JOHN WAIHEE
GOVERNOR OF HAWAII

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

KEITH W. AHUE, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

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

July 13, 1994

Dr. Bruce S. Anderson, Interim Director
Office of Environmental Quality Control
220 South King Street, 4th Floor
Honolulu, HI 96813

Dear Dr. Anderson, Bruce

Subject: Negative Declaration for Mo'omomi Preserve Natural Area Partnership, District of Moloka'i, County of Maui, State of Hawai'i; TMK: 5-1-02-37.

The Department of Land and Natural Resources, Division of Forestry and Wildlife has reviewed and responded to the comments during the 30-day public comment period which began on May 23, 1994. The agency has determined that this project will not have significant environmental effect and has issued a negative declaration. Please publish this notice in the July 23, 1994 OEQC Bulletin.

We have enclosed a completed OEQC Bulletin Publication Form and four copies of the final EA.

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

Sincerely,

Michael G. Buck, Administrator
Division of Forestry and Wildlife

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1994-07-23-MO-FEA-Moomomi Preserve Natural Area Partnership

JUL 23 1994

FINAL ENVIRONMENTAL ASSESSMENT FOR MOOMOMI PRESERVE NATURAL AREA PARTNERSHIP

This document prepared pursuant to Chapter 343, HRS

July 13, 1994

Prepared by
The Nature Conservancy of Hawaii
Molokai Preserves Office
P.O. Box 220
Kualapuu, Hawaii 96757

CONTENTS

I. SUMMARY

CHAPTER 343, HAWAII REVISED STATUTES (HRS)
ENVIRONMENTAL ASSESSMENT

Project Name: Moomomi Preserve Natural Area Partnership

Proposing Agency / Applicant:

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

The Nature Conservancy of Hawaii
1116 Smith Street, Suite 201
Honolulu, Hawaii 96817

Approving Agency:

State of Hawaii
Department of Land and Natural Resources
Division of Forestry and Wildlife

Project Location:

Moomomi Preserve, 921 acres in the District of Molokai, County of Maui, State of Hawaii

Tax Map Key	Acreage
5-1-02-37	921.339

Agencies Consulted During EA Preparation:

Federal:
- National Marine Fisheries Service
- US Department of Interior/ Kalaupapa National Park
- US Department of Agriculture/ Soil Conservation Service—Maui District
- US Department of Agriculture/ Soil Conservation Service—Molokai Plant Materials Center
- US Department of Agriculture/ Animal Damage Control
- US Fish & Wildlife Service

State:

- Aquatic and Wildlife Advisory Committee—Maui County
- Department of Agriculture
- Department of Agriculture—Molokai Irrigation System
- Department of Hawaiian Home Lands
- DLNR/ Aquatic Resources Division—Maui District
- DLNR/ Division of Conservation and Resources Enforcement
- DLNR/ Division of Forestry & Wildlife—Maui District
- DLNR/ Division of Land Management—Maui District
- DLNR/ State Historic Preservation Division
- Na Ala Hele Molokai Advisory Council
- Office of Hawaiian Affairs
- UH Cooperative Extension Service

County:

- Planning Department—Maui County
- Maui County Council—Molokai Councilman
- Molokai Chamber of Commerce
- Molokai Planning Commission

Private:

- Joan Aidem
- Billy Akutagawa
- Bobby Alcain
- Emmett Aluli
- Alu Like, Inc.
- Boy Scouts—Molokai
- James Brennan
- Judy Caparida
- Conservation Council for Hawaii
- Mike Donleavey
- Anna Goodhue
- Hawaii Audubon Society
- Adolf Helm
- Greg Helm
- Hui Malama O Moomomi
- Noelani Joy
- Yama Kaholoa'a
- Joyce Kainoa
- Rachel Kamakana
- Moses Kim
- Moana's Hula Halau
- Moanalua Gardens Foundation
- Molokai 4-H
- Molokai Cares
- Molokai Earth Preservation Org.
- Molokai Ranch, Ltd.
- Native Hawaiian Advisory Council
- Native Hawaiian Legal Corporation
- Natural Resources Defense Council
- Masashi "Cowboy" Otsuka
- Keali'i Pang
- Walter Ragsdale
- Walter Ritte
- John Sabas
- Eugene Santiago
- Sierra Club Legal Defense Fund
- Sierra Club/ Maui Group
- Claud Sutcliffe
- Sarah Sykes
- Kenneth Takase

