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

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 Kapunakea Preserve Natural Area Partnership, District of Lahaina, County of Maui, Hawai'i; TMK: 4-4-07-01, 4-4-07-03, 4-4-07-07, 4-4-07-08.

The Department of Land and Natural Resources, Division of Forestry and Wildlife had reviewed and responded to the comments received during the 30-day public comment period. The agency has determined that this project will not have a 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

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1997-03-08-MA-FEA-Kapunakea Preserve Natural Area Partnership

FINAL ENVIRONMENTAL ASSESSMENT FOR KAPUNAKEA PRESERVE NATURAL AREA PARTNERSHIP

This document prepared pursuant to Chapter 343, HRS

Prepared by
The Nature Conservancy

February 1997

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I. SUMMARY

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

Project Name

Kapunakea 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

Kapunakea Preserve, 1,264 acres in the District of Lahaina, County of Maui, State of Hawai'i

Tax Map Key	Acreage
4-4-07-01	1,014.6
4-4-07-03	74.0
4-4-07-07	175.0
4-4-07-08	0.21

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 Environmental Protection Agency

State

Aquatic and Wildlife Advisory Committee–Maui
Alu Like
Department of Agriculture–Pesticide Branch
Department of Hawaiian Home Lands
Department of Health–Maui
DLNR/ Aquatic Resources Division–Maui District
DLNR/ Division of Forestry & Wildlife–Maui District
DLNR/ Division of Land Management–Maui District
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

Mayor
Planning Department

Private

Lloyd Akiona
Amfac/JMB Hawaii
Center for Plant Conservation Hawaiian Flora
Conservation Council for Hawai'i
Sumner Erdman
Mary Evanson
Isaac Hall
Dana Naone Hall
Hawai'i Audubon Society
Hawaiian Botanical Society
Honokōhau Valley Community Association
Lahaina Decisions Maui
Living Indigenous Forested Ecosystems
Maui Humane Society
Maui Land and Pineapple Co.
Maui Outdoor Circle
Maui Pineapple Company
Maui Tomorrow
Nāpilihau Community Association
Native Hawaiian Advisory Council
Native Hawaiian Legal Corporation
Native Hawaiian Plant Society
Pioneer Mill Co.
Sierra Club—Maui Group
Sierra Club Legal Defense Fund
Rene Sylva
The Outdoor Circle
The Wildlife Society
Ulupalakua Hunt Club, Inc.
West Maui Watershed Advisory Committee

II. PROJECT DESCRIPTION

Kapunakea Preserve was established in 1992 when Pioneer Mill Company, Ltd., a subsidiary of Amfac/JMB Hawaii Inc., granted The Nature Conservancy a perpetual conservation easement over 1,264 acres on West Maui. The primary goal of this project is to maintain the preserve's native ecosystems and protect the area's rare plants and animals.

The state's Natural Area Partnership Program (NAPP) provides matching funds ($2 state to $1 private) to managers of qualified private lands. Kapunakea was approved for NAPP funding in 1992. An Environmental Assessment was prepared for this project in 1995 to satisfy NAPP requirements. However, because the Kapunakea contract is scheduled to be renewed in 1997, we have prepared a new 6-year management plan and another Environmental Assessment. Approximately $782,000 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

Kapunakea Preserve is on the leeward side of the West Maui Mountains, and ranges in elevation from approximately 1,000 feet to 5,400 feet near the Pu'u Kukui summit. The area is adjacent to two natural areas that are also managed to protect natural resources: Pu'u Kukui Watershed Management Area (privately owned) and the Honokōwai section of the state West Maui Natural Area Reserve (NAR) (Figure 1).

Native Natural Communities

Ten vegetated native natural communities are represented in Kapunakea Preserve. These communities vary from lowland shrublands to montane bogs. One of the communities is considered rare, the 'Ōhi'a Mixed Montane Bog (Figure 2; also see Appendix 2)[1].

Kapunakea Preserve also contains the upper reaches of one large stream (Honokōwai Stream, which is diverted for agricultural uses) and several smaller streams. Honokōwai and the other streams are discontinuous and do not contain the suite of native diadromous animals (those requiring both freshwater and marine habitats to complete their life cycle) characteristic of the upper reaches of perennial streams in Hawai'i. *Atyoida bisulcata* ('opae kala'ole) occur in small numbers in Honokōwai Stream above the diversion (which is inside the preserve). However, native gobioid fishes ('o'opu) are unable to migrate through the combined barriers of extreme channelization and nearly total diversion of the water flow above the channelized area (S. Hau, pers. comm. 1994). Because the predatory native fishes cannot access the stream above the diversion, the native aquatic insect fauna is among the most dense and diverse observed in Hawai'i (D. Polhemus, pers. comm. 1994). The preserve's other streams are naturally dry most of the year.

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[1]The U.S. Fish and Wildlife Service's National Wetland Inventory maps indicate that a wetland body is located within Kapunakea Preserve. The Service defines wetlands as "lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water."

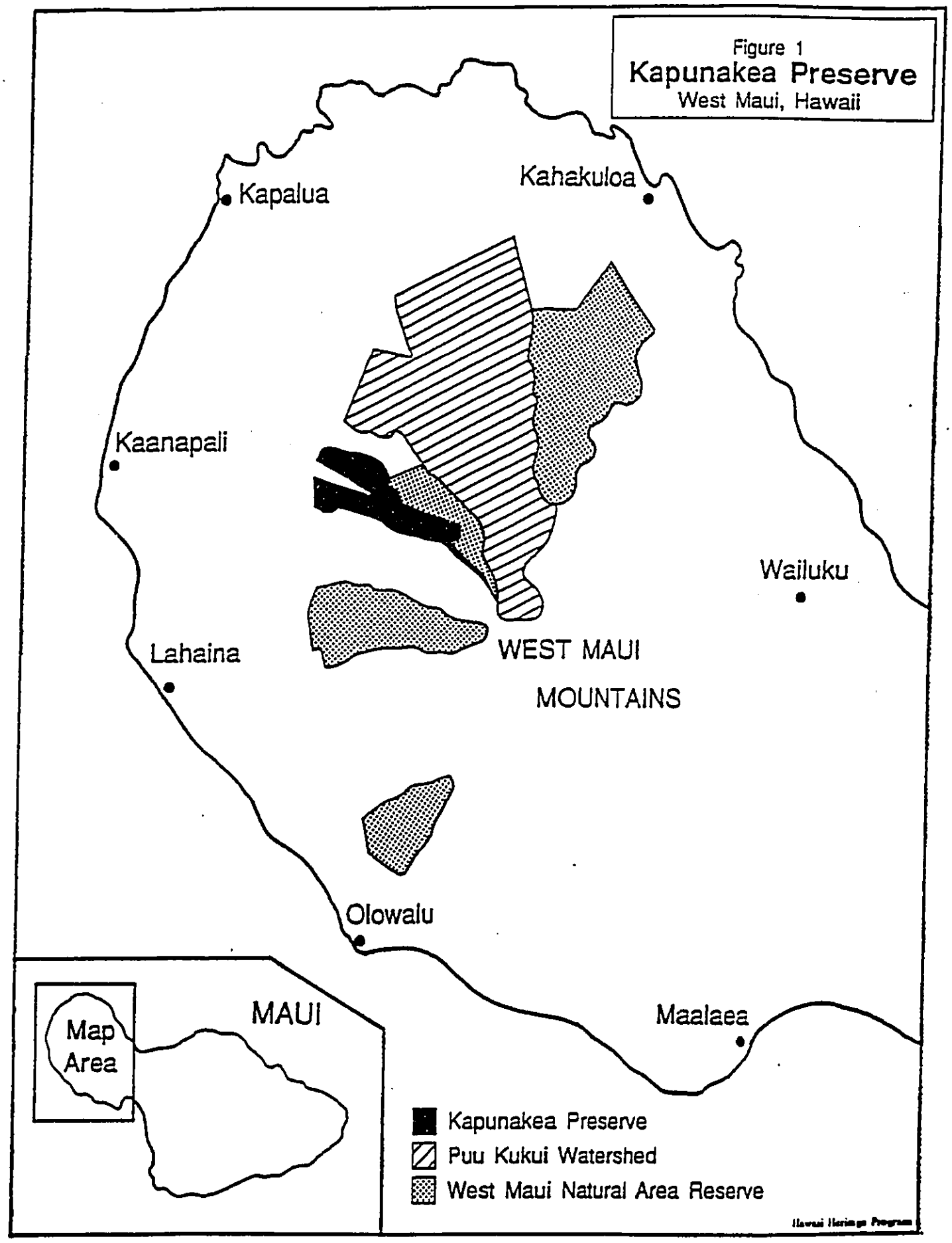


Figure 1
Kapunakea Preserve
West Maui, Hawaii
Kapalua
Kahakuloa
Kaanapali
Wailuku
Lahaina
WEST MAUI
MOUNTAINS
Olowalu
Maalaea
MAUI
Map
Area
Kapunakea Preserve
Puu Kukui Watershed
West Maui Natural Area Reserve

