

Lanipuni shelter) that continue to be important staging areas for most of the field work in the preserve.

In April of 1993, to address the concerns of community hunters, we removed all snares and began utilizing local hunters in our ungulate control efforts. The state also suspended its aerial shooting program at this time. The Moloka'i Hunters Working Group (MHWG) was formed in the same year and continues to provide a forum for discussing and making decisions concerning issues that affect land managers, hunters, and other Moloka'i community resource users. Standard monitoring methods (accepted by the MHWG) are used to measure changes in ungulate levels throughout the preserve. A network of nine threat monitoring transects in the upper valley is monitored quarterly to determine activity levels. If hunters are able to keep ungulate activity levels at or below the levels achieved with snaring, the hunting program will continue in its present form, or be adjusted as agreed to by the group. At present, we are discussing the need for aerial shooting in specific areas where it is difficult for hunters to control goat populations because of dangerous, steep terrain. The number of goats in these steep areas must be lowered significantly to bring the average activity level back to, or below, 10%. Other methods that are being discussed to improve hunting success in steep areas include: fencing, creating zones where meat recovery is optional for ground hunters, and establishing helipads and campsites on the back wall ridges.

We also assist with quarterly aerial monitoring surveys. To date, the NARS program has provided most of the funding for these surveys. In this plan, we are proposing that the aerial monitoring program continue in its present form (Natural Area Reserves System staff coordinate, with Conservancy assistance), with a portion of the helicopter costs to be borne by the Conservancy beginning in FY1998. The aerial monitoring system consists of transects and check points that are monitored from a helicopter four times per year. The numbers of pigs, goats, and deer observed on each transect are recorded. During each survey, workers also visit the check points, which are designated spots at key access areas (most at approximately 2,300 feet in elevation) leading to the top of Oloku'i NAR. To date, no ungulates have been recorded at these check points. Managers and the MHWG have agreed that any ungulates seen at one of the seven check points will be shot immediately. No ungulates or ungulate sign have ever been detected on the plateau of Oloku'i NAR; this remains the most pristine natural area in Hawai'i.

Between April 1993 and May 1996, The Nature Conservancy conducted 20 volunteer hunts, involved 131 local volunteers, and removed 370 goats, 130 pigs, and 8 deer. Hunting has been effective in keeping pig activity below 10%. However, goats continue to be a problem, with activity as high as 60% on some monitoring transects. Our goal for the upper valley units is to reduce goat levels and maintain pig activity levels at less than 10% within this 6-year plan. If trends indicate we will not meet this goal, then we will resume using proven methods and get consensus from the MHWG. We are also concerned about the rising number of deer in the preserve. Hunters have been shooting deer when they are encountered; beyond this, however, we have not yet begun to address the control of axis deer. For at least the next 6 years, we are opting to focus on controlling goats and pigs, while we continue to monitor deer activity. We do not know of any successful control programs for axis deer in tropical rainforest settings.

Preserve staff, however, will keep apprised of axis deer control efforts currently being planned for Maui.

In the next 6 years we plan to continue our present-day ungulate control program and expand control efforts into the rest of the upper valley (Kapuhi unit and upper Kawainui and Lanipuni units) and into Waiohookalo Valley. Our need for additional surveys, monitoring transects, and hunting camps will be determined as we explore these new areas.

Year 1 (FY1998)

- Continue ungulate control program (including coordination of volunteer hunters for Pu'u Ali'i and Oloku'i NARs[2]) and develop new control methods as agreed to with the MHWG.
- Monitor existing nine upper valley threat monitoring transects (quarterly), monitor two lower valley transects (annually), and assist with monitoring of NARS aerial transects and check points (quarterly).
- Explore Kapuhi unit; determine the number and placement of monitoring transects needed for this unit.

Year 2 (FY1999)

- Continue ungulate control program and develop new control methods as agreed to with the MHWG.
- Monitor all upper valley threat monitoring transects quarterly (including additional Kapuhi transects), monitor two lower valley transects (annually), and assist with monitoring of NARS aerial transects and check points (quarterly).

Year 3 (FY2000)

- Continue ungulate control program and develop new control methods as agreed to with the MHWG.
- Monitor all upper valley threat monitoring transects (quarterly), monitor two lower valley transects (annually), and assist with monitoring NARS aerial transects and check points (quarterly).
- Expand ungulate control into Kapuhi unit.

Year 4 (FY2001)

- Continue expanded ungulate control program and develop new control methods as agreed to with the MHWG.
- Monitor all upper valley threat monitoring transects (quarterly), monitor two lower valley area transects (annually), and assist with monitoring NARS aerial transects and check points (quarterly).

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[2] At the state's request, the Conservancy has agreed to take on the responsibility of coordinating volunteer hunting efforts for conservation lands on the north shore of Moloka'i. This would be done in consultation with the state. (This is contingent upon the passing of the NAPP's new Rules and Regulations.) To accomplish this, we will need to add one new staff person (see Personnel, Equipment and Facilities program summary). If the rules are not passed, the status quo (each agency coordinating its own efforts) will remain in effect, and this position will not be hired.

- Explore Waiohookalo Valley management area; determine the number and placement of monitoring transects needed.

Year 5 (FY2002)
- Continue ungulate control program and develop new control methods as agreed to with the MHWG.
- Monitor all upper valley threat monitoring transects (quarterly), monitor two lower valley transects (annually), and assist with monitoring NARS aerial transects and check points (quarterly). Begin semi-annual surveys of Waiohookalo transects.

Year 6 (FY2003)
- Continue ungulate control program and develop new control methods as agreed to with the MHWG.
- Monitor all upper valley threat monitoring transects (quarterly), monitor two lower valley transects (annually), monitor Waiohookalo transects (semi-annually), and assist with monitoring of NARS aerial transects and check points (quarterly).
- Expand ungulate control to the Waiohookalo Valley area.

Weed Control

Program Goal: To prevent the spread of habitat-modifying weeds in the upper valley area of the preserve.

Habitat-modifying weeds are alien plants that have demonstrated the ability to suppress regeneration of, or displace, native vegetation. Many weeds become established when an area is disturbed by ungulates, which may also carry and spread seeds. In many areas, including Pelekunu Preserve, eliminating ungulates may be the most effective means of slowing the introduction and spread of habitat-modifying weeds.

In Pelekunu Valley, much of the valley floor was altered by human habitation and agriculture prior to the 1950s. The land was terraced for agriculture, and the streams were diverted to irrigate crops. Much of the vegetation in the lower valley was introduced by Polynesians and later by European settlers. Our weed control program will focus on preventing the spread of habitat-modifying weeds in the upper valley, where native plant communities are still relatively intact.

Clidemia hirta, a habitat-modifying weed that has extensively invaded other natural areas in Hawai'i, remains our primary and immediate concern. Clidemia occurs in the lower valley, and is beginning to invade the upper valley area. Manual and chemical control of Clidemia would be difficult to apply on a large scale in Pelekunu's rugged terrain; moreover, these methods have not been effective in other natural areas in Hawai'i. In May of 1990 (prior to writing the FY1992–1997 long-range plan), we began a biocontrol trial using the fungal agent *Colletotrichum gloeosporioides*. This work was done in cooperation with the state Division of Forestry and

Wildlife and the University of Hawai'i Cooperative Extension Service. To date, this agent has not been effective controlling Clidemia in Pelekunu. After releasing the fungal agent, we learned that The Nature Conservancy has a nationwide policy that prohibits introducing non-native species into Conservancy preserves without approval. For the past several years, we have been working to obtain such approval in order to release another Clidemia biocontrol agent, the beetle *Lius poseidon*. We will continue to seek approval from the Conservancy's Home Office to release this and other Clidemia biocontrol agents that are proven safe and effective. In the meantime, we may need to implement manual and chemical control to slow the continued spread of well-established Clidemia infestations.

As was previously stated, we are planning to release a biocontrol agent to control Clidemia. However, we may also need to implement manual and/or chemical control of Clidemia. Additional priority weeds will also be controlled with manual (pulling or cutting) and/or chemical methods. Herbicide use will be strictly limited, and in full compliance with the state Department of Agriculture's pesticide branch. (Weed control staff on Moloka'i are licensed by the state Department of Agriculture's pesticide branch.) If herbicides are needed, staff will use Garlon 3A, EZ Ject glyphosate capsules, or Roundup, usually at a concentration of 2 percent or less, and always in strict compliance with the label. Very small quantities will be used. Staff may employ additional herbicides as appropriate, under the direction of the state Department of Agriculture's pesticide branch. Heavy equipment is not used in weed control.

Our weed control program has three components: 1) developing and implementing a feasible, long-term control strategy for Clidemia; 2) identifying, mapping, and setting management priorities for other established habitat-modifying weeds; and 3) preventing the establishment of new habitat-modifying weeds. Examples of habitat-modifying weeds that have not yet made it to Pelekunu Preserve or to Moloka'i are *Miconia calvescens*, *Passiflora mollissima* (banana poka), *Tibouchina* spp., and *Schefflera actinophylla* (octopus tree). As part of our community outreach program, during events like Earth Day and through our bimonthly newsletter *Newsflash*, we educate the community about the threat these habitat-modifying weeds pose to Moloka'i's natural areas. Also, as part of our prevention program, we enforce a protocol for alien species that includes cleaning gear and clothing prior to entering the preserve, and conducting annual inspections of helipads for new weeds. We also look for new weeds as part of our monitoring programs.

As part of the preserve winter ungulate surveys, foliar cover estimates for all priority weed species (Table 1) are recorded along every threat monitoring transect. Presence/absence data for all other alien plants are also recorded. This information helps us track changes in the abundance and distribution of alien pest plants.

Year 1 (FY1998)

- Develop monitoring protocol to assess effectiveness of released Clidemia biocontrol agents, and re-release agent(s) if necessary (this and future biocontrol tasks are contingent upon our receiving Conservancy Home Office approval to release a new agent).

Table 1. Priority Pest Plants of Pelekunu Preserve.

Scientific Name	Common Name
Ageratina adenophora	Maui pamakani
Andropogon virginicus	Broomsedge
Clidemia hirta	Koster's curse
Fucraea foetida	Mauritius hemp, sisal
Lantana camara	Lantana
Melinis minutiflora	Molasses grass
Paspalum conjugatum	Hilo grass
Phyllostachys nigra	Black bamboo
Psidium cattleianum	Strawberry guava, waiāwi
Psidium guajava	Common guava
Schinus terebinthifolius	Christmas berry

- Identify, map, and rank top five habitat-modifying weeds (besides Clidemia).
- Conduct annual winter weed survey along all preserve threat monitoring transects.

Year 2 (FY1999)
- Assess effectiveness of released Clidemia biocontrol agents, and re-release agent(s) if necessary.
- Begin to develop or identify control methods for top five habitat-modifying weeds (besides Clidemia).
- Conduct annual winter weed survey along all preserve threat monitoring transects.

Year 3 (FY2000)
- Continue Clidemia biocontrol monitoring, and increase distribution of effective agent(s).
- Continue to develop or identify control methods for top five habitat-modifying weeds (besides Clidemia).
- Conduct annual winter weed survey along all preserve threat monitoring transects.

Year 4 (FY2001)
- Continue Clidemia biocontrol monitoring, and increase distribution of effective agent(s).
- Continue to develop control methods for top five habitat-modifying weeds (besides Clidemia).
- Begin control for priority habitat-modifying weeds (besides Clidemia).
- Conduct annual winter weed survey along all preserve threat monitoring transects.

Year 5 (FY2002)
- Continue Clidemia biocontrol monitoring, and increase distribution of effective agent(s).
- Continue to develop control methods for top five habitat-modifying weeds (besides Clidemia).
- Continue control for priority habitat-modifying weeds (besides Clidemia).

- Conduct annual winter weed survey along all preserve threat monitoring transects.

Year 6 (FY2003)
- Continue Clidemia biocontrol monitoring, and increase distribution of effective agent(s).
- Continue control for priority habitat-modifying weeds (besides Clidemia).
- Conduct annual winter weed survey along all preserve threat monitoring transects.

Program 2: Resource Monitoring

Program Goal: To track the biological and physical resources of the preserve and evaluate changes in these resources over time; to identify new threats to the preserve before they become established; and to promote research that helps guide management programs.

Resource monitoring tracks important biological and physical resources (especially: native vegetation, birds, terrestrial invertebrates, aquatic fauna, and rare species) in perpetuity. We have established four resource monitoring transects, with associated permanent plots, throughout the upper valley to track vegetation changes. Landscape-scale monitoring to track changes in the distribution of natural communities is conducted opportunistically when new aerial photos become available. Due to the steepness of the valley walls, it is not possible to establish transects in these areas. These areas are assessed from aerial photos (as they become available) and by scanning the cliff regions with binoculars from the valley floor.