II. PROJECT DESCRIPTION

In 1988 The Nature Conservancy purchased the area that is now Moomomi Preserve from Molokai Ranch, Limited. Moomomi is the most intact coastal sand dune ecosystem in the main Hawaiian Islands. The primary goal of this project is to maintain this special ecosystem and protect the area's rare plants and animals. Previous management work was approved by, and conducted in accordance with, Conservation District Use Permit number SH-2028A.

SUMMARY DESCRIPTION OF THE AFFECTED ENVIRONMENT

Location

Moomomi Preserve is on the northwest coast of Molokai, roughly between Kapalauoa and Kawaaloa Bay. It includes the coastline and much of the area of blowing sand known as Keonelele or the "desert strip" of West Molokai. The preserve extends from the coast inland about 2 kilometers and is surrounded by Molokai Ranch, Limited lands (Figure 1).

Native Natural Communities

Moomomi contains six native-dominated, coastal dry shrubland and grassland communities (see Figure 2 and Appendix 1). One of these is rare, the *Tetramolopium rockii* Coastal Dry Shrubland.[1]

Native Flora

Seven rare plants have been reported from within the preserve, two of which are endemic to West Molokai (Appendix 2). The rare plants include the federally listed endangered *Chamaesyce skottsbergii* var. *skottsbergii* and *Marsilea villosa*, and the federally listed threatened *Tetramolopium rockii* var. *calcisabulorum* and *Tetramolopium rockii* var. *rockii* (Appendix 2). (*Marsilea villosa*, however, has not been reported from the preserve since the 1970s.)

[1]The U.S. Fish and Wildlife Service has determined that small portions of Moomomi Preserve are palustrine systems, a category of wetlands. 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." Palustrine systems include "all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5‰."