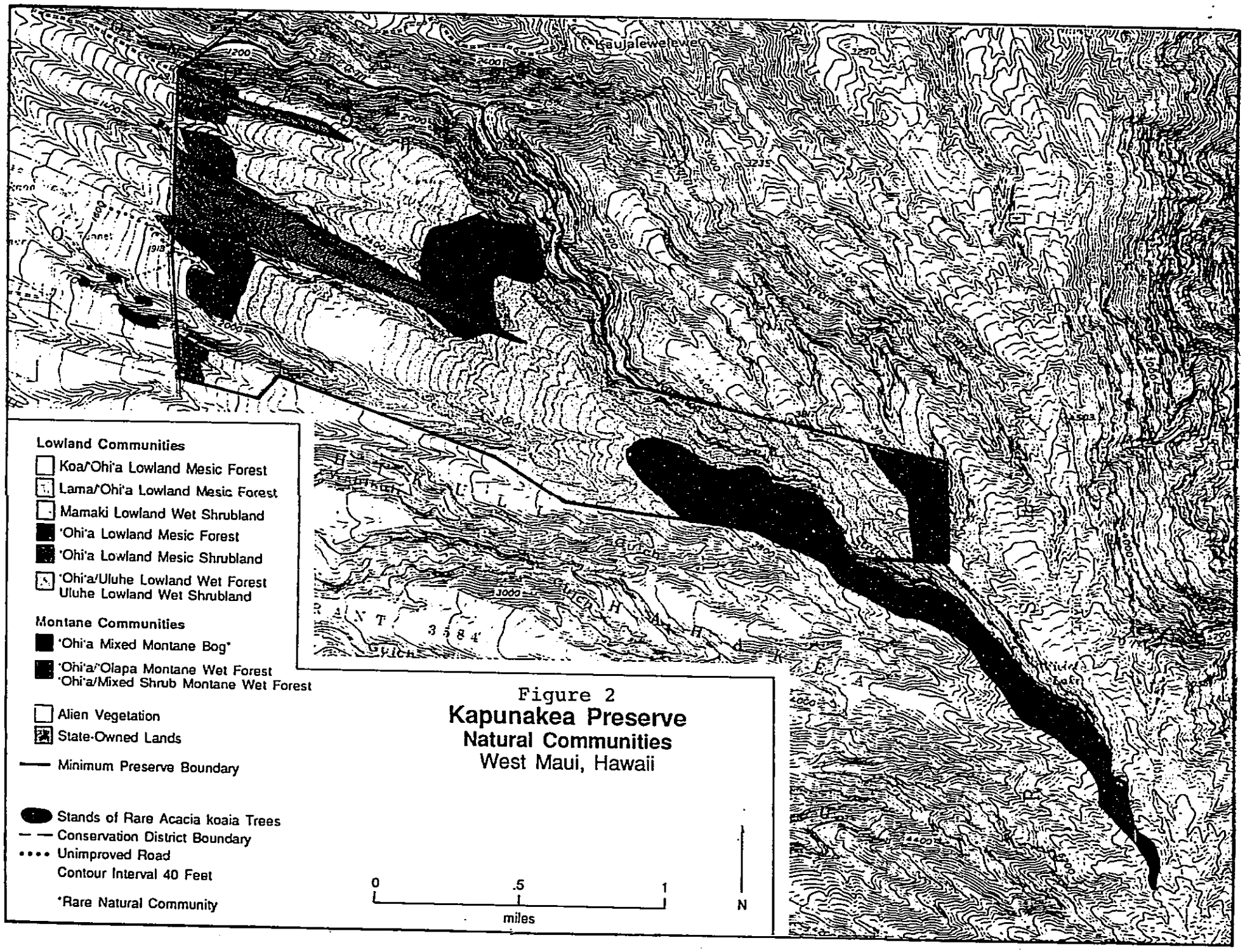


Figure 2
Kapunakea Preserve
Natural Communities
West Maui, Hawaii

Native Flora

To date, 24 rare plants have been reported in Kapunakea Preserve (Appendix 3). The rare plants include the federally listed endangered *Alectryon macrococcus* var. *macrococcus* ('ala'alahua), *Bidens micrantha* ssp. *kalealaha*, *Bonamia menziesii*, *Colubrina oppositifolia* (kauila), *Ctenitis squamigera* (pauoa), *Platanthera holochila*, and *Santalum freycinetianum* var. *lanaiense* ('iliahi or sandalwood).

Native Fauna

Vertebrates

Four native birds are found in Kapunakea Preserve: 'apapane, 'i'iwi, 'amakihi, and pueo. 'Ua'u (an endangered species also known as the dark-rumped petrel) have also been heard there. No native diadromous fishes are known from Kapunakea (stream diversion makes this unlikely).

Invertebrates

Terrestrial arthropods include some of the most diverse taxonomic groups at Kapunakea, 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 Kapunakea's terrestrial invertebrate species have not been studied and are not well documented.

Kapunakea's aquatic invertebrates are also poorly understood. The preserve contains *Atyoida bisulcata*, and several Hawaiian damselfly taxa (*Megalagrion hawaiiense*, *M. calliphya*, *M. blackburnii*, and *M. nigrohamatum* subsp. *hamatum*) are known from areas near the preserve, as is the native dragonfly *Anax strenuus*. These insects may also occur within Kapunakea (D. Polhemus, pers. comm. 1994). We will encourage both monitoring and research for the preserve's invertebrates in the coming years through a research needs list that is promoted through the University of Hawai'i's Secretariat for Conservation Biology (Appendix 4).

Populations of four species of rare Hawaiian tree snails have recently been documented at Kapunakea: *Partulina perdix*, *Partulina tappaniana*, *Partulina crocea*, and *Perdicella kuhnsi*. These snails were once widespread and abundant on Maui, but in many areas their numbers have declined precipitously in this century due to habitat destruction, collection, and the depredations of introduced animals. A number of other snails also occur at Kapunakea, including tornatellinines and species of *Auriculella*, *Succinea*, and *Philonesia*.

Historical/Archaeological and Cultural Sites

The preserve encompasses portions of three traditional Hawaiian ahupua'a (land divisions): Honokōwai, Hanaka'ō'ō, and Kapunakea. The northern half of the preserve, including Honokōwai Valley, and Kapaloa Valley are in Honokōwai. The southern ridge area is within

Hanaka'ō'ō, and a small portion at the southwestern edge of the preserve is with Kapunakea (see Appendix 5 for more information about ahupua'a and Land Commission Awards in the area that is now Kapunakea Preserve).

Evidence of precontact and early historic period taro lo'i (irrigated terraces) have been documented for the Honokōwai Valley, between 800 and 1,000 feet in elevation (below the preserve boundary). Four complexes, consisting of numerous adjoining agricultural terraces, water channels, diversion dams, and habitation features were recorded as part of an inventory survey for a waterline project (*Archaeological Surface Survey, Honokōwai Gulch, Ka'anapali, Maui*, B.D. Davis, 1977). Agricultural features were found on both sides of the stream, and continued upstream beyond the limits of the area that was examined during Davis' survey. Additional remnants of an irrigated lo'i system have been identified further downstream in Honokōwai Valley. No surveys have been conducted to date upstream from Davis' 1977 survey area.

The historic trail that follows along the south side of Honokōwai Gulch within the Kapunakea Preserve was constructed by Pioneer Mill in order to access the water resources of Honokōwai Stream. This trail, which dates to the early twentieth century, is an excellent example of a non-vehicular industrial transportation route. It presently does not contain any modern construction materials.

The Honokōwai Tunnel, constructed by Pioneer Mill, extended across portions of Kapunakea Preserve, between the Honokōwai Stream intake and the Horner Reservoir.

The tax map of the Kapunakea Preserve area (4-4-07) shows an historic trail extending down the slopes of Pu'u Kukui and into Hanaka'ō'ō. The trail splits near the Hanaka'ō'ō/Honokōwai boundary and takes two routes toward the ocean. The origin and purpose of this trail are presently unknown.

The State Historic Preservation Division (SHP) has determined that, in general, the proposed activities will have no effect on significant historic sites. If future uses of the preserve require alteration or improvement of the Honokōwai Trail, Pu'u Kukui Trail, or areas in the Honokōwai Stream bottom suspected to contain taro lo'i, SHP recommends that background research and a field survey be completed for these areas. SHP will also be asked to review any trail improvement/alteration plans before they are implemented.

Adjacent Natural Resources

Kapunakea Preserve is adjacent to two other natural areas that are actively managed: Pu'u Kukui Watershed Management Area (WMA), which is privately owned and part of the Natural Area Partnership Program, and the Honokōwai section of the state West Maui Natural Area Reserve (NAR). These managed areas comprise more than 13,000 acres of contiguous, managed watershed.

Six of the 10 vegetated native natural communities found in Kapunakea Preserve, including the rare ʻŌhiʻa Mixed Montane Bog, are also found in West Maui NAR. The Puʻu Kukui WMA and Kapunakea Preserve share eight native natural communities (Appendix 2). Of the 24 rare plants reported from Kapunakea, 16 are known from the West Maui NAR and 11 have been reported from Puʻu Kukui WMA (Appendix 3).

Sensitive Habitats

The habitats and resources listed above and in the appendices are regarded as sensitive and are found both within and adjacent to Kapunakea 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 the risks. Management activities that affect adjacent sensitive habitats in the West Maui NAR or in the privately owned Puʻu Kukui WMA will be coordinated with appropriate staff from these organizations to avoid potential negative impacts.

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

Technical

This project is long term, consisting of several different phases. The primary goal is to maintain native ecosystems 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 Kapunakea Preserve. These are summarized below.

- In 1992 Pioneer Mill Company, Ltd. (Amfac/JMB) granted The Nature Conservancy a perpetual conservation easement for the area that is now known as Kapunakea Preserve. The easement preserves and protects in perpetuity the natural, ecological, and wildlife features and values of Kapunakea Preserve. The landowner reserved the rights to maintain and expand the existing water system, develop telecommunication facilities, and to construct up to four dwelling units within the 300-foot-wide zone contiguous with the makai edge of the preserve. These rights are subject to a number of conditions to minimize impact to the preserve.

- The Conservancy also holds within the conservation easement a separate right-of-entry and release of liability agreement with Pioneer Mill Co., Ltd., which ensures perpetual access, and addresses mutual liability issues.

- The Conservancy currently holds a perpetual conservation easement over approximately 8,600 acres at the Puʻu Kukui WMA. The Conservancy acts as an advisor to Maui Land and Pineapple Co., the primary manager of the Puʻu Kukui WMA, and has a Master

Cooperative Agreement with the state Division of Forestry and Wildlife to undertake cooperative management projects. These agreements will be used to coordinate management and sharing of staff, equipment, and expertise to maximize management efficiency.

- An agreement between The Nature Conservancy and the state Department of Land and Natural Resources supports wildfire suppression.

Management Considerations

This section describes specific management strategies that will be undertaken to maintain and enhance the native ecosystems and species of Kapunakea Preserve. Management goals for 6 fiscal years are discussed (FY1998 – FY2003). (The Conservancy has adopted a July 1 – June 30 fiscal year.) The Nature Conservancy will be responsible for the completion of the management work. Our management strategies are shaped by the following considerations.