Monitoring the health of Pelekunu Stream and its tributaries is imperative to maintaining this rare natural community. A number of workers have investigated stream fauna in Pelekunu Preserve. The Conservancy's first monitoring was conducted in 1986 by U.S. Fish and Wildlife Service personnel John Ford and Andy Yuen. In 1993 the Conservancy became involved with the Kalaupapa National Historical Park's Waikolu Stream study project, signing a cooperative agreement in 1994 to include a comparison with the Pelekunu Stream system. The information gathered from this study of the streams' physical and biological characteristics will help develop strategies for protection and management. (At this writing, the final report on this study had not been completed; the study's findings will be made public by 1997.) In FY1998, incorporating recommendations from previous studies, Conservancy staff will begin regular stream monitoring in Pelekunu Preserve. This will be a cooperative effort with the state's Division of Aquatic Resources. Stream monitoring will include regular surveys for diadromous macrofauna (native gobies and mollusks, and native and alien crustaceans).

Baseline data from the permanent vegetation plots in the upper valley were collected in 1993. In 1996 the vegetation plots were re-monitored, and rare plant monitoring was begun. We are currently entering the data in a newly developed database program (analysis was not complete at the writing of this plan). We plan to use this program (a customized version of Paradox for Windows®) to store and summarize all of our resource monitoring data. We will monitor rare plants at least once every 3 years (extremely rare plants, if found, may be monitored more

frequently). Staff will also collect data from permanent vegetation plots (along the resource monitoring transects) in upper Pelekunu Valley every 5 years. We will also begin monitoring the Pelekunu and then the Waiohookalo Stream systems, and terrestrial invertebrates, and expand vegetation and rare plant monitoring throughout the preserve.

The Conservancy also encourages management-related research by providing logistical support to interested researchers. However to date, most Moloka'i researchers have preferred to work the Conservancy's more accessible preserves, Mo'omomi and Kamakou.

Year 1 (FY1998)
- Begin terrestrial invertebrate monitoring planning for upper and lower Pelekunu Valley.
- Complete first annual aquatic monitoring session for Pelekunu Stream system.
- Complete rare plant monitoring for upper valley area.

Year 2 (FY1999)
- Begin planning/exploring for vegetation, rare species, terrestrial invertebrate, and aquatic monitoring of Waiohookalo Valley management area.
- Complete second aquatic monitoring session for Pelekunu Stream system.

Year 3 (FY2000)
- Complete planning/exploring for vegetation, rare species, terrestrial invertebrate, and aquatic monitoring for entire Waiohookalo Valley area.
- Complete invertebrate survey for upper and lower Pelekunu Valley.
- Complete third aquatic monitoring session for Pelekunu Stream system.

Year 4 (FY2001)
- Complete first annual aquatic monitoring session for Waiohookalo Stream system.
- Complete fourth aquatic monitoring session for Pelekunu Stream system and determine monitoring interval.
- Complete third vegetation monitoring session for upper valley area (interval is every 5 years).
- Establish transects/plots for vegetation and rare species monitoring in Waiohookalo Valley area.
- Complete rare plant monitoring for upper valley area.

Year 5 (FY2002)
- Complete planning for terrestrial invertebrate monitoring in Waiohookalo Valley area.
- Complete second aquatic monitoring session for Waiohookalo Stream system.
- Complete first vegetation monitoring session (every 5 years) for Waiohookalo Valley area.

Year 6 (FY2003)
- Complete first invertebrate monitoring session upper and lower Pelekunu Valley.
- Complete terrestrial invertebrate survey (in preparation for monitoring) for Waiohookalo Valley area.

- Complete third aquatic monitoring session for Waiohookalo Stream system.
- Complete fifth aquatic monitoring session for Pelekunu Stream system (contingent upon monitoring interval determined in year 4).

Program 3: Community Outreach

Program Goal: To build community support and awareness concerning the conservation of native natural resources, and to implement effective conservation practices that are also culturally sensitive. To encourage and facilitate the preservation and restoration of the cultural resources of Pelekunu Valley.

Field trips and slide show presentations promote education about, and enjoyment of, Hawai'i's natural areas for the Moloka'i community. The Kamakou Preserve boardwalk hike includes a scenic overlook of the adjacent Pelekunu Preserve, and provides an opportunity for the community to learn about Pelekunu's important stream ecosystem. Every summer, a Moloka'i High School intern, *Alu Like* and state summer youth workers join the preserve staff and are exposed to careers in conservation while learning about Hawai'i's natural areas and their need for protection. The Conservancy Moloka'i office also publishes a bi-monthly newsletter and coordinates the annual Earth Day event on Moloka'i.

Pelekunu Preserve was established to protect the native aquatic community in Pelekunu Stream and its tributaries. Water diversion is a potential threat to the preserve's stream ecosystems. Our strategy to protect Pelekunu's streams is to continue to be involved with the Moloka'i Water Working Group, which advises the state Water Commission. This group is made up of community members representing various interest groups as well as members from various parts of the island. The *Final Report Of The Molokai Water Working Group (July 1993)* states: "*The development of new water resources from the undeveloped portions of the Northeast Sector should be held in reserve to maintain the 39 mgd developable yield.*" The Conservancy's Director of Moloka'i Programs is a member of the Moloka'i Water Working Group and participates when the report is updated.

In 1993 we formed our Moloka'i Advisory Council (MAC). MAC members are respected local residents representing a variety of ethnic groups (especially Hawaiians) and geographic areas. The council is involved in our management decisions, and facilitates communication with the Moloka'i community. This group has helped us incorporate cultural values into our management practices, supported us on sensitive management issues, and helped The Nature Conservancy become a more accepted part of the Moloka'i community.

We do not promote the public use of Pelekunu Valley due to its remoteness and our inability to provide any emergency facilities, communication, or logistical assistance to the public users. We request that any public camping remain restricted to the beach. However, our vision is to see the cultural resources of the valley restored and protected through the involvement of the Moloka'i community. Although the Conservancy's mission is to focus on the natural resources

of the valley, we believe it is important to integrate cultural and natural resource management at Pelekunu. To this end, we will seek a partner organization to take the lead in developing and implementing cultural restoration. This partner will also be responsible for securing needed funds for cultural projects; however, some Moloka'i staff time will be needed to create and maintain a relationship with the partner organization.

Years 1 – 6 (FY1998 – FY2003)

- Select and fund annual Moloka'i High School summer intern.
- Train and oversee *Alu Like* and other Summer Youth Program participants in management activities throughout the summer months.
- Conduct monthly hikes through Kamakou to Pelekunu overlook, and give educational slide shows for local schools/community groups.
- Continue to develop volunteer and docent participation.
- Maintain and further develop community Hunters Working Group, Moloka'i Water Working Group, and Moloka'i Advisory Council.
- Coordinate annual Moloka'i Earth Day Event.
- Produce six bi-monthly newsletters.
- Conduct one helicopter field trip for community group.
- Identify and then assist local partner to develop, secure funding for, and implement cultural restoration in the preserve.

Program 4: Emergency and Safety

Program Goal: To be trained and equipped to assist primary Fire and Rescue agencies during an emergency in the preserve and to provide the safest possible environment for staff, interns, and volunteers.

All staff will be certified in first aid and CPR. In addition, field staff will participate in a variety of training programs offered by cooperating state and federal agencies (fire training, helicopter safety, hunter safety, rappelling, etc.). The Pelekunu Wildfire Plan and Medical and Rescue plans will be updated annually, and reviewed with the lead state or county emergency response agency.

Years 1 – 6 (FY1998 – 2003)

- Update preserve Wildfire Presuppression Plan.
- Update Medical and Rescue Plans, and keep staff safety trained (CPR, first aid, fire).

Program 5: Personnel, Equipment, and Facilities

The Conservancy currently has six full-time staff on Moloka'i: Director of Programs, Field Coordinator, Field Biologist, Administrative Operations Assistant, Field Technician, and Administrative/Outreach Coordinator. These staff, with assistance from summer interns,

manage three preserves, with about 30% of their time spent on Pelekunu Preserve. Office/baseyard, equipment, and travel costs on Moloka'i are also split among the three preserves, with 30% charged to the Pelekunu budget. In addition to the office/baseyard, facilities needed to conduct management at Pelekunu include two cabins and two remote shelters (the latter can be moved with a helicopter). Also, the National Park Service recently installed an electronic gauging station and a weather station in upper Pelekunu Valley. Vehicles are not used in Pelekunu.

Approximately 60% of staff time will focus on threat control programs (primarily ungulates, but also weeds), 20% on resource monitoring, 10% on community outreach, and 10% on planning and administration.

Socio-economic Characteristics

Three primary socio-economic benefits will result from the proposed project: stream protection, continued preservation of an important recreational and cultural resource, and public education. This project will also create conservation jobs on Moloka'i.

The adult life forms of amphidromous animals such as 'o'opu, 'ōpae, and hīhīwai are, by definition, adapted to live and reproduce in freshwater streams. Their larvae, by contrast, are washed downstream into the ocean, where they live in this marine setting until they encounter and colonize a suitable freshwater stream. Healthy, perennial streams such as those still found in Pelekunu Preserve produce an abundance of planktonic marine larvae. Protection of these streams is a socio-economic benefit because these larvae are believed to be an important food source for marine fishes (utilized by Moloka'i fishermen). In addition, larvae produced in Pelekunu streams help to colonize other streams on Moloka'i and, perhaps, on other islands. This can be also be considered a socio-economic benefit because Moloka'i residents commonly harvest stream animals from many of the island's north shore streams.

Management actions such as ungulate control will also help reduce erosion, therefore maintaining good water quality in the streams and the nearshore environment. This is another benefit to those who are utilizing Moloka'i's marine resources.

Pelekunu Preserve is an important recreational resource for Moloka'i's residents. Visitors prize this exceptionally remote, scenic area, and utilize it for camping, hiking, and gathering. This experience can be particularly meaningful for native Hawaiians, some of whose ancestors once lived in this region. The Conservancy's management will preserve these uses.

Pelekunu Preserve staff routinely give presentations to community and school groups on the importance of protecting natural areas in Hawai'i, and Pelekunu's important biota. Conservancy staff will also provide some hiking opportunities to the general public (the Kamakou Preserve boardwalk hike includes a scenic overlook of the adjacent Pelekunu Preserve).

Environmental Characteristics

This project has benefited, and will continue to benefit the environment, by maintaining and enhancing native ecosystems, preserving biological diversity, and promoting improved water quality.

Numerous rare plants, rare animals, and native natural communities found in Pelekunu Preserve are better protected as a result of this project. Pelekunu Preserve contains one of Hawai'i's last remaining intact, perennial stream communities. This community contains the full suite of native, diadromous fauna, including five species of fish ('o'opu), two species of crustaceans ('ōpae), and a mollusk (hīhīwai). By reducing the potential for rapid runoff from ungulate-damaged areas, a stable water regime will be promoted.

III. SUMMARY OF MAJOR IMPACTS

Major Impacts — Positive

- Reduction of ungulate activity in the upper valley to a level that will promote and sustain recovery of native vegetation in the preserve.
- Limiting the spread of habitat-modifying weeds and prevention of introduction of new problem weeds.
- Maintenance of water quality and natural flow regimes within a stream system known for its biological importance.
- Tracking of biological resources in the preserve, and evaluation of changes in these resources over time to identify new threats.
- Prevention of the extinction of rare species.
- Preservation of a living component of Hawaiian culture.

Major Impacts — Negative

No major negative impacts are expected to result from the proposed activities. However, there are several *potential* negative impacts. One of these is the accidental introduction or spread of new weeds or other pest species by staff, volunteers, or other visitors. Because herbicides might sometimes used to control habitat-modifying weeds in the preserve, there is a remote possibility of localized soil contamination. If we opt to use diphacinone or other rodenticides, there will be a small chance that non-target animals will be poisoned. Occasionally there will be an increase in noise levels from helicopters, which are required for management access. The "prop wash" of low-flying helicopters also might disturb animals such as tree snails and birds.

There is also the potential for visitors to harm Pelekunu's natural resources. As mentioned earlier in this assessment, a number of landowners retain several hundred acres within the preserve. These people and other members of the Moloka'i community exercise traditional access, gathering, and other rights within the valley, as recognized by law. These users might harm Pelekunu's resources in several ways. Potential detrimental activities include dumping trash, introducing weeds or alien invertebrates, starting fires, overcollecting, trampling rare plants, and planting marijuana or other illegal plants.

IV. ALTERNATIVES CONSIDERED

Although we (the Conservancy) considered a variety of alternatives involving lower levels of management, we decided that the actions outlined in this assessment are all necessary to assure the continued protection of rare species and valuable habitat. Slowing the pace of management could jeopardize progress made in controlling feral animals. A no-action alternative would promote the loss of a rare Hawaiian ecosystem, and of numerous rare plants and animals. Furthermore, erosion of fragile forest top soils would continue at an accelerated rate, affecting water quality and degrading nearshore reefs and fisheries.

V. PROPOSED MITIGATION MEASURES

To prevent the accidental introduction or spread of weeds or alien invertebrates, staff and volunteers entering the preserve are required to clean their clothing, boots, equipment, and camping gear of soil, plant material, and insects. Wherever possible, helicopter flights into the preserve will originate from weed-free areas such as wooden platforms or pavement, and all materials hauled in will be inspected and cleaned to remove soil, plant material, and insects. Helicopter landing sites and areas frequented by staff will be inspected for weeds. To prevent contamination of soil or water with herbicides, all field staff have been trained in the safe application of chemicals. Weed control staff are licensed by the state Department of Agriculture's pesticide branch, and herbicides are used selectively, and according to label instructions. Similarly, the rodenticide diphacinone will be used in accordance with the label information, which includes notifying the Department of Agriculture before planned use of this pesticide. We will utilize tamper-proof or tamper-resistant bait boxes designed to minimize the chances of non-target animal poisoning. The Nature Conservancy will continue to work with the informal Toxicant Registration Working Group to employ the safest, most effective rodent control techniques.