Figure 1

Moomomi Preserve

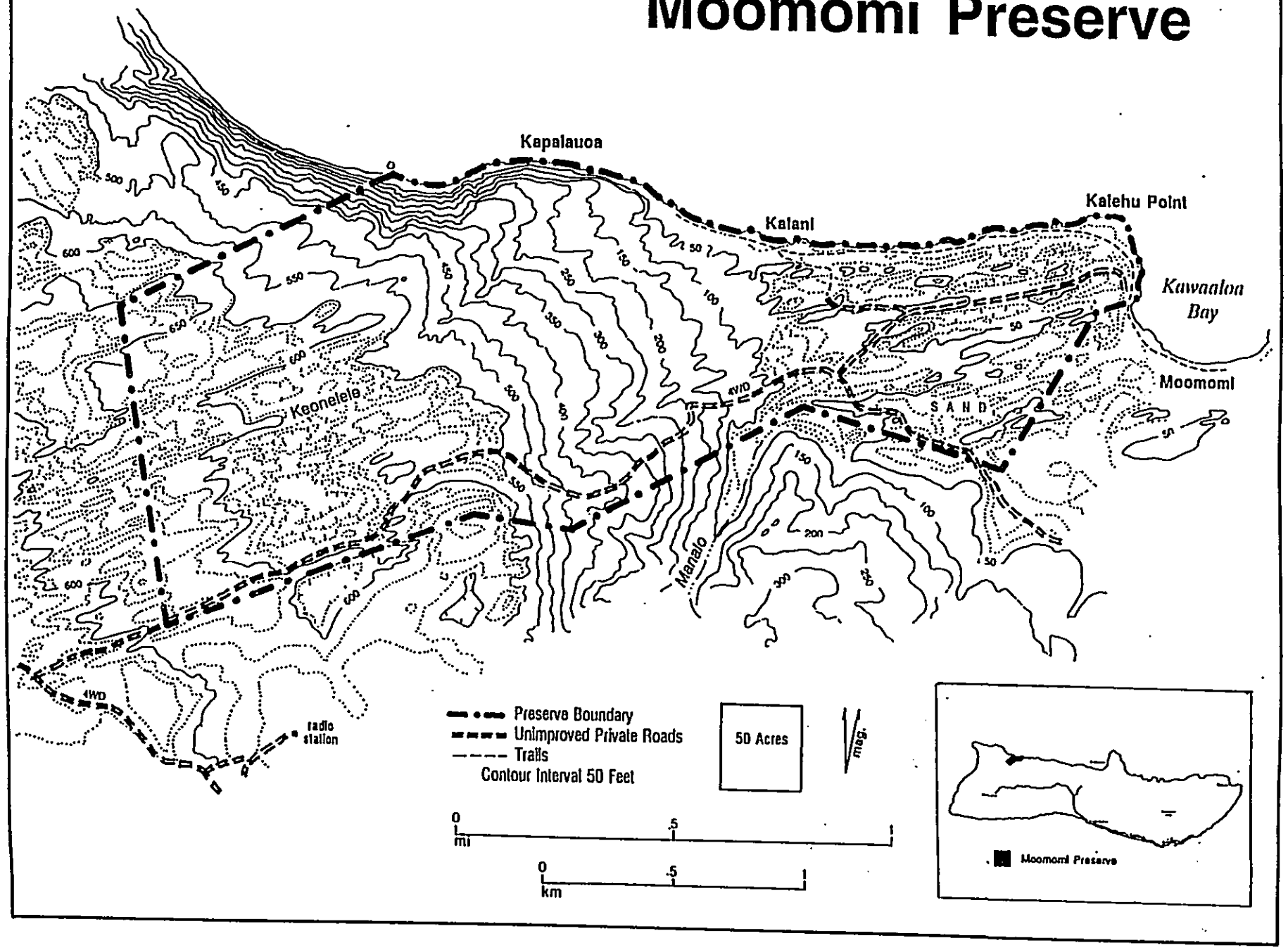
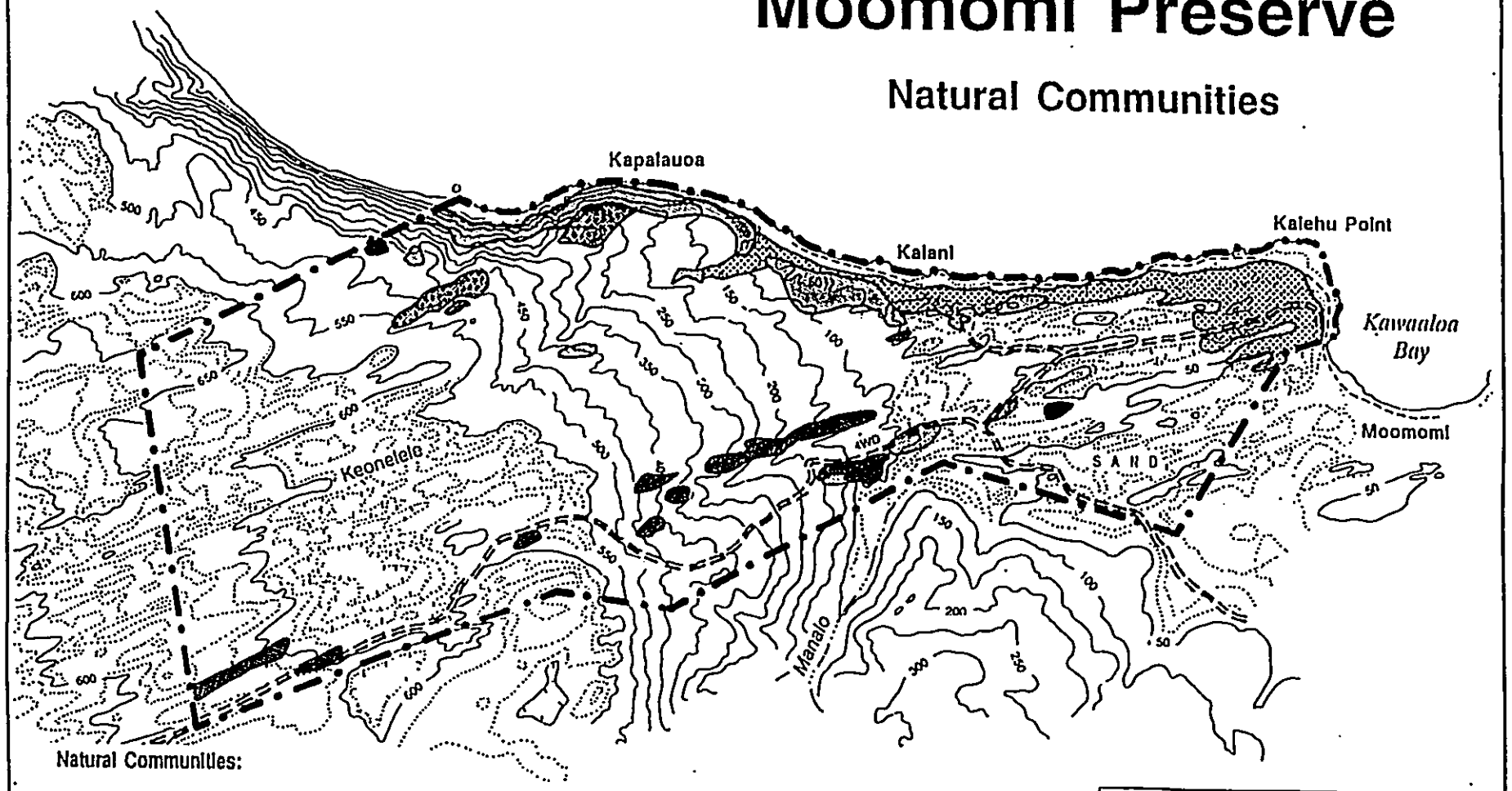