1. The primary strategy for protection of Kapunakea is to *prevent* the further introduction or spread of destructive alien species. Special care must be taken to avoid negative side-effects of management activities. For example, trails and management activities are designed to prevent further weed and ungulate invasion. This strategy requires helicopter access to most parts of the preserve. Interpretive and educational uses are confined to selected sites. Guidelines are followed to minimize impacts such as trampling and weed dispersal.

2. The preserve is bounded on the west (lowland) side by private agricultural lands; activities related to harvesting sugar cane (large, heavily-loaded trucks, agricultural burning, etc.) pose a risk to potential preserve users. As a result, public access is somewhat limited, and we carefully coordinate our management and interpretive activities with work in adjacent agricultural areas.

3. Kapunakea is remote and rugged. Given limited resources, the entire preserve cannot be managed equally. Management is concentrated at the most urgent threats (e.g., halting pig ingress), and in areas that contain special plants, animals, and native natural communities (e.g., the rare montane bog community).

Management Units

Kapunakea is managed as five units (Figure 3) defined by topographic boundaries, similarity of natural community types, and threats.

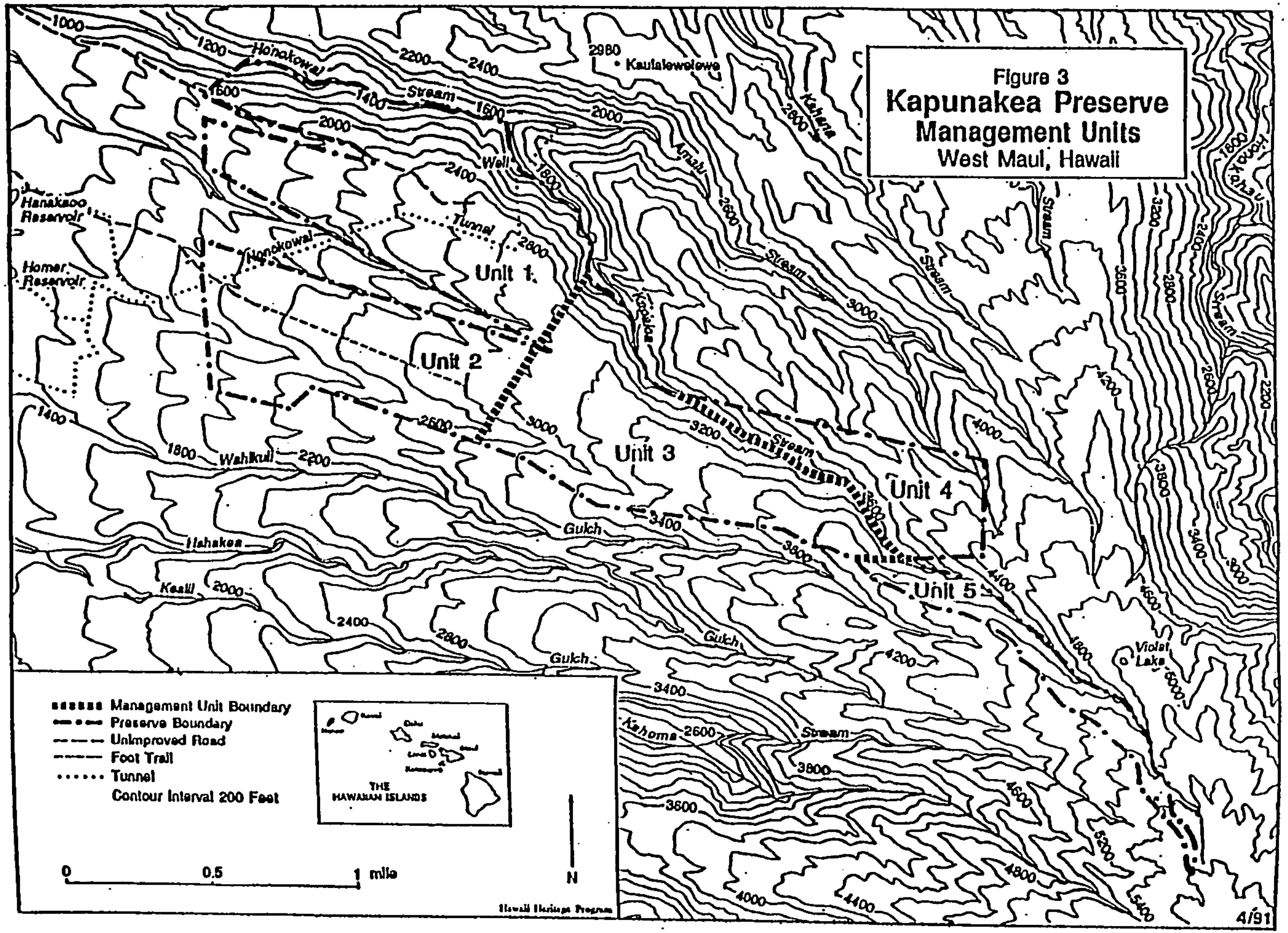


Figure 3
Kapunakea Preserve
Management Units
West Maui, Hawaii
Management Unit Boundary
Preserve Boundary
Unimproved Road
Foot Trail
Tunnel
Contour Interval 200 Feet
0
0.5
1 mile
N
THE HAWAIIAN ISLANDS
Unit 1
Unit 2
Unit 3
Unit 4
Unit 5
Honokowai
Stream
Kaulalewelewe
Kahana
Amalu
Kapaloa
Well
Tunnel
Hanakaoo Reservoir
Homer Reservoir
Wahikuli
Hahakea
Kealii
Gulch
Kahoma
Violet Lake
4/91

Unit 1

Unit 1 consists of the lowland (up to 3,000 feet elevation) portion of the preserve that is closest to Honokōwai Stream. This unit is primarily comprised of ʻōhiʻa (*Metrosideros*)/uluhe (*Dicranopteris*) lowland shrubland, and forest. Prior to our management efforts, this unit showed high levels of pig activity. Activity has been significantly reduced by control measures that must be maintained to keep activity low.

Unit 2

Unit 2 encompasses the remainder of the preserve's lowland elevations. It contains five native natural communities, although non-native vegetation prevails in the gulch bottoms. Strawberry guava (*Psidium cattleianum*) is prevalent throughout the unit, and we will continue to control this threatening weed. Pig activity was high throughout this unit during the initial phases of ungulate control but has been reduced substantially.

Unit 3

Unit 3 comprises the majority of the preserve's mid-elevations (3,000 to 4,000 feet), and follows Kapaloa Stream along its northeast boundary. The four montane communities in Unit 3 are dominated by uluhe or ʻōhiʻa; Māmaki (*Pipturus albidus*) Lowland Wet Shrubland occurs along the stream bed. The uluhe and ʻōhiʻa-dominated communities are intact, with minimal weed problems. Our management focus in this unit is to eliminate ungulates and control weed invasions.

Unit 4

Unit 4 begins on the east side of Kapaloa Stream, and continues to the eastern preserve boundary. This unit is adjacent to the Honokōwai NAR and is topographically isolated from the rest of the preserve. The upper elevations in this unit must be accessed by helicopter, due to the steep gulch walls. To date, there has been no evidence of pig sign here, and the unit has very few weeds. Management focuses on preventing new invasions.

Unit 5

Unit 5, encompassing the highest elevations of the preserve, is Kapunakea's most pristine unit. Initial survey data and more recent monitoring results have shown that this area contains only a few scattered alien plants (including Tibouchina) and no pigs. The management priority is to remove threats from this area before they damage the rare ʻōhiʻa bogs. Like Unit 4, access is by helicopter. Travel is conducted from the upper elevations down, to avoid transport of weeds that occur in lower elevations.

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.

Though each program is described separately, together they form an integrated management approach. Management priorities are focused on removing ungulates and habitat-modifying weeds. In addition, we have established a comprehensive network of management trails and monitoring stations throughout the preserve. This system will continue to be maintained and expanded where needed to support management activities.

Because no rare aquatic natural communities, plants, or animals are known from Kapunakea, the Conservancy does not currently monitor or directly manage aquatic communities or taxa. However, management targeted at the preserve's rare terrestrial resources will indirectly benefit aquatic resources. For example, successful ungulate and weed control programs will decrease erosion and its subsequent siltation of streams. Controlling ungulates is also expected to improve water quality by lowering the potential for bacterial coliform and leptospirosis in the water. Finally, management that improves the health of native terrestrial communities will also promote a more stable water regime by reducing the potential for rapid runoff.