Helicopter landings are restricted to seven designated landing zones. Furthermore, to reduce noise and prop wash, we ask local helicopter pilots to fly higher than 1,000 feet above the forest canopy when traveling over the preserve. The Conservancy reports illegal helicopter landings and low-level overflights to the state Division of Conservation and Resources Enforcement.

With respect to the potential for visitors to harm Pelekunu by overcollecting, trampling rare plants, starting fires, etc., we have taken several steps to minimize or prevent such damage. When possible, we provide visitors with an information sheet that outlines the preserve rules, identifies sensitive resources, and requests that all visitors clean their gear before entering the preserve. Visitors are asked to restrict camping to the beach. We also ask that visitors not litter. Enforcement of criminal activity such as poaching is the responsibility of the state Division of Conservation and Resources Enforcement. We also work with the public to foster a strong sense of community and, to date, the Moloka'i community has used Pelekunu responsibly.

VI. DETERMINATION

No significant negative impacts to the environment are expected to result from the implementation of the proposed activities.

VII. FINDINGS, AND REASONS SUPPORTING DETERMINATION

In summary, all activities are expected to be beneficial, or to have no negative effect. The proposed activities are expected to benefit native species (including rare plants and animals) and native natural communities, both in the project area and on adjacent lands. For example, ungulate control will protect rare plants and native natural communities from browsing and other types of ungulate damage (including the spread of certain weeds). Active weed control in the project area will also help protect rare plants and native natural communities, and will indirectly help rare and other native animals. Active management of Pelekunu Preserve will also promote a more stable water regime within the project area by reducing the potential for rapid runoff from disturbed or degraded areas.

The risk of significant negative impact is low. Through a rigorous cleaning and monitoring program, the introduction or spread of new weed species by humans is expected to be minimal. Management-related impacts on historical resources in the area will be avoided. Furthermore, the risk of herbicidal contamination is low because 1) only small volumes of approved herbicides would be used, 2) staff are well-trained in herbicidal application, and 3) all chemical use will be in compliance with the state Department of Agriculture's pesticide branch. Compliance with the requirements of the state Department of Agriculture will also minimize the chances of non-target animal poisoning resulting from the use of rodenticides.

VIII. EA PREPARATION INFORMATION

This document was prepared by staff of The Nature Conservancy, in consultation with Peter Schuyler and Betsy Gagné, staff members in the Department of Land and Natural Resources/Division of Forestry and Wildlife/Natural Area Reserves System program. The primary EA preparer is:

Wendy Fulks, Project Manager
The Nature Conservancy
1116 Smith Street, Suite 201
Honolulu, Hawai'i 96817
(808) 537-4508

This environmental assessment incorporates many sections and figures from the Pelekunu Preserve Long Range Management Plan (e.g., all maps, descriptions of resources, and proposed activities). Please refer to the management plan for details pertaining to the project budget.

IX. APPENDICES

APPENDIX 1
COMMENTS RECEIVED DURING CONSULTATION
(AND RESPONSES)

LINDA CROCKETT LINGLE
Mayor

CHARLES JENCKS
Director

DAVID C. GOODE
Deputy Director

AARON SHINMOTO, P.E.
Chief Staff Engineer

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
AND WASTE MANAGEMENT
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

RALPH NAGAMINE, L.S., P.E.
Land Use and Codes Administration

EASSIE MILLER, P.E.
Wastewater Reclamation Division

LLOYD P.C.W. LEE, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

Solid Waste Division

November 7, 1996

Mr. Michael Buck
State of Hawaii
Department of Land and Natural Resources
888 Mililani Street, Suite 700
Honolulu, Hawaii 96813

Dear Mr. Buck:

SUBJECT: PELEKUNU PRESERVE, KAPUNAKEA PRESERVE AND KANEPUU PRESERVE 6 YEAR MANAGEMENT PLAN

We reviewed the subject application and have the following comment.

1. A Solid Waste Management Plan shall be prepared which addresses the disposal of non-native species removed from the preserve, i.e., ungulates, small mammals, and weeds.

If you have any questions, please call Aaron Shinmoto at 243-7845.

Sincerely,

for Charles Jencks
Director of Public Works and
Waste Management

AS:co/mt
xc: Engineering Division
Solid Waste Division
Wastewater Reclamation Division
G:\LUCA\CZM\PRESERVE.WPD

A2

LINDA CROCKETT LINGLE
Mayor

OFFICE OF THE MANAGING DIRECTOR
COUNTY OF MAUI
WAILUKU, MAUI, HAWAII 96793

RICHARD H. HAAKE
Managing Director
Telephone: 243-7855

October 15, 1996

Mr. Michael Buck
Division of Forestry and Wildlife
Administrator
State of Hawaii
Department of Land and Natural Resources
Kendall Building
888 Mililani Street, Suite 700
Honolulu, Hawaii 96813

Dear Mr. Buck:

Re: Natural Area Partnership Program

We received your letters regarding written comments for the plans at the Kanepuu, Kapunakea and Pelekunu Preserves. We have no comment to make at this time except that we'll circulate the Preserve plans to our departments for their review with comments back to Mr. Peter Schuyler.

One thing which we can do is have our Fire Department work with your department and the Nature Conservancy to formulate a Fire Response and Prevention Plan to protect Kanepuu on Lanai.

Thank you for sharing the plans by the Nature Conservancy. It is nice to see the partnership that has evolved to safeguard our environment.

Very truly yours,

RICHARD H. HAAKE
Managing Director

The Nature Conservancy of Hawaii

[illegible] SOUTH KING STREET • HONOLULU, HAWAII • 96817 • PH (808) 537-4508 • FAX (808) 545-2019

December 10, 1996

Mr. Charles Jencks
Director of Public Works and Waste Management
Maui County
200 South High Street
Wailuku, HI 96793

Dear Mr. Jencks,

Your 11/7/96 memorandum to Michael Buck was forwarded to The Nature Conservancy for response. The memorandum stated that Solid Waste Management Plans should be prepared to address the disposal of non-native species from Pelekunu, Kapunakea, and Kanepuu Preserves.

I recently spoke with a member of your staff, Mr. Aaron Shinmoto. Mr. Shinmoto advised me that we would only need to prepare Solid Waste Management Plans *if we are disposing of non-native species in county land fills*. This is not the case, and we have no future plans to utilize county land fills for this purpose. Non-native plants are left inside the preserves where they can serve as mulch. Hunters usually recover the animals they kill; other animals such as those captured in traps are not taken outside the preserves.

I hope that I have adequately addressed your comment. Please contact me at 537-4508 if you have any additional concerns or questions related to these projects.

Sincerely,

Wendy Folks
Project Manager

cc
Peter Schuyler
Alenka Remec
Barrie Morgan
Ed Misaki
Mark White

A3

United States Department of the Interior

FISH AND WILDLIFE SERVICE
PACIFIC ISLANDS ECOREGION
300 ALA MOANA BOULEVARD, ROOM 3108
BOX 50088
HONOLULU, HAWAII 96850
PHONE: (808) 541-3441 FAX: (808) 541-3470

OCT 3 1 1995

In Reply Refer To: MRI.

Michael Buck
Division of Forestry and Wildlife Administrator
State of Hawaii
Department of Land and Natural Resources
Kendall Building
888 Mililani Street, Suite 700
Honolulu, HI 96813

Dear Mr. Buck:

Thank you for the opportunity to review the long-range management plans for Pelekunu Preserve (Molokai), Kanepuu Preserve (Lanai), and Kapunakea Preserve (West Maui) that will be used to prepare environmental assessments as part of the State Natural Area Partnership Program contract renewal process. Overall, the Service believes the management plans do an excellent job of identifying the resource needs of the preserves and make satisfactory management recommendations. However, the Service does offer the following specific comments for your consideration:

Pelekunu Preserve

1. Alien Species Control:

   a. The deer problem is a very serious threat and should be addressed much sooner than the proposed six year waiting period. The Service recommends that The Nature Conservancy (TNC) control deer at Pelekunu in the same manner as outlined in the Kanepuu preserve management plan.

   b. Because the plan does not indicate where the rare plants and animals are, it is difficult to know if the management actions adequately address these species. If any plants occur in areas not now slated for ungulate control, spot-fencing of rarer species should be considered.

   c. Along with measuring ungulate activity, changes in vegetation should also be measured to determine if the 10% ungulate activity ceiling is sufficient to allow vegetation to recover.

   d. This plan seems to indicate that only *Clidemia hirta* is being actively controlled and that other priority pest plants will only be monitored until 1999 when methods for their control will be developed. This seems inadequate, considering the number of habitat modifying species in this area.

   e. There is no mention of rat control. If rats are a problem in Pelekunu, this threat should be addressed.

   f. In addition to using the index outlined in the plan to determine success of feral ungulate and pig removal, TNC should examine the use of statistical procedures based on catch-perch-unit-effort of hunters.

2. Resource Monitoring: Extremely rare plants should be monitored more frequently than every three years. The plan does not specify what data will be collected when rare plants are monitored. The Service recommends contacting Gary Ray at the Center for Plant Conservation (808-848-4177) and Linda Pratt at the United States Geological Service, Biological Services Division (808-967-8211) for suggestions on monitoring procedures.

Kanepuu Preserve

1. Alien species control: A representative sample of fruits of lama (*Diospyros sandwicensis*) and/or iliahi (*Santalum freycinetianum* var. *lanaiensis*) could be examined to monitor rat damage.

2. Fire control: Grass control should be initiated to reduce fuel loads.

3. Resource Monitoring:

   a. Wild and outplanted rare plant individuals should be monitored. See comments under 1.e. for Pelekunu.

   b. Vegetation monitoring should be conducted with mapping to determine vegetation recovery with the removal of deer.

Kapunakea Preserve

1. Resource Monitoring: Rare species should be monitored to determine if management actions are successful.

Again, thank you for the opportunity to participate in the environmental assessment preparation process. If you have any questions about our comments, please contact Wildlife Biologist Michael Lusk (phone: 808/541-3441; fax: 808/541-3470).

Sincerely,

Brooks Harper

Brooks Harper
Field Supervisor
Ecological Services

AS

The Nature Conservancy of Hawaii

1116 SOUTH STREET • HONOLULU, HAWAII • 96817 • PH: [illegible] • FAX: [illegible]

December 10, 1996

Brooks Harper, Field Supervisor
Ecological Services
U.S. Fish and Wildlife Service
300 Ala Moana Boulevard, Room 3108
Box 50088
Honolulu, HI 96850

Dear Mr. Harper,

Your letter to Michael Buck was forwarded to The Nature Conservancy for response. Thank you for your overall support of our plans, and for your well-considered suggestions regarding management planned at Pelekunu, Kanepuu, and Kapunakea Preserves. Our responses to your comments are summarized below:

Pelekunu—alien species control

a. We agree that axis deer are a serious threat at Pelekunu; unfortunately, we do not currently have a feasible, effective control method for deer. While the Conservancy has had success controlling this species at Kanepuu Preserve on Lanai, the methods used there can not be applied at Pelekunu. For example, we have considered using fencing to exclude goats and pigs from large portions of Pelekunu, but decided that the area's steep terrain precluded this approach. Pelekunu's remote location and thick vegetation also make hunting for deer more difficult, and much less efficient, than hunting in settings such as Kanepuu Preserve. Deer are also much more elusive than goats, and cannot be caught with the aid of dogs as pigs are.

As we stated in the management plan, The Nature Conservancy is working with the local community, through the Molokai Hunters Working Group, to address ungulate control issues on Molokai. The Conservancy and the Group agree that in areas such as Pelekunu, pigs and goats are currently a higher priority for control.

b. Regarding the need to protect rare plants from ungulates, we will consider spot-fencing of rare species on a case-by-case basis. As you probably know, the Conservancy has recently installed fences around some rare plant populations in Kamakou Preserve, with funding from the Fish and Wildlife Service. Decisions to fence specific plants at Pelekunu will be based primarily upon the perceived level of threat, rarity, and terrain.