Figure 2

Moomomi Preserve

Natural Communities



Natural Communities:

- 'Aki'aki Coastal Dry Grassland and Naupaka Coastal Dry Shrubland
- Hinahina Coastal Dry Shrubland
- 'Ilima Coastal Dry Shrubland
- Nehe Coastal Dry Shrubland
- *Tetramolopium rockii* Coastal Dry Shrubland *
- Alien-Dominated Vegetation

* Rare Natural Community

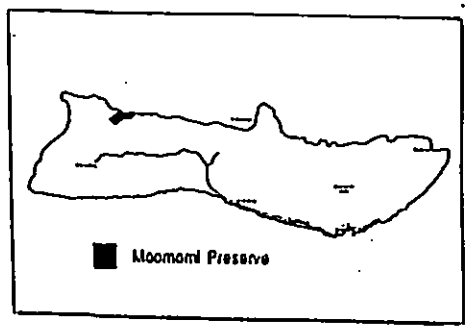
Preserve Boundary
Unimproved Private Roads
Trails
Contour Interval 50 Feet

50 Acres

mag.

0 .5 mi

0 .5 km



Native Fauna

Green sea turtles (*Chelonia mydas*, honu), listed as threatened by the state and federal governments, frequent the ocean adjacent to Moomomi Preserve (Appendix 3). This is one of the few areas in the main Hawaiian Islands where turtles have nested in recent years. Laysan albatrosses (*Diomedia immutabilis*, moli) and monk seals (*Monachus schauinslandi)* also visit the area, and may someday become established at Moomomi.