Non-Native Species Control Programs

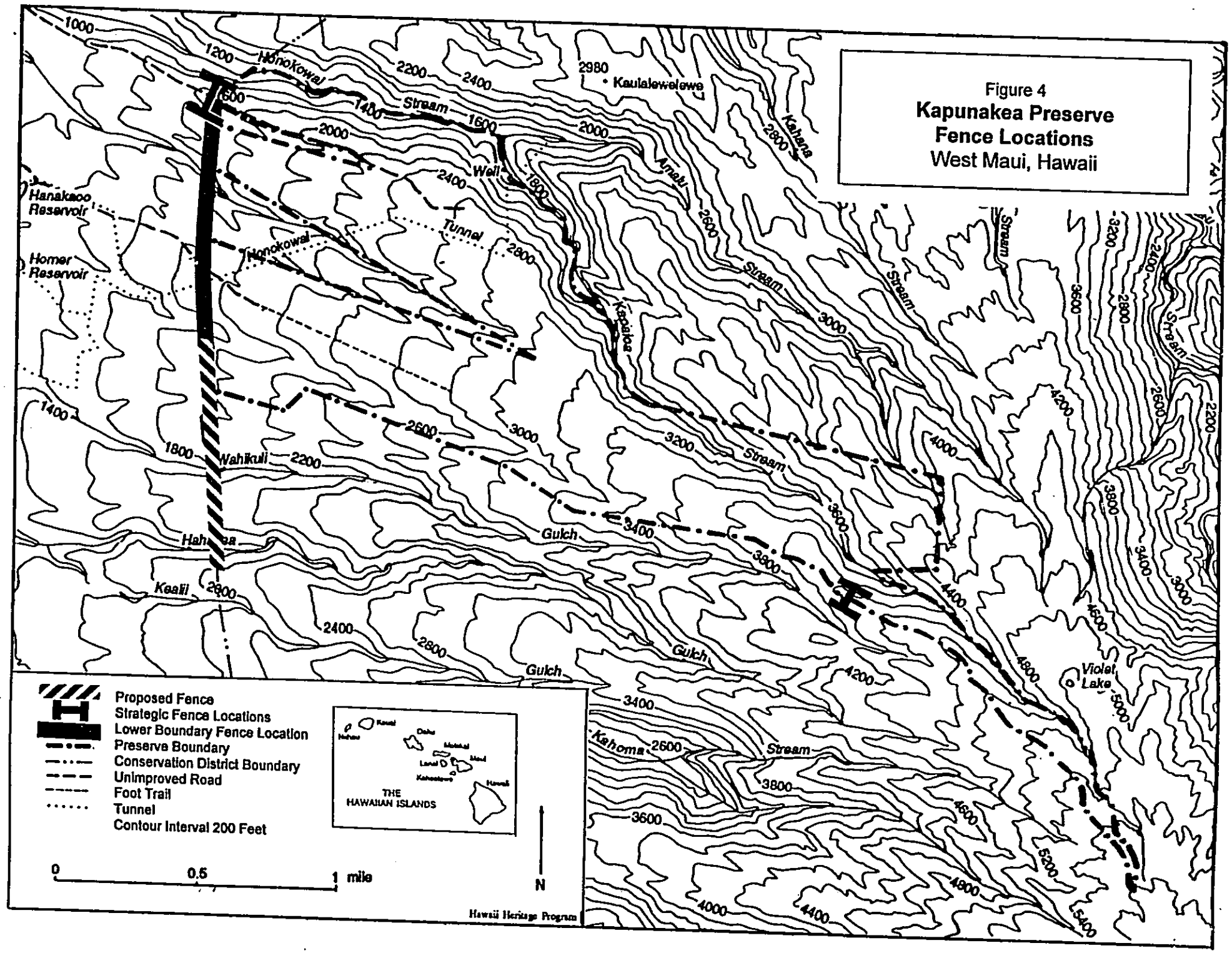
Ungulate Control

Program Goal: To remove all ungulates from Kapunakea, and prevent future invasion.

Pig activity (as measured by the presence or absence of fresh sign along seven ungulate monitoring transects) declined from 34% in 1994 to 0% in 1995, seeming to indicate successful elimination. However, by January 1996, activity rebounded to 26%. (We believe that either some pigs escaped our detection for a while, or that some animals eventually moved in from outside the preserve.) Therefore, ungulate elimination will continue to be our highest priority until activity levels are maintained at zero for 2 years. Only then will we shift some of our management emphasis to weed control. However, if ungulates reappear in the preserve at any time, their control will become our highest priority.

The ungulate control program utilizes a combination of fencing, hunting (primarily contract hunting), and snaring to bring pig populations down to zero as rapidly as possible and prevent them from re-establishing. In accessible areas, hunting by trained staff and volunteers is the preferred method of animal removal. (The Kapunakea area is on private land that has never been open to public hunting.) The lower boundary of the preserve was fenced in several phases between FY1993 and FY1995 (Figure 4). Also, a strategic fence constructed in FY1993 at 4,200 feet prevents pigs from moving into the bog areas. In the coming years we expect to construct

Figure 4
Kapunakea Preserve
Fence Locations
West Maui, Hawaii



new fences at possible points of pig ingress. One such area is at the southern edge of the preserve's lower boundary. We propose to extend the lower fence about one-half mile along the existing conservation district boundary over state and private lands to Hāhākea Gulch (Figure 4). This fence extension would prevent pig ingress from around the end of the current fence. In FY1995 and FY1996 we discussed with DOFAW the possibility of the State building this fence. However, due to the State's current budgetary constraints, this is not an option. Therefore, we are proposing to hire a contractor to build this extension, and are requesting funds in our FY1998 and FY1999 NAPP budget for this purpose. The fence construction project is contingent upon the approval and acceptance of the proposed NAPP Rules and Regulations by the Board of Land and Natural Resources and the Governor, as well as upon State and private landowner approval. Funds requested for this fence project will be used solely for fence construction.

Snaring is still the most effective and feasible technique for controlling pigs in areas too remote, rugged, and/or fragile for frequent hunting, and where hunting cannot remove low-density pig populations from sensitive sites. Until an effective alternative can be found, snares will continue to be placed in pig-damaged areas, and, if warranted by high levels of pig activity, we will expand snaring to other areas of the preserve. All snares are checked semi-annually, and groups of snares are conspicuously marked in the field.

In the past few years, axis deer (*Axis axis*) have greatly expanded their range on Maui to include West Maui areas near Ukumehame, Kapalua, and Kahakuloa. Control efforts for axis deer may be needed in the near future to protect the preserve. Since cooperative interagency and private efforts are needed for successful long-term control of axis deer on Maui, we will continue to meet regularly with other members of the Maui Axis Deer Management Advisory Committee to seek solutions.

Following standards implemented in 1993 (Dunn, P. 1992. *Long-Term Biological Resource and Threat Monitoring of Hawaiian Natural Areas.* Unpublished report prepared for the Hawaii Department of Land and Natural Resources Division of Forestry and Wildlife), we have established a system of transects that extend the entire length of the preserve. (These are referred to throughout this document as "resource/threat monitoring transects.") This newer system replaces a network of 500-meter-long ungulate and weed monitoring transects. We will gather data on animal activity and weed presence along the resource/threat monitoring transects once every year. Also on these newer transects, we will continue to record incidental observations of small mammal (cat, dog, mongoose) sign, and begin control as necessary.

We will continue to: 1) survey for axis deer and goats on West Maui during routine helicopter operations; 2) assist neighboring land managers with ungulate control efforts; and 3) participate as members of Maui Axis Deer Management Advisory Committee, the Melastome Action Committee, and the West Maui Watershed Management Advisory Committee.

Years 1 – 2 (FY1998 – 1999)

- Maintain fences, and scout for and add strategic fences.
- Continue ungulate control throughout preserve and at other strategic locations.

- Monitor and maintain resource/threat monitoring transects once per year.
- Supplement annual resource/threat monitoring transect data collection with semi-annual ungulate scouting surveys.
- Continue contract and volunteer hunting.
- Hire contractor to extend the lower fence one-half mile to Hāhākea Gulch. (This objective will be carried out only with appropriate approvals as mentioned above.)

Years 3 – 6 (FY2000 – 2003)

- Maintain fences, and scout for and add strategic fences.
- Continue ungulate control throughout preserve and at other strategic locations.
- Monitor and maintain resource/threat monitoring transects once per year.
- Supplement annual resource/threat monitoring transect data collection with semi-annual ungulate scouting surveys.
- Continue contract and volunteer hunting.

Weed Control

Program Goal: To remove habitat-modifying weeds from high-quality native habitats and prevent the introduction or spread of problem weeds.

The most important aspects of our weed control program are to control established weeds in intact native communities, and to prevent the introduction of additional alien plants. (Elimination of ungulates is believed to be one of the most effective means of controlling the introduction and spread of habitat-modifying weeds.) We will continue to enforce strict procedures to remove weed seeds from equipment and clothing before people enter the preserve. Helicopter flights will originate from areas free of aggressive weeds, and all equipment and clothing will be inspected and cleaned. Of the alien plants already established in the preserve, many are shade intolerant and pose no major problem if the native forest canopy and ground cover remain intact. There are other alien plants, however, that displace native vegetation over large areas; these habitat-modifying weeds are considered "priority weeds" for management (Table 1). Based upon 5 years of experience with the dynamics of our weed populations, we revised our list of priority weeds in FY1996.

Tibouchina is rapidly expanding its range over West Maui. It has become widely established in the lower half of the preserve over the last few years. People, pigs, and wind seem to be the primary vectors of this habitat-modifying weed. Our weed control efforts at Kapunakea will focus on Tibouchina, which is now a higher priority than strawberry guava because of the former's ability to both invade a wider range of habitats and terrain, and to alter those habitats at a much faster rate. Also, pigs are primarily responsible for spreading strawberry guava. Since we have significantly reduced pig numbers, that spread has slowed considerably. However, if Tibouchina expansion accelerates beyond our control, we may need to shift our focus to priority weeds that we can control more successfully.

Table 1. *Priority Pest Plants of Kapunakea Preserve.*

Rank	Scientific Name	Common Name
1	*Tibouchina herbacea*	Tibouchina
2	*Rubus argutus*	Blackberry
3	*Psidium cattleianum*	Strawberry guava (waiāwi)
4	*Paspalum conjugatum*	Hilo grass
5	*Rubus rosifolius*	Thimbleberry
6	*Andropogon virginicus*	Broomsedge
7	*Passiflora suberosa*	Passiflora
8	*Melinis minutiflora*	Molasses grass
Other Important Pest Species		
	Ficus microcarpa	Chinese banyan
	Buddleia asiatica	Butterfly bush
	Juniperus spp.	Juniper
	Grevillea robusta	Silk oak
	Setaria gracilis	Yellow foxtail
	Holcus lanatus	Velvet grass
	Psidium guajava	Guava

In the past 5 years, we have halted the spread of strawberry guava at the 3,000-foot elevation by treating 1,760 trees with herbicide, and pulling almost 3,000 seedlings. Due to our diligence at scouting for and treating Tibouchina above 3,200 feet, we have prevented it from becoming established at higher elevations, despite our expectations that the infestations would explode beyond our control. We continually treated all trailside weeds above 3,200 feet, and all weeds at campsites and landing zones, effectively preventing new infestations. Blackberry is widespread continues to spread (primarily via birds), although our treatment of all trailside plants has prevented it from becoming too thick along those routes. We have scouted out and mapped populations of blackberry, Tibouchina, Chinese banyan (*Ficus microcarpa*), silk oak (*Grevillea robusta*), juniper (*Juniperus* spp.), *Passiflora suberosa*, strawberry guava, and several grasses and sedges. We plan to continue the same strategies over the next 6 years, focusing primarily on Tibouchina.