[illegible]

International Book Printers 1815 North Lynn Street Arlington Virginia 22209

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c. Your comment refers to our ungulate control goal for the upper valley (activity sustained at 10% or less), and suggests that we measure vegetation change to determine whether this level of ungulate control allows for vegetation recovery. We do measure vegetation changes within the preserve as part of our resource monitoring program; these data may provide some information concerning vegetation recovery as it relates to ungulate levels. In addition, we are supporting Dr. Peter Vitousek who is researching the effects of low levels of ungulates in the adjacent Kamakou Preserve. We expect Dr. Vitousek's results to be applicable to Pelekunu and other natural areas in Hawaii. Finally, years of field observations by experienced staff indicate that Pelekunu's vegetation can maintain itself, and recover, in places where ungulate activity levels are near 10%.

d. We agree that the Conservancy needs to begin focusing on additional habitat-modifying weeds (besides Clidemia) in Pelekunu Preserve. However, several years will be needed to do the work necessary to implement effective control programs. For example, we need to determine which species deserve immediate attention, identify those areas in which control should focus, determine suitable control methods, set realistic management goals, and establish procedures for measuring progress.

e. The Pelekunu long-range management plan does not contain a small mammal control program because rats are not known to be an immediate threat to the preserve's rare species. Our rare plant monitoring program should alert us to new threats (including rats), and we will implement control as needed. In fact, with financial assistance from the Fish and Wildlife Service, The Nature Conservancy has recently increased its efforts to control rats in the vicinity of rare snail populations in Kamakou Preserve.

f. We are currently working with a National Park Service wildlife biologist on Molokai who is developing statistically sound methods to determine the success of ungulate control programs. Our staff on Molokai are not familiar with the "catch-per-unit effort" procedures you mention. I would appreciate it if you could provide us with more information on this approach.

Pelekunu—resource monitoring

We have consulted local experts, including Gary Ray, about our rare plant management and monitoring programs at Pelekunu. We will consider increasing monitoring frequency or changing our current monitoring procedures if that is Dr. Ray's recommendation.

Kanepuu—alien species control

You suggest examining fruits from lama and/or iliahi as a way to monitor rat damage. Rather than focus on the incidence of seed predation for certain species, The Nature Conservancy would like to determine the effects of rats on native forest regeneration. Answering this question may involve examination of lama and/or iliahi fruits. Examining the effects of rodents on forest regeneration is one of our most important research priorities (see Research Needs List Appendix). To date, we have worked with USDA's Animal Damage Control staff to determine rat population levels in the preserve. We would also welcome help from Fish and Wildlife Service staff or other experts who could assist us in addressing this question.

Kanepuu—fire control

The control of alien grasses at Kanepuu is a difficult problem. The need to reduce fuel loads must be weighed against the threat of erosion. We believe that our current program, regularly mowing grass to create a fuel break around the perimeter of the fences, is the best way to address this problem for now. In the long term, the control of alien grasses will be addressed through our restoration program. For example, in fiscal year 1998 we will implement trials to determine effective techniques for planting native species within grassy areas. The goal will be for these native plants to eventually shade out the grass.

Kanepuu—resource monitoring

In response to your comments, we have added annual monitoring of rare plants to our plan. Monitoring of outplanted individuals is scheduled to begin in Year 5. We have also added a task to document vegetation changes that may be attributed to the removal of deer from Kanepuu unit. This work will commence in fiscal year 1999. We have not yet determined the methods to be used.

Kapunakea—resource monitoring

Our primary emphasis at Kapunakea is the control of habitat-wide threats such as ungulates and priority weeds. We expect to be able to increase the work we are doing to protect individual species after pigs have been eliminated, and the spread of weeds such as Tibouchina and strawberry guava are in check. Staff do monitor a subset of the preserve's rare plants in order to keep apprised of their health and reproductive status. In addition, we have done some monitoring of rare snail populations. However, the rare species monitoring currently planned at Kapunakea is *not* designed to document the effectiveness of management. The Nature Conservancy does not have the capacity to carry out this type of monitoring; however, we would support others who were interested in conducting this work at Kapunakea Preserve.

Once again, thank you for participating in the planning process. Please do not hesitate to contact me at 537-1508 if I have not adequately addressed the Service's comments.

Sincerely,

Wendy Hilks
Project Manager

cc
Peter Schuyler
Barrie Morgan
Mark White
Alenka Remec

A-7

October 15, 1996

State of Hawai'i-DLNR
DOFAW
ATTN: Mr. Peter Schuyler
Kendall Building
888 Mililani Street, Suite 700
Honolulu, Hawai'i 96813

Dear Mr. Schuyler:

As mentioned in our brief phone conversation, I appreciate your sending a copy of the planned 6-year management actions for Pelekunu Preserve to Kathy Davis, P.O. Box 350, Kaunakakai, Hawai'i, 96748, as soon as possible. While I understand there will still be time to comment after the plan's notice in OEQC's bulletin, I'm also aware of how difficult it is to change any plans, at any stage, once submitted to DLNR.

While The Nature Conservancy-Hawai'i (TNCH) on Molokai has improved their plans and community relations over the past few years, there are still some problems. Some of these problems are reflected in the submitted long-range management plan.

The parenthetical statement about aerial shooting on page I should be removed. Aerial shooting was never a good idea, and is certainly not the only feasible means of achieving the stated goal. Also on page I, re: safeguarding Pelekunu Stream from diversion. . . . Some of the community hunters and observers report evident reduced flows in Pelekunu Stream, particularly in the west side tributaries. This could be a consequence of increasing diversions in Waikolu. The interconnections within Molokai's water-storing formations are not well understood. Perhaps TNCH might be willing to help fund USGS-directed work to better determine whether or not Pelekunu Stream flows are sufficiently protected.

The wording on page 7 continues to falsely portray Pelekunu Valley as "extremely remote," and access as "hazardous." Boats come and go all year 'round. Also on page 7, it would be more accurate (perhaps) to write the rights as ". . . gathering, and, additionally, kuleana rights. . ." All with Hawaiian ancestry have rights within the valley. Kuleana landowners have additional rights, whether or not they are Hawaiian. Conservancy management has historically attempted to curtail these rights.

On page 9, paragraph re: "Lower Pelekunu Valley," ". . .continue to implement control as needed. . . ." Could TNCH please be a little more specific about what control measures they propose to implement. My tax dollars will continue to be at work here and I'd like to make certain they're legally and sensibly used. On page 10, some indication that alternatives to aerial shooting are being seriously considered and priced would be appreciated. If workers visit the checkpoints as noted in the plan, then workers can shoot the targeted animals from the ground. Also, bow-and-arrow vs. high-powered rifle might still prove to be the only safe alternative if aerial shooting must be rarely used. Finally on page 10, third line from the bottom, I hope ". . .proven methods. . ." means the community hunting program, because the data are unconvincing that snaring and aerial hunting worked well enough to justify the risks and reprehensibility of these actions.

Page 11's footnote is especially disconcerting. Since when does the state have the right to annoint a quasi-public entity as the sole authority for Molokai's entire north shore. The state's messed up so badly during their stewardship of the area. . . I am inclined to doubt their judgment in choosing a successor steward. . . whose track record is equally sad.

On page 12, perhaps eliminating any and all tourists ". . .may be the most effective means of slowing the introduction and spread of habitat-modifying weeds." Same page, relieved to see TNCH' home office has put at least a temporary stop to the use of non-native species to control other undesirable non-native species.

On page 17, the item re: community helicopter field trip: tourism, sightseeing into these threatened areas should not be condoned, much less encouraged by TNCH. I object to this misuse of my tax dollars.

That's about it for now. Thank you for the opportunity to comment. Others on Molokai will have much more, that's more relevant, to say about the plan. I'm enjoying all the learning opportunities here at UW-Stevens Point. Their environmental education programs are just great. Hope to bring them home soon and see what can be used to help keep Molokai Molokai.

Sincerely,

Sarah E. Sykes
(temporary address)
709 Vincent Court, Apt. B
Stevens Point, Wisconsin 54481
715-342-9079

The Nature Conservancy of Hawaii

• 1116 SMITH STREET • HONOLULU, HAWAII • 96817 • TEL (808) 537-4508 • FAX (808) 545-2019

December 10, 1996

Sarah E. Sykes
709 Vincent Court, Apt. B
Stevens Point, Wisconsin 54481

Dear Sarah,

Aloha! Your 10/5/96 letter to Peter Schuyler was forwarded to The Nature Conservancy for response. I appreciate your interest in the Conservancy's management at Pelekunu Preserve, and your concern for Molokai's natural resources. I hope to answer your concerns in this letter.

Aerial Shooting

At its September meeting, the Molokai Hunter's Working Group agreed, by consensus, that aerial shooting is an essential tool needed for animal control in portions of Molokai's north shore conservation areas. The Group recognizes that certain areas are simply too steep for hunters to reach, and has acknowledged the need for aerial shooting in these places. Aerial shooting will resume *only in designated critical areas that the Working Group has agreed upon.* (I will send you a map of the aerial shooting zones.) The Working Group based its decision on the recommendations of a subcommittee that included Working Group members William Kaholoaa and Ron Rapanot.

Reduced Stream Flows

Thank you for calling our attention to observations of reduced flows in Pelekunu Stream's west side tributaries. I will consult with USGS staff to learn whether their flow data corroborate these observations. I would also appreciate it if you, or those you know who have observed these flows, would give us an indication of how these observations are being measured.

If we determine that the stream flow in Pelekunu *is* abnormally low, I will seek assistance to determine the most likely cause. The abnormally dry summer is one possibility. However, if evidence points to a man-made cause such as water diversion in adjacent Waikolu Stream, the

Conservancy will do everything it can to determine the cause, and work with the community to address the problem.

Characterization of Pelekunu as Remote and Hazardous

It is our opinion that Pelekunu Preserve, as a whole, is remote and hazardous. It is true that many boats visit lower Pelekunu Valley, but these people come prepared to visit a remote and hazardous location. Joyce Kainoa, Pelekunu Preserve's only resident neighbor, has told me more than once that a simple injury like a sprained ankle in the back of Pelekunu can be a disaster because you are "in no man's land with no help near by." I take her advice seriously, and will do everything possible to prepare all users of Pelekunu.

Hawaiian and Kuleana Landowner Rights

I agree with you; the original text incorrectly equated native Hawaiian gathering rights with kuleana rights. As a result, we removed the word "kuleana," making the sentence more general, and included the clarification that these rights are codified in state law. This section now reads: "*A number of landowners retain a total of more than 350 acres in the valley . . . These people and other members of the Moloka'i community exercise traditional access, gathering, and other rights within the valley, as recognized by law. Conservancy management does not alter these rights.*"

Ungulate Control Methods

The type of ungulate control referred to on page 9 (in the lower valley area) is hunting. Regarding the possibility of using bow-and-arrow hunting instead of high-powered rifles from the air, this option has not been endorsed by the Hunters Working Group. The monitoring checkpoints you refer to are visited by helicopter, and are not accessed on foot. Finally, our reference to "proven methods" includes snaring and aerial hunting. We are doing everything we can to achieve our ungulate goals using community hunters. However, if these efforts fail, the Conservancy reserves the right to resume using methods such as a snaring that have already proven effective.

North Shore Hunter Coordinator

I am concerned that you have misunderstood our plans (subject to the approval of Natural Area Partnership Program rules and regulations) to help coordinate volunteer hunting efforts on Molokai's north shore. The Nature Conservancy would not become, as you state, "the sole authority for the Molokai's entire north shore." We have changed the text in the Environmental Assessment to be more clear on what the intention is here. The new text reads,

in part: "*At the state's request, TNCH has agreed to take on the responsibility of coordinating volunteer hunting efforts for conservation lands on the north shore of Molokai*". This is simply an efficient use of limited funds in order to control ungulates with assistance from volunteer community hunters.

Noelani Joy, whom you know very well, agrees with this direction. Please talk to her when you get a chance. As the community member of the Hunters Working Group, she is especially concerned that Molokai hunters are able participate in all north shore hunts (on Federal, State, and Nature Conservancy lands) easily and effectively.

Community Helicopter Field Trips

Please don't confuse our community helicopter field trips with tourism or sightseeing. The purpose of these trips is to take into the preserve community members who are interested in the management of Pelekunu. We especially want to begin helping cultural groups manage/restore the cultural resources of Pelekunu.

I hope I have addressed your concerns. Please contact me at 553-5236 if you have additional comments, or if you would like to discuss any of these issues further.

Sincerely,
Edwin T Misaki

Edwin T. Misaki
Director of Molokai Programs

cc
Peter Schuyler
Alenka Remec

410

BENJAMIN J. CAYETANO
Governor

JAMES J. NAKATANI
Chairperson, Board of Agriculture

LETITIA N. UYEHARA
Deputy to the Chairperson

Mailing Address:
P.O. Box 22159
Honolulu, Hawaii 96823-2159

FAX: (808) 973-9613

State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 So. King Street
Honolulu, Hawaii 96814-2512

November 4, 1996

96 NOV 13 AM 9:52

To: Michael D. Wilson, Chairperson
Board of Land and Natural Resources

From: James J. Nakatani, Chairperson
Board of Agriculture

Subject: Proposed Long Range Management Plan for Pelekunu Preserve - Molokai

Thank you for the opportunity to review the captioned document.

The Department of Agriculture recognizes the need to protect intact native ecosystems with many rare species. At the same time, it is of equal importance to make available the resources needed to support increased agricultural development on the 9,000 acres of fertile but dry lands in central Molokai.