Historical/Archaeological and Cultural Resources

Moomomi contains numerous archaeological sites. Within the preserve are an adze quarry, numerous tool making sites, and transient house sites or shelters. The portion of the preserve known as Keonelele contains many Hawaiian burials. Six archaeological sites at Moomomi Preserve were studied in 1952 by Bishop Museum staff, and 11 sites were further studied by a team led by Marshall Weisler under contract with the Conservancy in 1989. None of Moomomi's historical resources are currently listed on the National or State Registers of Historic Sites.

For the people of Molokai today, especially native Hawaiians of the Hoolehua region, Moomomi Preserve is also an important site for fishing and the gathering of marine and coastal resources such as sea salt, limu, shellfish, and certain native plants. The Nature Conservancy recognizes the constitutional gathering rights of native Hawaiians and shares the desire of the Hawaiian community to perpetuate this link between people and the environment through responsible stewardship of natural resources.

Conservancy staff consulted with state Historic Preservation Division (SHP) staff to ensure that the full scope of proposed activities was known to SHP. SHP concurs that the proposed project appears to involve minimal ground disturbance, but recommended that preserve staff contact them before performing ground-disturbing activities. SHP also asked that 1) Moomomi Preserve's fire plan *not* call for the bulldozing of a fire break (due to the potential for harming subsurface deposits), and 2) that preserve staff and others who supervise visitors be trained in the appropriate treatment of historical sites and the adequate supervision of public access to areas containing visible, surface archaeological sites. The management plan for Moomomi Preserve does not call for any ground-disturbing activities; however, staff will contact SHP if such activities are planned in the future. Regarding the use of heavy equipment to control wildfires, bulldozers will be used during fire suppression only in emergency situations where human life or critically rare biological resources are in danger, and fire management plans will identify known sensitive sites to be avoided by heavy equipment. (The Conservancy is currently working with SHP to schedule a historical site training session for preserve staff and docents.)

Other Significant Resources

The consolidated dunes at Moomomi represent the first discovered site in Hawaii with subfossil deposits of an extinct land vertebrate fauna. The vertebrate remains include

both extinct and extant birds from as early as late-Pleistocene time. Among these are goose, ibis, and rail—all extinct and flightless—and a type of eagle. An invertebrate fauna, including extinct land snails, is associated with the bird remains; some shells have been dated at about 28,000 years. New sites may be found as shifting sands disclose new areas of lithified dune.

Adjacent Natural Resources

Some rare plants, animals, and natural communities are also known from areas adjacent to the preserve. Most of these are located immediately east of the preserve, along the coastline.

Rare plants known from adjacent areas include *Marsilea villosa*, *Sesbania tomentosa*, *Solanum nelsonii*, and *Tetramolopium rockii* var. *rockii*. With the exception of *Sesbania tomentosa*, all of these have also been reported from Moomomi Preserve. However, *Marsilea villosa* does not currently exist within the preserve.

Moomomi Preserve's rare natural community (*Tetramolopium rockii* var. *rockii* Coastal Dry Shrubland) has also been observed east of the preserve. The following rare animals have been seen in adjacent areas: green sea turtles, hawksbill turtles (*Eretmochelys imbricata*, 'ea), and monk seals.

Sensitive Habitats

The habitats and resources listed above and in the appendices are regarded as sensitive and are found both within and adjacent to Moomomi 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 the introduction of new weeds are recognized, and special precautions will be taken to minimize these risks.

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

Technical

Management Considerations

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. Management goals for 6 fiscal years are discussed below. (The Nature Conservancy has adopted a July 1–June 30 fiscal year.) The Nature Conservancy of Hawaii will be responsible for the completion of the management work.

This section describes specific management strategies that will be undertaken to maintain and enhance the native ecosystems and species of Moomomi Preserve. Our management strategies are shaped by the following considerations.