Weeds are controlled manually (by pulling or cutting), chemically (using herbicide), or with a combination of manual and chemical control methods. Herbicide use is strictly limited, and in full compliance with the state Department of Agriculture's pesticide branch. (Weed control staff are also licensed by the state Department of Agriculture's pesticide branch.) When herbicides are needed, staff 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 are used. Occasionally, staff may employ additional chemicals as appropriate, under the direction of the state Department of Agriculture's pesticide branch.

As part of our routine management program, we will continue to:

- Monitor for and control new weeds at landing zones, campsites, and upper trails;
- Train staff in the proper handling and application of herbicides;

- Assist neighboring land managers with weed control efforts;
- Participate as a member of the Melastome Action Committee;
- Update aerial survey and range maps for *Passiflora suberosa*, juniper, Chinese banyan, and silk oak as needed; and
- Cooperate with DOCARE in marijuana control as needed.

Years 1 – 6 (FY1998 – 2003)

- Continue treatment of top four habitat-modifying weeds (heavy equipment will not be used).
- Monitor weeds along resource/threat monitoring transects annually.
- Continue treatment of other priority weeds.
- Update and maintain priority weed maps.

Small Mammal Control

Program Goal: To increase our understanding of threats posed by small mammals, and reduce their negative impact where possible.

Even though threats posed to native species by non-native small mammals (rats [*Rattus* spp.], mongooses [*Herpestes auropunctatus*], feral cats [*Felis catus*], etc.) are poorly understood, they are potential major threats to native species and to ecosystem stability. Rats are particularly destructive to native land snails. We had been experimenting with diphacinone bait stations for rat control within one of our snail populations. However, to date, we have not been able to draw any valid conclusions from the data collected. Although bait was taken from the stations, it is unclear which species of rat, if any, were affected. Plainly, we need considerable additional information to refine our baiting program to protect the snails. This would include studies of rat densities by species, and snail population studies. In FY1998 we will determine staffing and other requirements for these studies, and decide whether the Conservancy has the capacity to conduct the work.

The anti-coagulant diphacinone has been approved for use in natural areas in Hawaii under a Section 24c registration (also known as a special local use registration). Any diphacinone use at Kapunakea will be in accordance with the special local use registration, or with a state Department of Agriculture experimental use permit[2]. Staff supervising work conducted under an experimental use permit must have a state Department of Agriculture Category 10 certification. 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.

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[2] We are seeking such a permit to allow us to test some flavors of diphacinone bait blocks that are not yet covered under the Section 24c registration. The use of several flavors will help ensure that we are controlling all species of rats.

Year 1 (FY1998)
- Explore the feasibility and cost of conducting rat density and snail population studies; plan studies if feasible.
- Control rats at all campsites.

Year 2 (FY1999)
- Begin rat density and snail population studies (if determined feasible).
- Control rats at all campsites.

Years 3 – 6 (FY2000 – 2003)
- Continue studies of rats and snails as determined in FY1998, and apply results.
- Control rats at all campsites.

Monitoring and Research

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

Resource monitoring differs from threat monitoring in that its purpose is to document and quantify natural resources (vegetation, birds, and invertebrates) and track them over time, identifying trends. Accurately quantifying changes in natural resources provides land managers with the information needed to determine the efficacy of past management programs, and to plan future research and management in Kapunakea.

We use a network of monitoring plots (located along the resource/threat monitoring transects) to quantify and better understand Kapunakea's vegetation. The protocol implemented in 1993 calls for re-monitoring vegetation plots every 3 years. However, based on the very slow rate of vegetation change observed in these plots in similar natural areas, we have decided to conduct vegetation monitoring at Kapunakea only once every 10 years. We will, however, collect ungulate and weed data along these transects annually. Vegetation monitoring is scheduled for FY1997, and will occur again in FY2007.

The report, *Long-Term Biological Threat and Resource Monitoring, Kapunakea Preserve, West Maui* was completed in 1995. It has four parts: *Vegetation Monitoring, Rare Plant Monitoring, Pest Plant Monitoring*, and *Feral Ungulate Monitoring*. Our monitoring transects include: 1) 10,000 meters of permanent belt transects for monitoring the distribution, frequency, and relative abundance of feral ungulates and alien plant species, and 2) 41 permanent, 250-square-meter plots for obtaining in-depth quantitative data on forest vegetation. Bird surveys were conducted in 1993, 1994, and 1996 along the same transects by observers trained in the U.S. Fish and Wildlife Service's Hawai'i Forest Bird Survey methodology. The purpose of these surveys is to document the relative abundance of all bird species in the forest. In the future, we will conduct bird surveys only during the state's routine bird surveys (every 5 years).

A research needs list for the preserve is maintained and updated by the Preserves Biologist. With assistance from the Stewardship Ecologist in the Honolulu office, this list will be promoted as a request for proposals through the Hawai'i Conservation Biology Initiative. We provide logistical support for management-related research.

Year 1 (FY1998)
- Complete analysis and report on resource/threat monitoring data collected in FY1997.
- Continue ungulate and weed monitoring data management and analysis.
- Update research needs list and provide logistical support to researchers.

Year 2 (FY1999)
- Continue ungulate and weed monitoring data management and analysis.
- Update research needs list and provide logistical support to researchers.
- Conduct rare plant monitoring.

Year 3 (FY2000)
- Continue ungulate and weed monitoring data management and analysis.
- Update research needs list and provide logistical support to researchers.

Year 4 (FY2001)
- Conduct forest bird survey.
- Continue ungulate and weed monitoring data management and analysis.
- Update research needs list and provide logistical support to researchers.

Year 5 (FY2002)
- Conduct rare plant monitoring.
- Continue ungulate and weed monitoring data management and analysis.
- Update research needs list and provide logistical support to researchers.

Year 6 (FY2003)
- Continue ungulate and weed monitoring data management and analysis.
- Update research needs list and provide logistical support to researchers.

Rare Species Protection

Program Goal: To prevent extinction of rare species in the preserve.

Kapunakea protects at least 24 rare plants and 4 species of rare land snails (see Appendices 3 and 6). The Nature Conservancy uses data compiled by the Hawai'i Natural Heritage Program (HINHP) to identify rare species, and uses the HINHP's definition of rare: species that exist in fewer than 20 populations worldwide.

Our primary management goal is to protect habitat essential to the majority of the preserve's native plants and animals. This protection will be achieved, in large part, by eliminating pigs and controlling weeds. However, we will continue to assess other threats to the preserve's rarest species and to implement control measures for these threats. For example, 25 clippings of the only *Colubrina oppositifolia* known on Maui were delivered to Lyon Arboretum in late FY1996 for tissue culture propagation. (It could take workers several years to learn whether they can create healthy plants from the cuttings.) Kapunakea's rare *Colubrina oppositifolia*, *Bonamia menziesii*, *Alectryon macrococcus* var. *macrococcus*, and *Santalum freycinetianum* var. *lanaiense* were monitored occasionally for vigor through casual observation.

In FY1994 visiting malacologists surveyed two ridges for snails. They found all four of the species listed in Appendix 6. A full report of the survey was submitted by Dr. Mike Hadfield (see Appendix 7), who also recommended that we begin controlling rats at the snail populations.

In Years 2 and 5, we will monitor the health of the preserve's known populations of rare plants (see Monitoring and Research program).

Years 1 – 6 (FY1998 – 2003)

- Continue to search for and assess rare species populations, to assess protection needs, and to reduce threats.
- Maintain current maps of rare species populations.

Public Outreach

Program Goal: To build public understanding and support for the preservation of natural areas, and to enlist volunteer assistance for preserve management.

Our first interpretive hike on the Honokōwai Ditch Trail was held in June 1993. Regular monthly hikes began in January 1995. Nearly 400 people have visited the preserve since 1993. Initially, staff led these hikes; now they are led by trained volunteer docents (see below). The number of participants is limited by the capacity of our four-wheel drive vehicle. Additional hikes are led both for targeted community groups and by request.

We are a member of the West Maui Watershed Management Advisory Committee. We recently received a Watershed Kōkua Award from the Department of Health through this advisory committee for outstanding management of West Maui's water and natural resources.

Another avenue we utilize to build public understanding and support for the preservation of natural areas is to enlist and encourage volunteer assistance for preserve management. We have developed a very active and successful docent program. Currently these trained volunteer docents lead our monthly hikes and almost half of our additional hikes. Volunteer groups are also scheduled periodically to assist in the maintenance of Honokōwai Ditch Trail, and volunteers assist in ungulate and weed control in the upper elevation areas of the preserve.

These opportunities allow community members to contribute to the protection of Kapunakea while learning about the preserve.

Throughout the year we give lectures and slide shows for community and school groups in order to increase awareness of native forests and watershed protection. Also as part of our public outreach efforts, we have established an internship program for at least two interns per year. We will continue to hire at least two interns per year to expose high school and college students to careers in conservation.

Years 1 – 6 (FY1998 – 2003)

- Continue to train docents in order to maintain monthly interpretive hikes on Honokōwai Ditch Trail.
- Continue regular outreach visits with targeted community members.
- Present slide shows and talks as requested by community and school groups.
- Continue volunteer work parties maintaining the Honokōwai Ditch Trail, and for other projects as needed.
- Lead additional hikes on the Honokōwai Ditch Trail as requested, utilizing docents when possible.

Personnel, Equipment, and Facilities

The Conservancy has eight full-time stewardship staff on Maui[3]; we also hire at least two summer interns each year. Staff split their time between two preserves, with about 30% of their time charged to Kapunakea and 70% to Waikamoi Preserve on East Maui. In addition, office and baseyard facilities, vehicles, and field equipment are split amongst the Maui preserves, and will be utilized at Kapunakea approximately 30% of the time. The Maui program currently has four vehicles (two four-wheel drive trucks and two four-wheel drive sport utility passenger vehicles).

Roughly 30% of the personnel time budgeted for Kapunakea is spent on ungulate control; an equal amount is also spent on the weed control program. The remainder of the personnel budget is divided among monitoring (8%), rare species protection (2%), small mammal control (3%), community outreach (15%), and planning and administration (12%).