Currently, the quantity of irrigation water available from the Molokai Irrigation System to Department of Hawaiian Home Lands homesteaders, Molokai Agricultural Park tenants, and others users such as Coffees of Hawaii and Hawaiian Research is insufficient to meet demand, especially during periods of drought. Providing adequate irrigation water will result in a much-needed increase in economic development opportunities for Molokaians through agriculture and related activities. For instance, since Molokai does not have the ringspot virus which has devastated other papaya producing areas throughout the State, the island has the potential to become a major producer of fresh papayas for export to lucrative Canadian and Japanese markets.

Furthermore, there is nearly 400 acres of seed corn grown on Molokai for mainland agribusinesses by a handful of companies who employ about 175 residents. A major grower anticipates an eight percent annual increase in planted acreage. The

seed corn operations have about 200 visitors to Molokai annually, each staying an average of 3.5 weeks. The seed corn operations are heavily dependent upon water from the Molokai Irrigation System.

Statutory and policy support for the development of irrigation water source and distribution infrastructure is found in the State Agriculture Plan:

Action I(1)(a) - Develop new, expanded, or improved water source and delivery systems in support of agriculture and aquaculture, as needed and economically feasible. (Specific mention is made of new water source development for the Molokai Irrigation System having to minimize adverse impacts on pristine watersheds.)

Action I(2)(a) - In implementing the State Water Code, give priority consideration, where justified for the benefit of Hawaii's people, to the maintenance of adequate water sources, supplies, and facilities for continued existing and planned beneficial agricultural uses.

Additional support is found in the Hawaii State Plan:

Section 226-7(a)(3) - An agriculture industry that continues to constitute a dynamic and essential component of Hawaii's strategic, economic, and social well-being.

Section 226-7(b)(10) - Assure the availability of agriculturally suitable lands with adequate water to accommodate present and future needs.

Section 226-16(b)(4) - Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.

Section 226-16(b)(5) - Support water supply services to areas experiencing critical water problems.

Sometime in the future the Department may seek funding and the approvals necessary to plan, engineer, and construct the infrastructure needed to transport Pelekunu Valley's surface waters to Molokai's central plateau. In this regard, we would like the environmental assessment to include an alternative that allows for some environmentally-sensitive surface water diversion within Pelekunu Valley.

At your convenience, we would like to discuss this matter with you and your staff. Please call me at 973-9550 or Mr. Paul Matsuo, Administrator, Agricultural Resources Management Division, at 973-9473.

c: Mr. Paul T. Matsuo, ARMD

pelekun.ltr

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BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

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

MICHAEL D. WILSON
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY
GILBERT S. COLOMA-AGARAN

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
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CONSERVATION AND ENVIRONMENTAL AFFAIRS
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CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT
WATER RESOURCE MANAGEMENT

DEC 11 1996

MEMORANDUM

TO: JAMES J. NAKATANI, Chairperson
Board of Agriculture

FROM: MICHAEL D. WILSON, Chairperson
Board of Land and Natural Resources

SUBJECT: Reply to Comments on the Long Range Management Plan for Pelekunu Preserve, Molokai

Thank you for taking the time to review the long range management plan for Pelekunu Preserve, and for providing comments for us to consider in the preparation of an Environmental Assessment for this project. Since 1992, through its Natural Area Partnership Program, the Department of Land and Natural Resources has been working together with the land owner, The Nature Conservancy, to manage the natural resources at the Pelekunu Preserve. In preparing this response to your memo, I have asked The Nature Conservancy to provide me with their position on the issue of water development in Pelekunu, and have incorporated their input in the comments below. In addition, I have included the position of the Department of Land and Natural Resources on this issue.

The Nature Conservancy raised private funds to acquire Molokai Ranch's interests in Pelekunu Valley after identifying this watershed as one of the state's best candidate sites in which to protect an undisturbed, continuous perennial stream ecosystem in perpetuity. Recognizing the importance of surface water diversion to the Molokai economy, the Conservancy accepted the invitation of the State Commission on Water Resource Management to participate in the Molokai Water Working Group, a community advisory group to the Commission. Through its participation in this group, the Conservancy supports the group's recommendations (first completed in 1993 and updated in 1996), which include holding the water resources in Pelekunu, Wailau and other undeveloped northeast Molokai valleys in reserve from development. It is the position of the Working

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Group and the Conservancy that Molokai's water needs can be met through a combination of water conservation and development of alternative sources. For this reason, the Conservancy does not support the inclusion of a water development alternative in the Environmental Assessment for Pelekunu Preserve. The Conservancy feels that to do otherwise, would contradict the statements it has made to the Water Working Group and to the many parties who contributed to the establishment and management of the preserve. The Conservancy also feels that diversion of water within the preserve would expose the biological and cultural resources of Pelekunu Preserve to unacceptable risk.

Although the State Commission on Water Resource Management has not officially adopted the Water Working Group's recommendations, as Chairperson of the Commission, I take the recommendations seriously. These recommendations were reached by consensus by a number of differing interests and indicate there is not community support for any water diversion plans from Pelekunu Valley at this time.

In addition, the Board of Land and Natural Resources approved State matching funding in 1992 for the Pelekunu Natural Area Partnership, in large part because of the undisturbed hydrological regime and the natural resources supported by the streams in the watershed. The continued protection of the water resources in Pelekunu Valley is a primary factor in the Department's interest in re-authorizing state funding for the project this year.

In conclusion, for the reasons stated above, the Environmental Assessment for Pelekunu Preserve Natural Area Partnership will not include an alternative allowing for the diversion of water from Pelekunu Preserve. Please be aware that funding re-authorization for this project occurs on a six year cycle, so the issue can always be raised in a future environmental assessment, if the community consensus decision changes. I welcome further discussion on this topic and am certain that The Nature Conservancy will also be happy to participate.

cc: Mike Buck, DOFAW
Rex Johnson, The Nature Conservancy
Rae Loui, Water Resource Management
Wes Wong, DOFAW

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BENJAMIN J. CAYETANO
GOVERNOR
STATE OF HAWAII

KALI WATSON
CHAIRMAN
HAWAIIAN HOMES COMMISSION

JOBIE M. K. M. YASUGUCHI
DEPUTY TO THE CHAIRMAN

96 NOV -7 A10:10

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P.O. BOX 1879
HONOLULU, HAWAII 96805

November 1, 1996

MEMORANDUM

TO: The Honorable Michael D. Wilson, Chairperson
Department of Land and Natural Resources

ATTN: Michael Buck, Administrator
Division of Forestry and Wildlife

FROM: Kali Watson, Chairman
Hawaiian Homes Commission

SUBJECT: Request for Comments on Planned Management Actions for Pelekunu Preserve (Molokai), Kanepuu Preserve (Lanai), and Kapunakea Preserve (West Maui)

Thank you for allowing our review of the six-year management plans for the three subject preserves.

The Pelekunu Preserve is of interest to the Department of Hawaiian Home Lands (DHHL) because we have jurisdiction over more than 25,000 acres and 812 homestead leases on Molokai.

The following comments relate to the proposed management plan for the Pelekunu Preserve.

Program 1: Non-native Species Control

As you know, Molokai families are very concerned about the preservation of natural and cultural resources and the threat of feral ungulates to native plants and wildlife. They would like the opportunity to continue to hunt for home consumption and to control the population of deer, goats and pigs. (Page 10)

Given the economic conditions on Molokai and upcoming welfare program reforms, it is likely that this demand will increase. Provisions should be made for Molokai residents to have priority for on-island hunting.

If there is not enough local demand, hunters from off-island should be allowed. Out-of-state shooting clubs might also be invited as part of an "eco-tourism" program.

Wire snaring or shooting animals from aircraft without retrieving the carcasses should not be allowed.

Please explain why you will be only monitoring and not undertaking efforts to control the rising numbers of axis deer in the preserve. (Page 11) Are they less destructive to the native habitat? Are they less popular to hunters?

Efforts should be made to evaluate the role of ungulates (positive or negative) relative the the spread of habitat-modifying weeds such as Clidemia hirta. (Page 12)

We are concerned about the use of fungal or other biocontrol agents to combat the spread of weeds. (Pages 12 and 13) We need to know what native plants or animals may come be affected as the original target hosts are reduced and eliminated. Past experiences have taught us that introduction of alien species can result in problems far greater than those we originally set out to solve.

Program 3: Community Outreach

You note that water diversion is a potential threat to Pelekunu Preserve's stream ecosystems. (Page 17) We support the strategy of continuing involvement with the Molokai Water Working Group which advises the State Commission on Water Resource Management.

We also applaud efforts to educate and involve the community in programs and projects to protect natural and cultural resources.

If you have any questions, please call Joe Chu of our Planning Office at 586-3838.

4170L9

The Nature Conservancy of Hawaii

1116 SMITH STREET • HONOLULU, HAWAII • 96817 • PH: (808) 537-4508 • FAX (808) 545-2019

December 10, 1996

Mr. Kali Watson, Chairman
Hawaiian Homes Commission
P.O. Box 1879
Honolulu, HI 96805

Dear Mr. Watson,

Your 11/1/96 memorandum to Michael Buck was forwarded to The Nature Conservancy for response. We have taken your suggestions concerning management at Pelekunu Preserve under advisement, and respond as follows:

Non-native species control

The Nature Conservancy is involved in the control of ungulates at Pelekunu because this control is necessary to protect the area's native plants and animals. As a participant of the Molokai Hunters Working Group, we are involving the local community in these efforts. The program agreed to by the Working Group allows only Molokai hunters to participate in Working Group-organized trips to Pelekunu. The Working Group has not decided how (or if) to accommodate requests from off-island hunters.

Regarding the need to use wire snares and aerial shooting (without meat recovery): The Nature Conservancy is doing everything it can to achieve its ungulate goals using community hunters. However, if these efforts fail, the Conservancy reserves the right to resume using methods such as a snaring and aerial shooting, which have already proven effective. In fact, at its September meeting, the Molokai Hunter's Working Group agreed, by consensus, that aerial shooting is an essential tool needed for animal control in portions of Molokai's north shore conservation areas. The Group recognizes that certain areas are simply too steep for hunters to reach, and has acknowledged the need for aerial shooting in these places.

You have raised some good points concerning the control of axis deer. Simply put, we do not know how to control deer effectively in a setting such as Pelekunu. Fencing is not a feasible solution, and regular hunting is fairly ineffective due to the thick vegetation and the difficult terrain. It is true that deer *may* be less destructive than pigs or goats at Pelekunu. In our

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experience, Molokai hunters actually prefer deer to goats and pigs, because of the meat's flavor. Nevertheless, the Molokai Hunters Working Group has decided to focus on pigs and goats for now.

We believe that we already have a fairly good understanding of the role ungulates play relative to the spread of habitat-modifying weeds in Pelekunu Preserve. For example, Conservancy staff have never observed ungulates browsing on Clidemia. We have observed Clidemia sprouting in areas where the ground and/or vegetation has been disturbed by pigs and goats, however. We also know that Clidemia seeds are spread by fruit-eating birds.

Concerning the use of biocontrol agents, we believe that with the regulatory controls currently in place, the risks of implementing biocontrol are fairly small compared to the consequences of inaction. No biocontrol agents will be released until they are shown to be highly host-specific. For species such as Clidemia, there is simply no feasible alternative.

Community outreach

We appreciate your support of our efforts to work with, and learn from, the Molokai community.

Once again, thank you for your comments. Please contact me at 524-0779 if I have not adequately addressed your comments.

Sincerely,

Edwin T. Misaki

Edwin T. Misaki
Director of Molokai Programs

cc
Peter Schuyler
Alenka Remec

LINDA CROCKETT LINGLE
Mayor

DAVID W. BLANE
Director

GWEN OHASHI HIRAGA
Deputy Director

COUNTY OF MAUI
PLANNING DEPARTMENT
250 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793

October 22, 1996

Mr. Michael Buck, Administrator
Division of Forestry and Wildlife
Department of Land and Natural Resources
888 Mililani Street, Suite 700
Honolulu, Hawaii 96813

Dear Mr. Buck:

RE: Comments on Planned Management Actions for Kapunakea and Pelekunu Preserves

Thank you for the opportunity to comment on the proposed long-range management plans for the Kapunakea and Pelekunu Preserves.

While this Department is primarily concerned with the Urban, Rural and Agricultural District lands, we do feel that proper management of the Conservation lands is very important to the county as a whole. Their value as a fresh-water source is essential for domestic and agricultural use. Economically, the conservation lands are a very important element of our visitor industry as a beautiful backdrop and for the rising eco-tourism segment of the market. As such, we feel this program holds far-reaching benefits to the county and state.

We also feel that in this time of increased demand on government with smaller budgets to do it with, the kinds of public/private partnerships exhibited in this program are very important and should at least be supported, if not increased. The Nature Conservancy is a very capable organization with a proven track record of cooperation and effectiveness here on Maui.

If we can provide you with any further assistance, please do not hesitate to contact William Spence of my staff at 243-7735.