Technical and planning support will be provided by the Honolulu office of The Nature Conservancy. In particular, the Director of Science and Stewardship, and the Project Manager, Stewardship Ecologist, and Environmental Educator will assist with preparing annual plans and reports, developing and implementing monitoring and research programs, and establishing interpretive and intern programs. The Hawai'i Natural Heritage Program will assist in map

[3] Director of Programs, Maui Preserves Manager, Administrative/Outreach Coordinator, Secretary/Receptionist, Field Biologist, Alien Plant Control Specialist, and two Field Technicians.

preparation and in the testing and implementation of Global Positioning System (GPS) technology.

Socio-economic

Two primary socio-economic benefits will result from the proposed project: watershed protection, and public education. This project will also create conservation jobs on Maui.

The forests of West Maui serve as a stable water source for Maui's residents and industries. Native vegetation is an essential component of this watershed system. Forest cover protects fragile mountain soils from erosion, and acts like an immense sponge that absorbs heavy rains. Water is gradually released into streams and groundwater aquifers, rather than running off the surface in torrents to the sea. Management activities will promote a more stable water regime both within and below the project area by reducing the potential for rapid runoff from disturbed or degraded areas within the West Maui watershed area.

Kapunakea Preserve staff routinely give presentations to community and school groups on the importance of protecting natural areas in Hawai'i, and Kapunakea's important biota. Conservancy staff also provide some hiking opportunities to the general public. In addition, volunteers are routinely used in many management projects. Community volunteers have gained hands-on conservation experience while learning about Hawai'i's unique plants and animals.

Environmental

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.

At least 24 rare plants, 4 rare snails, and 1 rare natural community reported from Kapunakea Preserve are better protected as a result of this project. By reducing the potential for rapid runoff from ungulate-damaged areas, a stable water regime will be promoted. Occasionally there will be an increase in noise levels when helicopters are used to transport staff and supplies to remote areas.

III. SUMMARY OF MAJOR IMPACTS

Major Impacts – Positive

- Reduction of ungulate activity to a level that will promote and sustain measurable recovery of native vegetation in all management units. (The long-term goal is to eliminate ungulates from Kapunakea.)

- Reduction of the range of habitat-modifying weeds, and prevention of introduction of new problem weeds.

- Tracking of biological resources in the preserve, and evaluation of changes in these resources over time to identify new threats.

- Logistical and financial support to approved research projects will improve management understanding and protection of the preserve's resources as well as other natural areas in the state.

- Prevention of the extinction of rare species in the preserve.

- Promotion of a more stable water regime both in and below the project area by reducing the potential for rapid runoff from disturbed or degraded areas within Kapunakea through removal of feral animals and habitat-modifying weeds.

- Improved water quality (within and below the preserve) due to:
  1) decreased erosion and its subsequent siltation of streams and nearshore waters, and
  2) ungulate control, which lowers the potential for bacterial coliform and leptospirosis in the water.

Major Impacts – Negative

One potential impact is the accidental introduction or spread of new weed species by managers or visitors on equipment, supplies, or transport vehicles. Also, because herbicides are 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 when helicopters are used to access remote areas. The "prop wash" of low-flying helicopters also might disturb animals such as tree snails and birds. However, with care, no major negative impacts are expected to result from the proposed activities.

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 pigs, weeds, and other serious threats. Similarly, a no-action alternative would promote the loss of rare Hawaiian ecosystems, plants, and animals. Furthermore, erosion of fragile forest top soils would continue at an accelerated rate, degrading one of the largest watershed areas in the state and nearshore reefs and fisheries.

V. PROPOSED MITIGATION MEASURES

To prevent the accidental introduction or spread of weed or other pest species, anyone entering the preserve will be required to clean their clothing, boots, equipment, and camping gear of soil and plant material. 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 each trip.

To prevent contamination of soil with herbicides, all field staff have been trained in the safe application of approved herbicides. Weed control staff are licensed by the state Department of Agriculture's pesticide branch. Herbicides are used according to label instructions, and all chemical use is in compliance with the state Department of Agriculture's pesticide branch. Similarly, any diphacinone use at Kapunakea will be in accordance with the special local use registration, or with a state Department of Agriculture experimental use permit. One of the requirements of the special local use registration is to notify the Department of Agriculture before planned use of this pesticide. Staff supervising work conducted under an experimental use permit will have the required state Department of Agriculture Category 10 certification. 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 use is limited to essential conservation-related projects, and landings are restricted to very limited designated landing zones. To reduce noise and prop wash, we ask helicopter pilots to fly more than 1,000 feet above the forest canopy when traveling over the preserve.

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 long-term negative effect. The proposed activities are expected to benefit native species (including rare plants and animals), native natural communities, and important watershed, both in the project area and on adjacent lands. For example, ungulate control will protect rare plants and a rare natural community 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 natural communities, and will indirectly help rare and other native animals. Active management of Kapunakea Preserve will also promote a more stable water regime both in and below 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 are used, 2) staff are well-trained in herbicidal application, and 3) all chemical use is 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 is an updated version of an environmental assessment prepared in 1995, and was prepared with assistance from several 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. Theresa Donham with the Department of Land and Natural Resources/State Historic Preservation Division helped prepare the Historical/Archaeological and Cultural Sites section. 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 Kapunakea 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,

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

RICHARD H. HAAKE
Managing Director
Telephone: 243-7855

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

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]

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 Fulks
Project Manager

cc
Peter Schuyler
Alenka Renee
Barrie Morgan
Ed Misaki
Mark White

International Headquarters, 1815 North Lynn Street, Arlington, Virginia 22209

A3

November 5, 1996

96 OCT 37 P4:21

Dear Mr. Schuyler,

The following comments by the Hawaii Audubon Society are in regards to the planned management actions for the Kanepuu and Kapunakea Preserves managed by the Nature Conservancy of Hawaii (TNCH). We hope they will be useful and instructive to the Environmental Assessment process.

Kanepuu

Small Mammal Control:

The plan does not mention the possible use of second generation anticoagulants and other rodenticides for small mammal control. While this may be due to the lack of approval by the Department of Agricultural or their unproven effectiveness in forest settings, the success of island rat eradication programs in New Zealand, American Samoa, and most recently, Eastern and Spit Islands at Midway Atoll suggests their applicability for other habitats. These rodenticides and second generation anti-coagulants include bromethalin, an ATP inhibitor available in weather resistant blocks under the product name Vengeance, and the acute toxicant brodifacoum, an anti-coagulant available as WeatherBlok. One advantage of these products is that they require less consumption of bait for lethal doses, preventing bait avoidance problems. Risks include non-target primary and secondary poisonings. It is unclear from the plan whether any secondary poisonings have already occurred, and we would recommend re-evaluation of the current rodent control program if significant impacts to pueo are observed. However, risks to pueo or other non-target species could be minimized by frequent (ideally daily) collection of rat or mice carcasses, proper bait station setup and maintenance, and the use of bromethalin alone, which has a half-life of 5.6 days in mammalian tissues.

While we strongly support the possible re-introduction of the dark-rumped petrel to Kanepuu Preserve, resolution of secondary poisoning issues and the effectiveness of the rodent control program needs to be demonstrated first before any re-introduction effort.

Given resource constraints upon Lanai/Oahu TNCH staff, a volunteer bait/trap monitoring program may prove feasible in the future. This volunteer monitoring program could be achieved in conjunction with the development of the 750 meter self-guided trail in the Kanepuu Unit to create a sense of visitor stewardship toward our natural resources as a complement to the educational experience. The Hawaii Audubon Society strongly supports the development of this trail and is interested in possibly assisting in its construction.

Kapunakea

Small Mammal Control:

Please refer to the above comments regarding the use of second generation anti-coagulants and other rodenticides. We support the control of small mammals in the preserve providing that the program's research, design, and monitoring needs are adequately met.

Feral Ungulate Control:

If not already planned or in use, we recommend the use of hog wire fencing with graduated mesh sizes to restrict both piglets and large boars from management units. While the Hawaii Audubon Society supports the outlined combination of ungulate removal methods (including the use of snares in the appropriate management units), we also recommend the use of one-way gates to assist in ungulate removal. One-way gates offer a humane and effective method to lower feral pig population levels if properly installed in appropriate areas. The gates are relatively easy to install during fence construction and nearly maintenance free.

Monitoring and Research:

We strongly support the annual forest bird surveys, as well as any future plans for re-introductions of native forest birds that have become locally extinct in West Maui, contingent upon the success of avian disease research and propagation efforts.

Thank you for this opportunity to comment on the proposed long-range management plans. We look forward to further participation in the Environmental Assessment process.

Sincerely,

Daniel K. Sailer
Conservtaion Chair, Hawaii Audubon Society

The Nature Conservancy of Hawaii

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

December 10, 1996

Daniel K. Sailer, Conservation Chair
Hawaii Audubon Society
212 Merchant Street, Suite 320
Honolulu, HI 96813

Dear Mr. Sailer,

Your 11/5/96 letter to Peter Schuyler was forwarded to The Nature Conservancy for response. Thank you for your interest and your well-considered comments regarding management planned at Kanepuu and Kapunakea Preserves. Our responses to your comments are summarized below:

Small mammal control

The Nature Conservancy recognizes the need for more effective rodent control methods that can be applied safely in Hawaii's native forests. As you probably know, there is a "toxicant registration working group" that has been grappling with this issue for the past several years. The Nature Conservancy will continue to work with its partners to facilitate the registration of more effective (and safe) rodent toxicants for use in Hawaii's natural areas.

You expressed some concern about the possibility of secondary poisonings resulting from our current use of diphacinone in Kanepuu Preserve. Two studies conducted in Hawaii showed that the majority of radio-collared rodents that died from eating diphacinone bait blocks expired underground or in areas where they would be inaccessible to pueo or Hawaiian hawks. As a result, we believe that the risk of secondary poisoning to pueo is very small. As you suggest, we will re-evaluate the current program if significant impacts to pueo are observed.

Re-introduction of dark-rumped petrel

We agree that an effective rodent control program would be needed prior to re-introducing the dark-rumped petrel to Kanepuu Preserve, or elsewhere on Lanai.

International Headquarters, 1815 North Lynn Street, Arlington, Virginia 22209

A5

Volunteer opportunities

The self-guided trail in Kanepuu unit is a fairly small project that will be completed with community assistance in the next few months. (To prevent visitor impacts, the trail will be in an area that does not contain rare plants. Because our rodent control program focuses on controlling rats in the vicinity of rare plants, we plan to keep these two tasks separate.) The Nature Conservancy does use volunteers for other work at Kanepuu, and we are interested in teaming up with the Hawaii Audubon Society on another, more suitable project.

Ungulate control at Kapunakea Preserve

We are already using the hog wire fencing you recommend at Kapunakea Preserve. We are also investigating the use of one-way gates at Kapunakea.

Monitoring and research at Kapunakea Preserve

Although the management plan you reviewed called for annual forest bird surveys, this work will be dropped from the environmental assessment and the final FY1998-2003 long-range plan. Instead, we will support the work of the statewide forest bird monitoring teams which currently monitor transects on West Maui every 4-5 years. Due to limited management funds, this change is necessary to allow us to focus on higher priority work such as ungulate and weed control.

With regard to re-introducing forest bird species that have been extirpated on West Maui, we are open to working with qualified partners toward this end. However, because such work would require a large research component, and because we are primarily focused on land management, The Nature Conservancy would probably not be willing to lead such a project.

Once again, thank you for participating in the planning process. Please do not hesitate to contact me at 537-4508 if I have not adequately addressed your comments.

Sincerely,

Wendy Fulks
Project Manager

cc
Peter Schuyler
Barrie Morgan
Mark White
Alenka Remec

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: MRL

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.c. 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.

AC

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

The Nature Conservancy of Hawaii

• 1116 SMITH STREET • HONOLULU HAWAII • 96817 • PH [illegible] 537 4508 • FAX [illegible] 545 2019

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]

[illegible]

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 537-4508 if I have not adequately addressed the Service's comments.

Sincerely,

Wendy Fulks
Project Manager

cc
Peter Schuyler
Barrie Morgan
Mark White
Alenka Remec

A9

BENJAMIN J. CAYETANO
GOVERNOR
STATE OF HAWAII

'96 DEC -5 A10:10

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

KALI WATSON
CHAIRMAN
HAWAIIAN HOMES COMMISSION

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

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.

A 10

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

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

OCT 24 1996

Maui Pineapple Company, Ltd.
Honolua Division

October 14, 1996

Mr. Peter Schuyler
State of Hawaii
Department of Land and Natural Resources
Division of Forestry and Wildlife
Kendall Building
888 Mililani Street, Suite 700
Honolulu, HI 96813

RE: KAPUNAKEA PRESERVE (MAUI) LONG RANGE MANAGEMENT PLAN

Dear Mr. Schuyler:

Thank you for the opportunity to review The Nature Conservancy's 6 year management plan for the Kapunakea preserve. The proposed Kapunakea plan is very impressive and comprehensive. It is very similar to our own Pu'u Kukui watershed plan, and rightly so since we all work so closely together.

Maui Land and Pineapple Co., Inc. applauds and supports The Nature Conservancy's current efforts and proposed preservation plans for Kapunakea. My comments and support for the Kapunakea long range plan are generalized. My knowledge and expertise is very limited in the science and management of native rainforest watersheds.

Thus I have asked Mr. Randy Bartlett, Maui Land and Pineapple Co.'s Pu'u Kukui watershed supervisor to respond on behalf of Maui Land and Pineapple Company on a more technical level. His comments are forthcoming.

Thank you once again and best wishes.

Truly yours,

Wesley Nohara
Plantation Superintendent

WN/bd

cc: File
Randy Bartlett

4900 Honoapiilani Hwy. • Lahaina, Maui, Hawaii 96761 • Telephone (808) 669-6201 • Fax 669-7089

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

A12

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 CAYETANO
GOVERNOR OF HAWAII

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

DEPUTIES
Gilbert Coloma-Agaran

AQUACULTURE DEVELOPMENT PROGRAM
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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, Kahue 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, Honokawai 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.

A13

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'uhonua* of Kukaua (SIHP -279); the shrine of the *o'opu* 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:jcn

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

APPENDIX 2
NATURAL COMMUNITIES OF KAPUNAKEA PRESERVE

NATURAL COMMUNITY	HERITAGE RANK(a)
Lowland:	
Koa/ʻŌhiʻa (*Acacia/Metrosideros*) Lowland Mesic Forest^†	G3
Lama/ʻŌhiʻa (*Diospyros/Metrosideros*) Lowland Mesic Forest^	G3
Māmaki (*Pipturus*) Lowland Wet Shrubland	G3
ʻŌhiʻa (*Metrosideros*) Lowland Mesic Forest^†	G3
ʻŌhiʻa (*Metrosideros*) Lowland Mesic Shrubland	G3
ʻŌhiʻa /Uluhe (*Metrosideros/Dicranopteris*) Lowland Wet Forest^	G3
Uluhe (*Dicranopteris*) Lowland Wet Shrubland	G4
Montane	
ʻŌhiʻa (*Metrosideros*) Mixed Montane Bog	G2
ʻŌhiʻa (*Metrosideros*)/Mixed Shrub Montane Wet Forest	G3
ʻŌhiʻa /ʻŌlapa (*Metrosideros/Cheirodendron*) Montane Wet Forest	G3
Aquatic Communities	
Hawaiian Intermittent Stream	G4

(a) Heritage Rank:
- G2 = Imperiled globally (typically 6 to 20 current occurrences).
- G3 = Restricted range (typically 21 to 100 current occurrences).
- G4 = Apparently secure globally (> 100 occurrences).

^ = Not known from West Maui NAR.
† = Not known from Puʻu Kukui WMA.

APPENDIX 3
RARE NATIVE PLANTS OF KAPUNAKEA PRESERVE

SCIENTIFIC NAME	COMMON NAME	HERITAGE RANK (a)	FEDERAL STATUS (b)
Acacia koaia†	koai'a, koai'e, koa'ohā	G2Q	
Alectryon macrococcus var. *macrococcus*^	'ala'alahua, māhoe	G2T2	LE
Argyroxiphium caliginis	'eke silversword	G1	
Bobea sandwicensis^†	'ahakea	G2	
Bonamia menziesii^†	-	G2	LE
Calamagrostis expansa	-	G2	
Colubrina oppositifolia^†	kauila	G1	LE
Ctenitis squamigera	pauoa	G1	LE
Eurya sandwicensis	ānini, wānini	G2	
Exocarpos gaudichaudii†	heau	G1	
Geranium humile	nohoanu, hinahina	G1	
Hedyotis formosa^	-	G1	
Hibiscus kokio ssp. *kokio*†	koki'o 'ula'ula	G2T2	
Lagenifera maviensis	hōwai-a-ulu	G2	
*Melicope orbicularis**	alani	G1	
Myrsine vaccinioides	kolea	G1	
Neraudia melastomifolia^†	ma'aloa, ma'oloa, 'oloa	G2	
*Nothocestrum latifolium**^†	'aiea	G1	
*Phyllostegia bracteata**	-	G1	
*Phyllostegia stachyoides**†	-	G1	
Platanthera holochila	-	G1	LE
Ranunculus mauiensis^†	makou	G2	
Santalum freycinetianum var. *lanaiense*†	'iliahi, sandalwood	G3T2	LE
Sicyos cucumerinus†	'anunu, kupala	G1	

Number of rare plants in Kapunakea 24
^ = Not known from West Maui NAR 8
† = Not known from Pu'u Kukui WMA 12
* = Known from preserve historically (pre-1975) 3

(a) Heritage Rank:

G1 = Species critically imperiled globally (typically 1 - 5 current occurrences).
G2 = Species imperiled globally (typically 6 - 20 current occurrences).
G3 = Species has restricted range (typically 21 - 100 current occurrences).
GH = Species possibly extinct.
Q = Questionable taxonomic assignment.
T1 = Subspecies or variety critically imperiled globally.
T2 = Subspecies or variety imperiled globally.
TH = Subspecies or variety possibly extinct.

(b) Federal Status:

LE = Listed as endangered.

APPENDIX 4
RESEARCH NEEDS LIST FOR KAPUNAKEA PRESERVE

- Develop and evaluate control methods for the alien grasses *Holcus lanatus*, *Melinis minutiflora*, *Andropogon virginicus*, *Setaria gracilis*, *Ehrharta stipoides*, *Hyparrhenia rufa*, and *Pennisetum setaceum*.

- Develop and evaluate biocontrol methods for *Tibouchina herbacea*, *Clidemia hirta*, *Miconia calvescens*, and *Psidium cattleianum*.

- Determine the effect of alien bird species on native forest bird populations — competition for food sources and nesting sites, spread of alien diseases, etc.

- Determine the distribution, abundance, and impact of introduced rats, mongooses, and feral cats on forest birds.

- Determine the impact of introduced social insects on native invertebrates.

- Identify limiting factors of rare land snail populations, including studies on rat predation and densities.

- Conduct native invertebrate survey and identify threats to native invertebrates.

APPENDIX 5
CULTURAL RESOURCES BACKGROUND, KAPUNAKEA PRESERVE (PREPARED BY THERESA DONHAM, STAFF ARCHAEOLOGIST, STATE HISTORIC PRESERVATION DIVISION)

CULTURAL RESOURCES BACKGROUND - KAPUNAKEA PRESERVE

The Kapunakea Preserve encompasses portions of three traditional Hawaiian *ahupua'a* - Honokawai, Hanakao'o, and Kapunakea. The northern half of the preserve, including Honokawai Valley, and Kapaloa Valley are in Honokawai. The southern ridge area is within Hanakao'o, and a small portion at the southwestern edge of the preserve is within Kapunakea.

Honokawai and Hanakao'o are large *ahupua'a* which extend from Pu'u Kukui to the shoreline. At the coast, Hanakao'o includes the land from Keka'a Point (Black Rock) to Hanakao'o Beach Park, near the present site of the Lahaina Civic Center. Honokawai extends north from Keka'a Point to the northern edge of Honokawai Beach Park. Kapunakea is a *lele*, or disconinuous land division, which delineates a small drainage system between c. 1200 and 2200 feet elevation, and a coastal area immediately inland of Mala Landing.