Very truly yours,

DAVID W. BLANE
Director of Planning

DWB:wrs
cc: Alan Holt, The Nature Conservancy
Mark White, The Nature Conservancy, Maui Field Office
Central File

A17

DIVISION OF AQUATIC RESOURCES - MAUI
DEPARTMENT OF LAND & NATURAL RESOURCES
130 Mahalani Street
Wailuku, Hawaii 96793
Phone # (808) 243-5327
FAX #(808)243-5326
October 25, 1996

To: Michael Buck, DOFAW Administrator

Through: Bill Devick, Acting DAR Administrator

From: Skippy Hau, Aquatic Biologist

Subject: Management Plans For Kapunakea, Kanepuu, & Pelekunu Preserves (Fiscal Years 1998 - 2003)

During 1994, aquatic resources surveys on Maui found that opae kuahiwi (*Atyoida bisulcata*) and 'o'opu alamo'o (*Lentipes concolor*) would make an excellent indicator species for healthy streams that flow to the ocean. They have been found in both intermittent and perennial streams.

Kapunakea Preserve

Kapaloa Stream (Hawaii Stream Code No. 6-1-07.006), is a tributary of Honokowai Stream. Adult opae have been found above the diversion in Kapaloa Stream with Andy Yuen, U.S. Fish and Wildlife Biologist on Dec. 20, 1988 and again with Ron Englund, a consultant, on Sept. 15, 1992. The site was about 1550-feet elevation. Exotic plant species were noted in most of our survey areas.

Both species have been confirmed at elevations over 2,000 feet on Maui. The proposed Kapunakea Preserve could have a limited number of these two species present in the lower stream areas (Unit 3).

Pelekunu Preserve

The proposed plan recognizes the outstanding aquatic resources in the stream. The proposed resource monitoring will include aquatic species. Bill Puleloa, the Moloka'i aquatic biologist will help in establishing a monitoring program for aquatic resources in Pelekunu Stream.

Kanepuu Preserve

The preserve will help protect dryland forest areas and does not involve any stream areas.

1.08

The three proposed management plans will try to control weeds and prevent further establishment of exotic species. The plans help give native species a chance to survive. The establishment of native plant species in riparian areas should help to reduce runoff and sediment. It will also help maintain watershed areas which contributes to water recharge for each island.

In cases where riparian vegetation can be stabilized or exotic species controlled, a main goal of reducing sediment and turbidity will eventually lessen the long term impacts on the shoreline and nearshore ecosystems. If possible, the restoration of a minimum flow in diverted areas could help in stabilizing aquatic ecosystems and improve lost watershed structure and functions.

NOV 1 8 1996

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

MICHAEL D. WILSON, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
Gilbert Coloma-Agaran

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CONVEYANCES
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HISTORIC PRESERVATION DIVISION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96813

November 14, 1996

MEMORANDUM

TO: Michael Buck, Administrator
Division of Forestry and Wildlife

FROM: Don Hibbard, Administrator
State Historic Preservation Division

LOG NO: 18255
DOC NO: 9610SC07

SUBJECT: Chapter 6E-8 Historic Preservation Comments on the Draft Environmental Assessments for the Kanepuu, Kapunakea, and Pelekunu Preserves on the Islands of Lana'i, Maui, and Moloka'i

We provide the following comments on the draft Environmental Assessments (EAs) prepared for three preserves managed by The Nature Conservancy (TNC) and funded under the State Natural Area Partnership Program (NAPP). The three preserves are as follows: Kanepuu, on the Island of Lana'i; Kapunakea Preserve on West Maui; Pelekunu Preserve on Moloka'i.

Kanepuu Preserve, Lana'i

The Kanepuu Preserve comprises seven discontiguous preserve areas, ranging in size from 13 to 368 acres, with a total size of 590 acres. All of the Preserve's units are in north-central Lana'i. Our review is based on historic reports, maps, and aerial photographs maintained at the State Historic Preservation Division. In addition, Dr. Boyd Dixon, Director of the Department of Hawaiian Homelands Archaeological Crew on Maui, conducted a field inspection of the proposed alignment for the interpretive trail in September 1996 in the two largest units, Kaiue and Kanepuu Preserves. Dr. Dixon did not observe any surface evidence of cultural remains or historic sites in either Preserve. The only known site nearest to Kanepuu Preserve is the *'ulu maika* playing field (SIHP No. 50-40-98-116) described by Kenneth Emory in 1924; the site was not relocated during the Statewide Inventory in 1974, and is presumed to be destroyed; Site -116 was formerly on a flat about 1 kilometer south of the Kanepuu Preserve fenceline.

Kapunakea Preserve, Maui

The Kapunakea Preserve comprises 1,264 acres in West Maui. Our review is based on historic reports, maps, and aerial photographs maintained at the State Historic Preservation Division. In addition, Ms. Theresa Donham of our Maui office made a brief field inspection of a small portion of the Preserve in November 1994. According to our records, at least two significant historic sites -- the Honokawai Trail and structures associated with Pioneer Mill -- are known to be within the Preserve's boundaries. In addition, a taro agriculture complex has been recorded in the Honokowai Valley between 800 and 1000 feet above sea level, with remnant portions found below those elevations (*Archaeological Surface Survey, Honokowai Gulch, Ka'anapali*. Maui. 1977. Davis). Furthermore, as indicated in materials previously provided to the Nature Conservancy by our office (see attached copies of memoranda 9412KD28 and 9412KD40), historical data on Land Commission Awards, for example, suggest a high likelihood of historic sites being present in other portions of the Kapunakea Preserve.

Pelekunu Preserve, Moloka'i

Our review is based on historic reports, maps, and aerial photographs maintained at the State Historic Preservation Division; no field inspection was made of the subject area. The Pelekunu Preserve comprises 5,759 acres in northeast Moloka'i. The Preserve encompasses the Pelekunu Stream valley and immediately surrounding uplands. According to our records, at least eight historic sites form what is called the Pelekunu Valley Agricultural Complex (SIHP No. 50-60-05-280), a large pre-Contact taro agricultural complex: Hekilikahi or Kekilikaha Heiau (SIHP No. -278); the *pu'ukonua* of Kukaua (SIHP -279); the shrine of the *o'upu* god (formally Summers' Site 280); a house site (SIHP No. -281); Ha'upu Heiau (SIHP No. -282); Ka'aiku Heiau (SIHP No. -283); Manini'aiake Heiau (SIHP No. -284); the Cave of Anapuhi (SIHP No. -285). Of these properties, it appears that SIHP Nos. -278 and -279 lie within the borders of the Pelekunu Preserve. Since Pelekunu Valley has never undergone an archaeological inventory survey, undoubtedly more historic sites, particularly those related to taro cultivation, are likely to be present within the Preserve's boundaries.

Determinations of Effect on Historic Sites

The long-term management plans for the three preserve areas describe five main program areas to be undertaken between 1998 and 2003 in each of the three Preserves: non-native species control (ungulates and weeds), resource monitoring, community or public outreach, emergency and safety, and personnel, equipment, and facilities. Additionally, at specific Preserves, other activities such as fire control at Kanepuu Preserve, will be carried out. In general, these proposed undertakings will have "no effect" on significant historic sites if carried out as described in the three long-term management plans. Our office has two specific concerns applicable to possible future changes in these long-term management plans:

(1) With regard to weed control, we recommend that in the event physical removal of alien species becomes necessary, this should be done only by hand; heavy equipment should not be used.

(2) In view of the emphasis on physical maintenance of the Preserves, and monitoring of native species, the minimal content of the public outreach and interpretative programs in the draft environmental assessments is acceptable at this time. Should, however, these programs be expanded in the future, especially so as to include interpretation of cultural resources, rehabilitation of historic sites within a Preserve, and improvements to historic trails, we recommend that additional work be done prior to implementing any such elements. Such additional work should include a review of the historical and archaeological background data for the Preserve, archaeological inventory survey, and development of appropriate mitigation plans, including preservation and interpretation. All of this additional work should be coordinated with our office so as to ensure appropriate review of any undertaking.

Should you have any questions, please feel free to call Sara Collins at 587-0013.

SC:jen

cc: Ms. Wendy Fulks, The Nature Conservancy, 1116 Smith Street, Suite 201, Honolulu, HI 96817
FAX: 545-2019

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APPENDIX 2. NATIVE NATURAL COMMUNITIES OF PELEKUNU PRESERVE

NATURAL COMMUNITY	GLOBAL RANK (a)
Coastal	
Hala (*Pandanus*) Coastal Mesic Forest	G3
Hawaiian Mixed Shrub Coastal Dry Cliff#	G3
Kāwelu (*Eragrostis*) Coastal Dry Grassland	G3
Lowland	
Hawaiian Mixed Shrub Lowland Dry Cliff	G3
Lama/ʻŌhiʻa (*Diospyros/Metrosideros*) Lowland Mesic Forest	G3
ʻŌhiʻa (*Metrosideros*) Lowland Mesic Forest	G3
ʻŌhiʻa /Uluhe (*Metrosideros/Dicranopteris*) Lowland Wet Forest	G3
Montane	
Mixed Fern/ Shrub Montane Wet Cliffs#	G3
ʻŌhiʻa /Hāpuʻu (*Metrosideros/Cibotium*) Montane Wet Forest#	G3
ʻŌhiʻa (*Metrosideros*) Montane Wet Shrubland	G3
ʻŌhiʻa /ʻŌlapa (*Metrosideros/Cheirodendron*) Montane Wet Forest#	G3
Aquatic Communities	
Hawaiian Continuous Perennial Stream*	G1
Hawaiian Intermittent Stream#	G4
Hawaiian Springs and Seep	G4

* = Rare
\# = Known also from adjacent NARs

(a) Global Rank (as defined by Hawaiʻi Natural Heritage Program):
G1 = Critically imperiled globally (typically 1–5 current occurrences).
G3 = Restricted range (typically 21–100 current occurrences).
G4 = Apparently secure globally (> 100 occurrences).

APPENDIX 3. CONSPICUOUS AQUATIC ANIMALS (EXCLUDING INSECTS) OBSERVED IN PELEKUNU STREAM AND ITS TRIBUTARIES

TAXON	SCIENTIFIC NAME	COMMON NAME
FISHES		
Eleotridae	*Eleotris sandwicensis*[1]	ʻoʻopu owao
Gobiidae	*Awaous guamensis*[1]	ʻoʻopu nākea
	Lentipes concolor[1]	ʻoʻopu alamoʻo
	Sicyopterus stimpsoni[1]	ʻoʻopu nōpili
	Stenogobius hawaiiensis[2]	ʻoʻopu naniha
Kuhliidae	*Kuhlia sandvicensis*[1]	āholehole
Mugilidae	*Mugil cephalus*[2]	ʻamaʻama
CRUSTACEANS		
Atyidae	*Atyoida bisulcata*[1]	ʻōpae kalaʻole (shrimp)
Palaemonidae	*Macrobrachium grandimanus*[2]	ʻōpae ʻoheaʻa (prawn)
MOLLUSKS		
Ancylidae	*Ferrissia sharpi*[1]	limpet
Lymnaeidae	*Erinna aulacospira*[1]	pond snail
	Pseudisidora rubella[1]	pond snail
Melanidae	*Melanoides tuberculata*[2]	
Neritidae	*Neritina granosa*[1]	hīhīwai, wī
	Theodoxus vespertinus[1]	hapawai

[1] = Endemic
[2] = Indigenous
Source: Adapted from J. Ford and A. Yuen 1988. Natural History of Pelekunu Stream and its Tributaries. Island of Molokaʻi, Hawaiʻi. Part I, Summary Report.

APPENDIX 4. RARE NATIVE PLANTS OF PELEKUNU PRESERVE

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK (a)	FEDERAL STATUS (b)
Bidens molokaiensis	ko'oko'olau, koko'olau	G1	
Bidens wiebkei^	ko'oko'olau, koko'olau	G1	LE
Brighamia rockii	ālula, pūaupaka, 'ōlulu	G1	LE
Canavalia molokaiensis^	'āwikiwiki, puakauhi	G1	LE
*Cyanea solanacea**	'ōhā, hāhā, 'ōhā wai, pōpolo	G1	
Cyanea solanocalyx#^	'ōhā, hāhā, 'ōhā wai	G2	
*Cyrtandra halawensis**^	ha'iwale, kanawao ke'oke'o	G1	
*Cyrtandra hematos**^	ha'iwale, kanawao ke'oke'o	G1	
Cyrtandra lydgatei	ha'iwale, kanawao ke'oke'o	G1	
Diellia erecta		G1	LE
Eurya sandwicensis#*	ānini, wānini	G2	
Gardenia remyi	nānū, nā'ū	G2	
Hedyotis littoralis		G1	
Huperzia sulcinervia		G1	
Joinvillea ascendens ssp. *ascendens**	'ohe	G3G5T1	
Lindsaea repens var. *macraena*		G?T1	
Lobelia dunbarii ssp. *paniculata*		G1T1	
Lysimachia maxima#^		G1	LE
Melicope hawaiiensis	alani	G2	
Peucedanum sandwicense	makou	G2	LT
Phyllostegia stachyoides		G1	
Plantago princeps var. *laxiflora**	ale	G2T1	LE
Pritchardia lowreyana	loulu	G1	
*Schiedea globosa**		G2	
Stenogyne bifida#^		G1	LE
Tetramolopium sylvae		G2	
Zanthoxylum hawaiiense	hea'e, a'e	G1	LE

* = Known from Oloku'i NAR
# = Known from Pu'u Ali'i NAR
^ = Endemic to East Moloka'i

Appendix 4 continued.