The *ahupua'a* boundary between Honokawai and Hanakao'o follows the boundary between the traditional districts of Ka'anapali and Lahaina. The District of Ka'anapali, which is now encompassed by the Lahaina District, included all of northern West Maui *from* Honokawai to Honokohau. Within the Ka'anapali District are the five Hono (bays) o Piilani - Honokawai, Honokeana, Honokahua, Honolua, and Honokohau. The valleys associated with these streams were all intensively used for irrigated taro farming, and the District supported a relatively large population.

Evidence of precontact and early historic period taro *lo'i* have been documented for the Honokawai Valley, between 800 and 1000 ft elevation. Four complexes, consisting of numerous adjoining agricultural terraces, water channels, diversion dams, and habitation features were recorded as part of an inventory survey for a water line project (*Archaeological Surface Survey, Honokawai Gulch, Ka'anapali, Maui*, B.D. Davis, 1977). Agricultural features were found to occur on both sides of the stream, and continued upstream beyond the limits of the area that was examined during Davis' survey. Additional remnants of an irrigated *lo'i* system have been identified further downstream in Honokawai Valley. No surveys have been conducted to date upstream from Davis' 1977 survey area.

Traditional land use patterns are often reflected in the early to middle nineteenth century Land Commission Award documents. The location of many *kuleana* claims followed pre-established patterns of land cultivation, and were often concentrated along the arable sections of the perennial stream bottoms. For Honokawai Valley, there is a continuous pattern of relatively small Land Commission Awards (L.C.A.) along the stream, from the Ocean to the boundary of the West Maui Forest Reserve.

Within the Forest Reserve (and within the Kapunakea Preserve), there are a few small L.C.A. along Honokawai Stream, and some larger awards which encompass ridgelines. The larger awards were portions of *ali'i* lands.

The following L.C.A. occur within or adjacent to the area of the Kapunakea Preserve:

L.C.A. 11216: 28 to M. Kekau'onohi; included all of Mo'omuku Ahupua'a, excluding smaller L.C.A.; north side of Honokawai Stream, adjacent to the preserve

L.C.A. 76: 1, 5 to Wm. Shaw; L.C.A. 76 included ten parcels for a total of 689 acres. The two *'apana* within the Preserve are at Haenanui, the minor gulch system south of Honokawai Stream (76:1); and along the south slope of Honokawai Valley.

L.C.A. 7715: 3 to Lot Kamehameha; this is one *'apana* of the Hanakao'o *ahupua'a* award, which consisted of 3853 acres.

L.C.A. 11216 to M. Kekau'onohi; included most of Kapunakea, comprising 35 acres; approximately half of this award is within the preserve

L.C.A. 3765: 2 to Aio; one of three *'apana*, less than one acre, located along south side of Honokawai Stream, in the valley bottom

L.C.A. 3925-E to Kanealii'i; one of four *'apana*, less than one acre, located along the south side of Honokawai Stream, in the valley bottom, adjacent to L.C.A. 3765: 2.

Among the six L.C.A. parcels that are within the Kapunakea Preserve, four are portions of large land awards to *ali'i* and a prominent *haole*, that were completed as part of the *Mahele*, or division of lands between the King (Kamehameha), the chiefs, and the government.

In addition to other *ahupua'a* in Lahaina, M. Kekau'onohi received most of the two small land divisions - Mo'omuku and Kapunakea - that occur to the north and south of Honokawai. Kekau'onohi, a *kapu ali'i*, was the daughter of Kaho'anoku Kina'u, a son of Kamehameha I and Peleuli. Kekau'onohi became the wife of Liholiho, and was appointed Governor of Kauai. She was originally selected by vote to be Governor of Maui, but her appointment was challenged by William Richards, who convinced the chiefs that John Young should be governor of Maui instead (Kamakau 1992).

Lot (Kapuaiwa) Kamehameha (V), who received the *ahupua'a* of Hanakao'o, was the son of Kamehameha I and Kaheiheimaile Hoapili, a very high ranking *ali'i*.

William Shaw was a *haole* from Dublin, Ireland, who arrived in Lahaina circa 1807. Shaw's daughters inherited *ali'i* rank from their mother, and became *hanai* daughters to Kauaiwa Kamehameha, who gave them lands in Lahaina. Shaw was given lands in Honokawai (at Haenanui and Loi'inui) and Waikapu by Kamehameha I. Both William Shaw and his son Patrick served as governor of Moloka'i under Kamehameha III.

The two small *kuleana* claims (L.C.A. 3765 and 3925) are of the size and location which generally fit the pattern of agricultural lands claimed by the *maka'ainana*, or commoners. The presence of these awards within the preserve indicates a probability that irrigated taro cultivation was occurring at elevations at least as high as c. 1200-1250 ft elevation within the valley bottom. The recorded testimony which accompanies these two claims may contain important information regarding the uses of these two *kuleana* in the nineteenth century. In addition, a field survey of the valley in the area of the two claims would be most

informative.

The sugar industry became established in the Lahaina District in 1849, with the opening of the Parsons Sugar Mill. During the next three decades, a number of small sugar companies were started in the District. These companies were eventually consolidated through purchase by Pioneer Mill. By the turn of the century, Pioneer Mill controlled 12,500 acres of land in Lahaina, Launiopoko, Wahikuli, and Ka'anapali.

The historic trail which follows along the south side of Honokawai Gulch within the Kapunakea Preserve was constructed by Pioneer Mill in order to access the water resources of Honokawai Stream. This trail, which dates to the early twentieth century, is an excellent example of a non-vehicular industrial transportation route. It presently does not contain any modern construction materials.

The Honokawai Tunnel, constructed by Pioneer Mill, extended across portions of the Kapunakea Preserve, between the Honokawai Stream intake and the Horner Reservoir.

The tax map of the Kapunakea Preserve area (4-4-07) shows an historic trail extending down the slopes of Pu'u Kukui and into Hanakao'o. The trail splits near the Honokao'o/Honokawai boundary and takes two routes toward the Ocean. The origin and purpose of this trail is presently unknown.

In summary, additional historical background research and archaeological field inventory work would provide significant information regarding the following areas and topics:

1. Traditional uses of upland forests and natural resources, access routes to the resources within the Preserve area, and through the Preserve area
2. Traditional agriculture in the Honokawai Stream bottom, particularly the area of the known *kuleana* land claims within the Preserve area
3. The Honokawai trail, intake, tunnel, and other historic industrial sites that might be present within the Preserve
4. The historic trail to Pu'u Kukui (origin and purpose)

(Prepared by Theresa K. Donham, SHPD, 12/15/94)

APPENDIX 6
RARE NATIVE LAND SNAILS OF KAPUNAKEA PRESERVE

SCIENTIFIC NAME	HERITAGE RANK (a)
Partulina crocea†	G?
Partulina perdix	G1
Partulina tappaniana	G1
Perdicella kuhnsi	-

† = Not known from Pu'u Kukui WMA.

(a) Heritage Rank:
G1 = Species critically imperiled globally (typically 1 to 5 current occurrences).
G? = Insufficient data available to assign definite rank.
- = HINHP does not yet rank this taxon.

APPENDIX 7
RELATED DOCUMENTS

Hadfield, M.G. Undated. *Report on a Survey of Achatinelline Tree Snails in Kapunakea Preserve, Maui, September 10–12, 1993.* Unpublished report prepared for The Nature Conservancy.

Hawai'i Heritage Program. 1991. *Amfac/JMB West Maui Watershed Resource Information Notebooks (1&2).* Unpublished.

Hughes, G.D. Undated. *Long-term Biological Threat and Resource Monitoring. Kapunakea Preserve, West Maui, Hawai'i, 1993.* Unpublished.

Long-Term Biological Resource and Threat Monitoring of Kapunakea Preserve. Undated. Unpublished.

The Nature Conservancy of Hawai'i. 1991. *Kapunakea Preserve, West Maui, Hawai'i. 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 Hawai'i. 1991. *Management Report. Amfac/JMB West Maui Watershed.* Unpublished report prepared for Amfac/JMB Hawaii, Inc.

The Nature Conservancy of Hawai'i. 1991. *Maui Project Wildfire Management Plan.* Unpublished.

The Nature Conservancy of Hawai'i. 1993. *Kapunakea Preserve, West Maui, Hawai'i. 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 Hawai'i. 1993. *Summary of Changes. Kapunakea Preserve, Maui, Hawai'i. Long-Range Management Plan.* Unpublished document prepared for the Department of Land and Natural Resources Natural Area Partnership Program.

The Nature Conservancy of Hawai'i, Maui Project Office. 1995. *Final Environmental Assessment for Kapunakea Preserve Natural Area Partnership.*

The Nature Conservancy of Hawai'i. 1996. *Kapunakea Preserve, Maui, 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 Hawai'i. *Semi-annual Progress Report, Kapunakea Preserve, West Maui, Hawai'i.* Unpublished document prepared for the Department of Land and Natural Resources Natural Area Partnership Program and Amfac/JMB Hawaii, Inc. Prepared annually; reports for 1992 – 1996 are available.

The Nature Conservancy of Hawai'i. *Operational Plan and Progress Report, Kapunakea Preserve, West Maui, Hawai'i.* Unpublished document prepared for the Department of Land and Natural Resources Natural Area Partnership Program and Amfac/JMB Hawaii, Inc. Prepared annually; reports for 1992 – 1996 are available.

APPENDIX 8
COMMENTS RECEIVED, AND RESPONSES,
FOR THE KAPUNAKEA 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 Pani Miyashiro at 587-0430 of our Land Division.

c: Maui Land Board Member

A25

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

FEB 05 1997

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
CONSERVATION AND RESOURCES ENFORCEMENT
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).

BENJAMIN J. CAYETANO
GOVERNOR

GARY GILL
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

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

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 Kapunakea Preserve Natural Area Partnership, West Maui

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.

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

Sincerely,

GARY GILL
Director

c: Wendy Fulks, The Nature Conservancy

A26

The Nature
Conservancy
of Hawai'i
1116 Smith Street
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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 Kapunakea 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 $782,000 in state funds, over a 6-year period, will support management at Kapunakea Preserve. None of the work outlined in the EA is contingent upon county funds.

Thank you for your comments. Please contact me at 537-4508 if you have additional questions.

Sincerely,

Wendy Fulks
Project Manager

cc
Peter Schuyler
Alenka Remec
Mark White