(a) Global Rank (as defined by Hawai'i Natural Heritage Program):
G1 = Species critically imperiled globally (typically 1-5 current occurrences).
G2 = Imperiled globally (typically 6-20 current occurrences).
T1 = Subspecies or varieties critically imperiled globally.
? = More information is needed to rank this taxon.

(b) Federal Status:
LE = Taxa formally listed as endangered.
LT = Taxa formally listed as threatened.

APPENDIX 5. RARE NATIVE BIRDS REPORTED FROM PELEKUNU PRESERVE

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK (a)	FEDERAL STATUS (b)
Myadestes lanaiensis rutha#	Oloma'o, Moloka'i thrush	G1T1	LE
Paroreomyza flammea#	Kākāwahie, Moloka'i creeper	GH	LE
Vestiaria coccinea#	'I'iwi	G4	E, -

#=Known also from adjacent NARs.

(a) Global Rank (as defined by Hawai'i Natural Heritage Program):
G1 = Species critically imperiled globally (typically 1–5 current occurrences).
G4 = Apparently secure globally.
GH = Historical sightings, species possibly extinct.
T1 = Subspecies critically imperiled globally.

(b) Federal Status:
LE = Taxon formally listed as endangered.
E = Moloka'i population considered endangered by the state only.
- = No federal status.

APPENDIX 6. RARE NATIVE LAND SNAILS OF PELEKUNU PRESERVE

SCIENTIFIC NAME	COMMON NAME	GLOBAL RANK (a)
Partulina mighelsiana#	Achatinellid Land Snail	G1
Partulina tessellata#	Achatinellid Land Snail	G1

#=Known also from adjacent NARs.

(a) Global Rank (as defined by Hawai'i Natural Heritage Program):
G1 = Species critically imperiled globally (typically 1–5 current occurrences).

APPENDIX 7
DOCUMENTS RELATED TO PELEKUNU PRESERVE

Ford, J. and A. Yuen. 1988. *Natural History of Pelekunu Stream and Its Tributaries, Island of Molokai, Hawaii.* Part 1, Summary Report. Unpublished.

Kelly, M. 1988. *Cultural History of Pelekunu Valley, Moloka'i.* Unpublished document prepared for The Nature Conservancy.

Memorandum of Understanding and Study Plan—Relationship of Biotic Attributes to the Hydrology of Waikolu and Pelekunu Stream Basins. June 17, 1994, Kalaupapa National Historical Park.

The Nature Conservancy of Hawaii. 1991. *Pelekunu Preserve, Molokai, Hawaii. Long-Range Management Plan, Fiscal years 1992 – 1997.* Unpublished document prepared for the Department of Land and Natural Resources Natural Area Partnership Program.

The Nature Conservancy of Hawaii. 1993. *Pelekunu Preserve, Molokai, Hawaii. Long-Range Management Plan, Fiscal years 1994 – 1999.* Unpublished document prepared for the Department of Land and Natural Resources Natural Area Partnership Program.

The Nature Conservancy of Hawaii. 1993. *Summary of Changes. Pelekunu Preserve, Molokai, Hawaii. Long-Range Management Plan.* Unpublished document prepared for the Department of Land and Natural Resources Natural Area Partnership Program.

The Nature Conservancy of Hawaii. 1993. *Long-Term Biological Resource and Threat Monitoring of Pelekunu Preserve.* Unpublished.

The Nature Conservancy of Hawaii. 1996. *Pelekunu Wildfire Management Plan, Pelekunu Preserve.*

The Nature Conservancy of Hawai'i. 1996. *Pelekunu Preserve, Molokai, Hawaii. Long-Range Management Plan. FY1998–2000.* Draft document prepared for the Department of Land and Natural Resources Natural Area Partnership Program.

The Nature Conservancy of Hawaii. *Semi-annual Progress Report, Pelekunu Preserve, Molokai, Hawaii.* Unpublished document prepared for the Department of Land and Natural Resources Natural Area Partnership Program. Prepared annually; reports for 1992 – 1996 are available.

The Nature Conservancy of Hawaii. *Operational Plan and Progress Report, Pelekunu Preserve, Molokai, Hawaii.* Unpublished document prepared for the Department of Land and Natural Resources Natural Area Partnership Program. Prepared annually; reports for 1992 – 1996 are available.

Walsh, G., G. Diaz, and B. Kondratieff. 1992. *A Research Proposal for A Hydrological and Biological Study of Waikolu Stream, Kalaupapa National Historical Site, Island of Molokai, Hawaii.* Unpublished.

APPENDIX 8
COMMENTS RECEIVED, AND RESPONSES,
FOR THE PELEKUNU PRESERVE DRAFT ENVIRONMENTAL ASSESSMENT

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

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

NOV 25 1996

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT
WATER RESOURCE MANAGEMENT

File No.: PM-96-030

MEMORANDUM

TO: Michael Buck, Administrator
Division of Forestry and Wildlife

FROM: Dean Y. Uchida, Administrator

SUBJECT: Request for Comments - Planned Management Actions for Pelekunu Preserve (Molokai), Kanepuu Preserve (Lanai), and Kapunakea Preserve (West Maui)

We have reviewed the Planned Management Actions Report for the subject preserves, and would like to offer the following comments:

Planning and Technical Services

The Nature Conservancy of Hawaii received a Conservation District Use Application in 1987 (SH-2028) for the management of a Natural Preserve System. The permit includes several preserves located throughout the State of Hawaii.

Under Section 13-5-22 (P-7) of the revised Conservation District Rules, which were adopted on December 12, 1994, a Board permit is required for "Plant and wildlife Sanctuaries, natural area reserves and wilderness and scenic areas, including habitat improvements under an approved management plan".

The Nature Conservancy should verify whether the proposed actions at Pelekunu, Kanepuu and Kapunakea, are in conformance with the existing rules.

Thank you for the opportunity to review and provide comments for the Planned Management Actions report for the subject preserves. Should you have any questions, please contact Patti Miyashiro at 587-0430 of our Land Division.

c: Maui Land Board Member

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FEB 05 1997

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

MICHAEL D. WILSON
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY
GILBERT S. COLOMA-AGARAN

AQUACULTURE DEVELOPMENT PROGRAM
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CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT
WATER RESOURCE MANAGEMENT

January 30, 1997

MEMORANDUM

To: DEAN Y. UCHIDA, Administrator
Division of Land Management

From: MICHAEL BUCK, Administrator
Division of Forestry and Wildlife

Subject: Reply to Comments on the Draft Environmental Assessments for Kanepuu, Kapunakea, and Pelekunu Natural Area Partnership Projects

CC: Peter Schuyler, DOFAW
Wendy Fulks, The Nature Conservancy

Thank you for responding to our request for comments on the Kanepuu, Kapunakea, and Pelekunu Natural Area Partnership projects. In your 11/25/96 memo you advise that a Board permit is required for these projects. Please be assured that the Division of Forestry and Wildlife (DOFAW) will request the Board of Land and Natural Resources to approve these activities as permitted uses within the Conservation District before authorizing any management work.

It is also worth mentioning that since these three projects were initiated by the Division through its Natural Area Partnership Program they are subject to following all DOFAW procedures and guidelines for Conservation District activities. This includes following Chapter 343 HRS requirements to obtain adequate public review, obtaining Board approval prior to commencement of work, and following approved DOFAW guidelines for management activities within the Conservation District.

If you need any additional information please feel free to call either myself (587-0166) or Peter Schuyler, the Natural Area Reserves Program Manager (587-0054).

JAN 24 1997

January 10, 1997

Department of Land and Natural Resources
Division of Forestry and Wildlife
1151 Punchbowl St. Room 325
Honolulu HI 96813

RE: Pelekunu Preserve Natural Area Partnership: TNCH Management Plan.

Aloha friends,

Please accept these comments on your proposed Long-Range Management Plan for 1998-2003. For the most part we are in agreement that this management program will benefit the environment by removing four-footed and rooted pests, and monitoring stream flows and fauna. Some concerns remain about aerial hunting and use of snares and poisons, protection of Pelekunu Stream, Hawaiian rights and clarification of interests being protected by TNCH.

Aerial Hunting

I don't agree that this method is essential nor "the only feasible means"(p.1) for success of the program. The noise associated with aerial shooting disturbs, possibly injures, native birds. So do the helicopters. Hunting activities may be driving game into areas once undisturbed. We have seen a significant increase of pigs in Wailau, so improved conditions in Pelekunu may well be at the cost of environmental degradation in Wailau.

Snaring and poisoning was long ago determined to be contrary to community values. Wes Wong promised no use of poisons was planned, and if so a public hearing would be held. Recent use of rodenticides is therefore contrary to stated principles and promised procedure to inform the public. Poisons on the mountain-top is a bad idea. Build a better mousetrap, and they will come.

Protection of Pelekunu Stream

Page 2 indicates this as the reason the preserve was established. Native practitioners continue to observe reduced stream flows at several areas on the north shore of Molokai. These observations are via the five senses. What monitoring equipment does TNCH have in place to collect baseline data on stream flows?

Development of water resources on leeward Molokai will have significant impact on Pelekunu Stream. You are in error to think that "because of its isolation" Pelekunu will escape the effects of ranching, agriculture or tourism.

Hawaiian Rights

Is TNCH presently involved in any adverse possession proceedings in Pelekunu Valley?

Page 7 allows "a number of landowners" to continue to exercise kuleana rights of access and gathering. Hawaiian rights proceed from a cultural system in which private ownership of land was not a concept, let alone a requirement, for rights which are vested in the indigenous people. Please amend this section to avoid the misconception that only landowners have rights of access, et.al. in Pelekunu.

In addition, tenants of several leeward Molokai ahupua'a have rights in specific land parcels which are *lele* of those ahupua'a. Such "non-contiguous land sections" were recognized in awards by the Land Commission, therefore this unique land use system was fully incorporated into the new land system. The rights of those native tenants are vested interests with no "ownership" required. Please include a reference to these particular rights in your amended statement regarding "traditional, kuleana and other" rights.

Best wishes for continued success in Pelekunu Valley. Thank you for this opportunity to provide comment from a native Hawaiian's perspective.

Sincerely,

K. Mahealani Davis
P.O.Box 350
Kaunakakai HI 96748
(808) 553-3777

A29

The Nature
Conservancy
of Hawai'i
1116 Smith Street
Honolulu, Hawai'i 96817
Phone (808) 537-4508
Facsimile (808) 545-2019

The Nature Conservancy
International
Headquarters
1815 North Lynn Street
Arlington, Virginia 22209
http://www.tnc.org

A20

The Nature Conservancy of Hawai'i

February 7, 1997

K. Mahealani Davis
P.O. Box 350
Kaunakakai, Hawaii 96748

Dear Ms. Davis,

The Division of Forestry and Wildlife forwarded your 1/10/97 letter to The Nature Conservancy for response. Your letter refers to the Pelekunu Preserve Long-Range Management Plan for Fiscal Years 1998–2003; however, I assume you would like your comments addressed in the environmental assessment (EA) that incorporates much of the aforementioned management plan. (Your letter and this response will appear in Appendix 8 of the final EA.) Please note that some of your comments concerning specific text in the management plan are not relevant to the EA. Below, in my response to your comments, I have pointed out where this is the case.

Aerial Hunting

Although the EA does not contain the text you have quoted, I will address your concerns about aerial hunting, and about north shore ungulate control in general. You state that "hunting activities may be driving game into areas once undisturbed". Although there are plans to begin aerial shooting again in the near future, aerial hunting has been suspended in Pelekunu since 1993. Therefore, unless you are referring to the current program, which utilizes community volunteers working on the ground, I do not understand your assertion that ungulate control efforts in Pelekunu are harming the adjacent Wailau area.

Pig activity in Pelekunu, as measured by standard monitoring methods, is currently at an acceptable level. However, goat activity is too high. The Molokai Hunters Working Group (MHWG), which includes key Molokai hunters and representatives from The Nature Conservancy and other groups, makes recommendations (reached by consensus) to conservation agencies on proposed ungulate management practices. The MHWG has decided that aerial shooting is necessary to control the burgeoning population of goats on Molokai's north shore conservation lands. We are hopeful that with reinitiation of *limited* aerial shooting for goats (shooting will occur only in exceptionally steep areas

determined by MHWG to be inaccessible to ground hunters), conditions will improve in the near future. Although helicopters *might* disrupt the activities of native birds, the benefits far outweigh possible risks.

The Nature Conservancy currently has no plans to use rodenticide in Pelekunu Preserve. However, if rat control is necessary, we may deploy approved rodenticide in accordance with state Department of Agriculture requirements. Currently, the most efficient, legal method for controlling rats in Hawaiian natural areas is to deploy bait containing the anticoagulant diphacinone, using containers designed to prevent non-target poisoning. We are also open to using other legal methods that are also safe and effective. Current requirements include posting signs, notifying the Department of Agriculture, and deploying the bait in tamper-resistant boxes. We will also notify the Molokai community if it becomes necessary to use rodenticide in Pelekunu Preserve.

Protection of Pelekunu Stream

Protection of Pelekunu Stream and associated stream systems within the preserve is a high priority for The Nature Conservancy. The U.S. Geological Survey (USGS) has monitored stream flow in Pelekunu Valley since the 1950s, and we rely upon USGS for stream flow information. In response to your concerns about the adequacy of stream flow data in the preserve, we will consult with USGS to determine whether their past and planned stream flow monitoring efforts are sufficient to support our protection efforts in the valley. We do not currently have the funds or the expertise that would be needed to construct, maintain, and gather data from a gaging station. If our consultation with USGS indicates a serious deficiency, *and* if we determine that the best way to remedy the problem is for the Conservancy to conduct stream flow monitoring on its own, we will have to seek additional funds and expertise to implement monitoring.

We have requested, but have not yet received, updated stream flow data from USGS. As a result, we are unable to confirm informal observations of reduced flow. However, if stream flows in the valley are reduced from previous years, this could be due to a number of reasons. We strongly suspect 3 years of drought is an important factor.

Regarding the impact of water development on Pelekunu Stream, once again, the text you quoted does not appear in the EA. However, the referenced text (the full sentence from the management plan reads: "Because of its isolation, Pelekunu Valley has escaped modification from modern activities such as

ranching, reforestation, agriculture, and tourism, all of which have transformed other parts of Molokai") is intended to explain why Pelekunu Preserve exists in its *current* undeveloped, scenic state. We were not discussing the possibility of future impacts.

Hawaiian Rights

The Nature Conservancy is not involved in any adverse possession proceedings in Pelekunu Valley.

Since drafting the management plan, we have modified the text that refers to landowner, kuleana, and other rights. The modified text encompasses the rights you mention. The EA (p. 12) states: "A number of landowners retain a total of more than 350 acres in the valley . . . These people and other members of the Molokai community exercise traditional access, gathering, and other rights within the valley, as recognized by law. Conservancy management does not alter these rights."

I hope I have addressed your concerns. Please contact me at 553-5236 if you have additional comments, or if you would like to discuss any of these issues further.

Sincerely,

Edwin T. Misaki
Director of Molokai Programs

cc
Peter Schuyler
Alenka Remec
Wes Wong
Wendy Fulks

A31

BENJAMIN J. CAYETANO
GOVERNOR

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

GARY GILL
DIRECTOR

January 13, 1997

Mr. Michael D. Wilson, Director
Department of Land and Natural Resources
Division of Forestry & Wildlife
P.O. Box 621
Honolulu, Hawaii 96809

Attention: Betsy Gagne

Dear Mr. Wilson:

Subject: Draft Environmental Assessment (EA) for Pelekunu Preserve Natural Area Partnership, Molokai

We have the follow comments to offer:

1. Chapter 343 HRS, the environmental impact statement law, requires disclosure of the amount of state or county funding for projects. Please include this information in the final EA.

2. Please also indicate the status of permit applications for use in the Special Management Area and Shoreline Setback Variance, if applicable.

If you have any questions, please call Nancy Heinrich at 586-4185.

Sincerely,

GARY GILL
Director

c: Wendy Fulks, The Nature Conservancy

A 330

The Nature
Conservancy
of Hawai'i
1116 Smith Street
Honolulu, Hawai'i 96817
Phone (808) 537-4508
Facsimile (808) 545-2019

The Nature Conservancy
International
Headquarters
1815 North Lynn Street
Arlington, Virginia 22209
http://www.tnc.org

The Nature Conservancy of Hawai'i

February 25, 1997

Gary Gill, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, HI 96813

Dear Mr. Gill:

Subject: Draft Environmental Assessment for Pelekunu Natural Area Partnership Project

Your 1/13/97 letter to the Department of Land and Natural Resources was forwarded to The Nature Conservancy for response. We have added the estimated amount of state funding needed for this project to the Project Description section of the Final Environmental Assessment (EA). Approximately $943,000 in state funds, over a 6-year period, will support management at Pelekunu Preserve. None of the work outlined in the EA is contingent upon county funds.

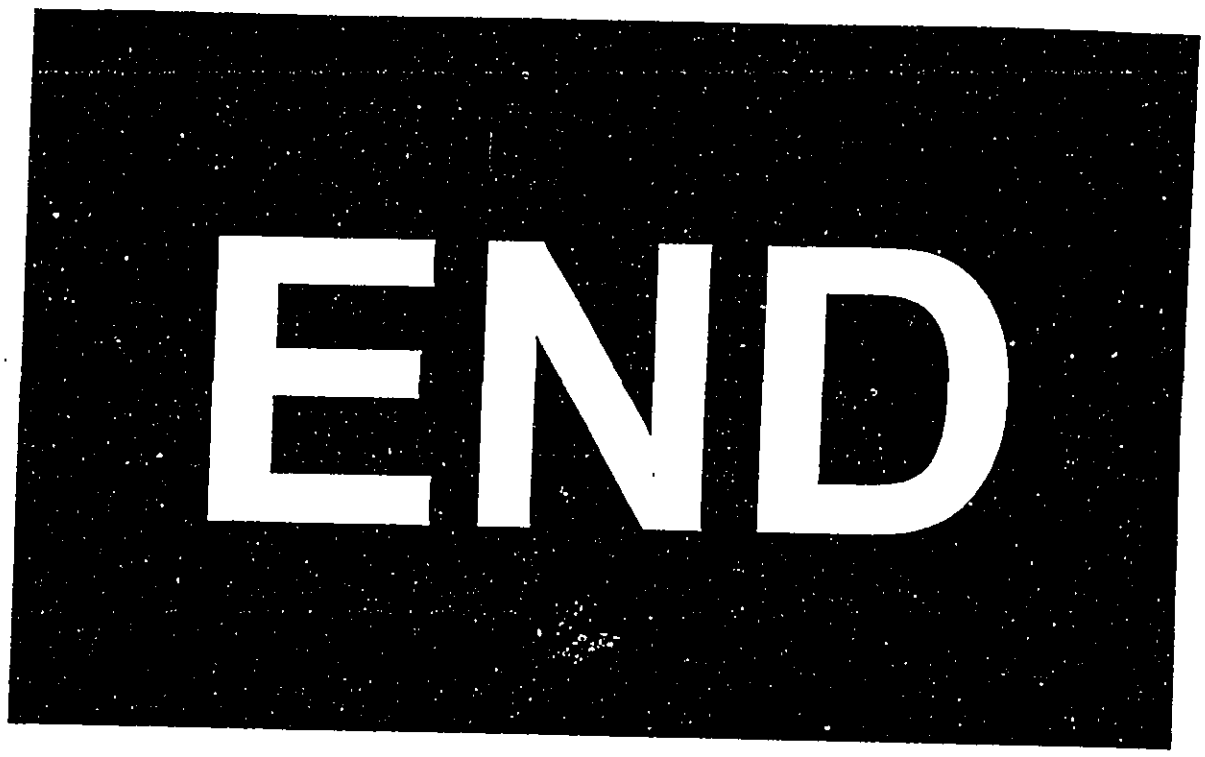
You also asked about the status of applications for Special Management Area and Shoreline Setback Variance permits. It is our understanding that such permits are needed only for land uses such as construction and road building. The Pelekunu EA does not include such work. Furthermore, we have been advised by the Maui Department of Planning that the Department of Land and Natural Resources has jurisdiction for environmental review on all conservation district lands.

Thank you for your comments. Please contact me at 537-4508 if I have not adequately addressed your concerns.

Sincerely,

Wendy Fulks
Project Manager

cc
Peter Schuyler
Alenka Remec
Ed Misaki



CERTIFICATION

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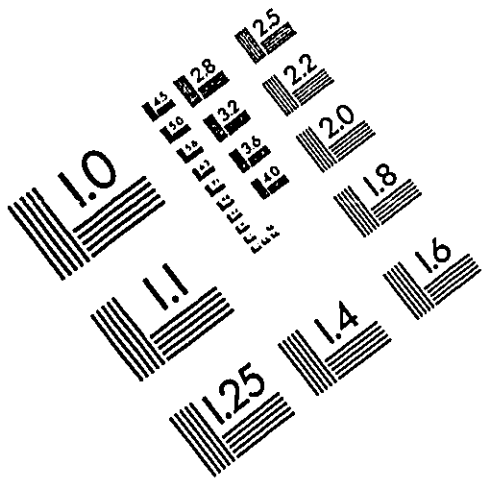
2004
DATE

Tammy Yoshimura
SIGNATURE OF OPERATOR



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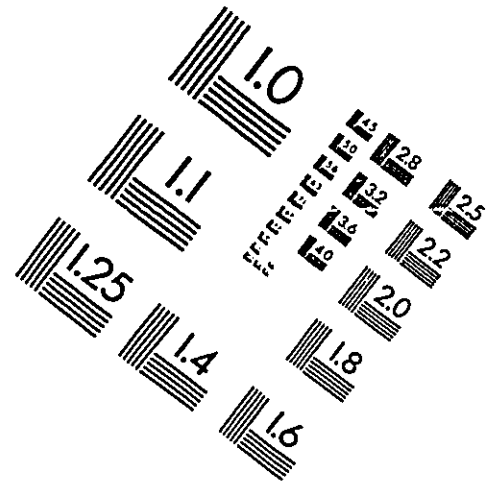

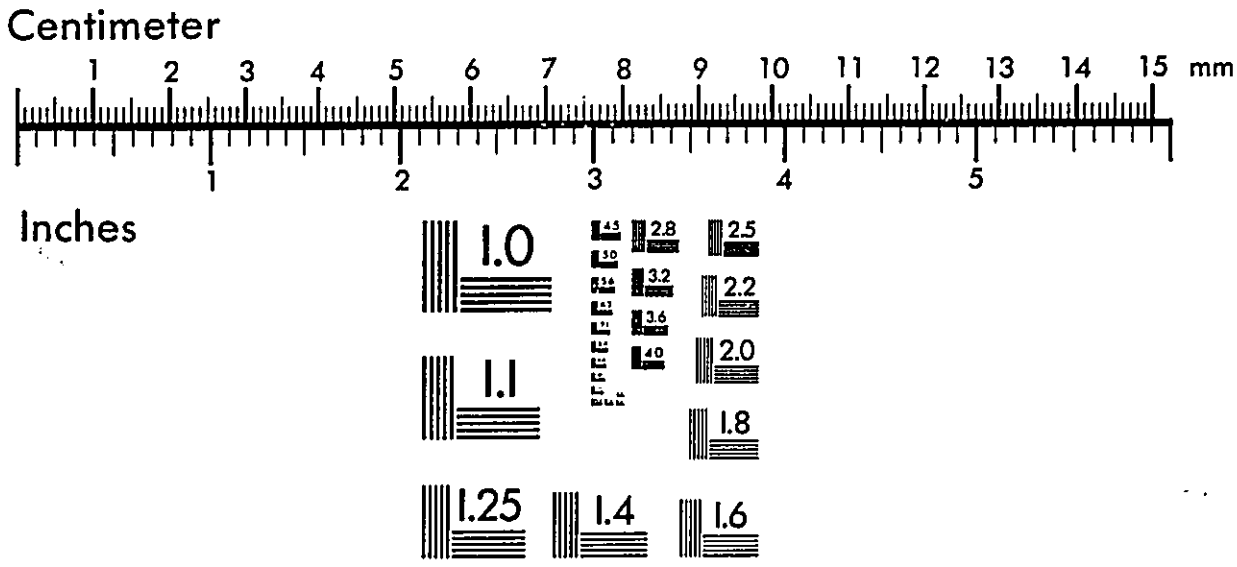

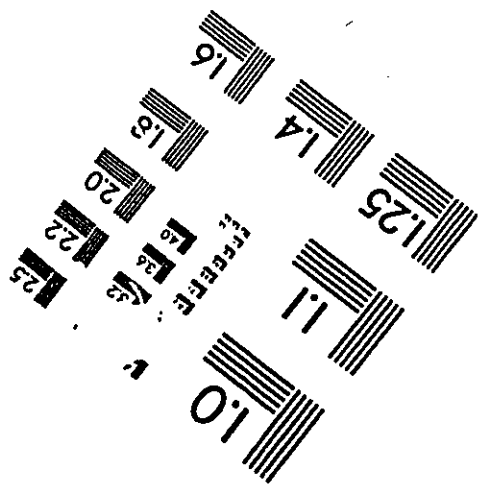

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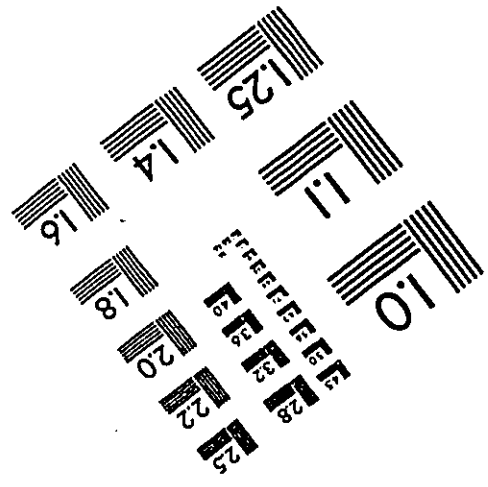

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