1. In 1988 the Conservancy purchased 921-acres from Molokai Ranch, Limited to establish Moomomi Preserve. The preserve lands are surrounded by Molokai Ranch properties. An easement, which is part of the deed, allows the Conservancy access to the preserve on all existing roads. Molokai Ranch and the Conservancy also have a Fencing Agreement that states that the Ranch is responsible for repairing fence breaks and removing any livestock that escape from Ranch lands into the preserve. We also have an agreement with SHP and a community group for stewardship of important cultural resources within the preserve.

   The main road to the preserve also runs through Department of Hawaiian Home Lands (DHHL) property adjacent to the Ranch's land. Presently, there is no formal agreement to use the DHHL portion of the main preserve road. (One of our goals for FY95 will be to sign such an agreement with DHHL.)

2. The coastal resources of Moomomi (fish, limu, crab, salt, etc.) are important to the Molokai community. Community access is provided by the Conservancy for non-commercial use of these resources. The number of users largely determines how the resources will be sustained. Therefore, one of our ongoing tasks is to work with the community to determine the access level suitable to maintain sustainable harvesting practices.

3. In addition to its biological significance, Moomomi is known for its beauty, wild setting, and cultural significance. This management plan reflects the need to protect all of these aspects of Moomomi.

4. The main preserve road ends at the coast in the northeastern corner of the preserve. This road is used by visitors and for management. In addition, a traditional foot trail begins east of the preserve and parallels much of the preserve coastline. Small boats access the inshore waters adjacent to the preserve, especially during the summer months when the ocean is calmer. A four-wheel drive road that extends along the southern length of the preserve is used for management.

5. Most of the preserve's paleontological resources are inland near the lithified dunes. Archaeological sites are scattered throughout the preserve.

6. Key threats include trampling and browsing by escaped domestic cattle and axis deer (*Axis axis*), damage from off-road vehicles, habitat modification by the invasive alien plant kiawe (*Prosopis pallida*), and overutilization of natural resources by users.

7. Axis deer move readily in and out of the preserve. Their impact on the native vegetation is currently being studied to help determine an appropriate management strategy.

8. Due to safety concerns, Molokai Ranch's adjacent cattle operations, and TNC's limited resources for administration and enforcement, and because the effects of deer on the native vegetation are currently being studied, TNC does not have a public hunting program at Moomomi Preserve. (TNC is aware that hunters may occasionally enter the preserve without permission; we discourage this for the first three reasons stated above.) In addition, *Hui Malama O Moomomi*, a group of Hoolehua Homesteaders who live near the preserve, is concerned about increased use of Moomomi by gatherers and hunters because native plants and archaeological sites are susceptible to damage. TNC recognizes that the people who live near natural resources used for subsistence should help determine how the resources are managed. Therefore, if ongoing exclosure studies show that an axis deer control program is needed, we will work with the *Hui* to develop such a program.

Management Goals

The following are our primary resource management and public outreach activities:

- ◇ helping Molokai Ranch staff monitor and repair their fence to prevent domestic livestock from straying onto the preserve;
- ◇ bringing limited numbers of people to the preserve through volunteer, intern, and hiking opportunities;
- ◇ sponsoring regular beach clean-up projects to reduce hazardous marine debris;
- ◇ seasonal monitoring of sea turtle nesting;
- ◇ annual monitoring of native and non-native vegetation changes;
- ◇ annual monitoring of axis deer impacts;
- ◇ developing kiawe removal techniques; and
- ◇ minimizing vehicular and foot traffic impact on fragile areas, and improving roads, trails, and gates.

Many of our management programs are still being developed. For example, we have constructed three fenced exclosures and established plots outside and inside to study the growth of native and non-native plants with and without the effects of axis deer. We are waiting on the results of this monitoring work to determine our management strategy for axis deer. We also expect to work closely with the community group *Hui Malama O Moomomi* and their effort to develop a marine resources management plan for coastal northwest Molokai, which may shape programs underway at the preserve.

Our management programs are discussed in the following pages. Goals are listed for each management program, followed by a brief description of the program strategies and how we foresee these strategies changing over the next 6 years. Specific tasks are listed by year.

Non-Native Species Control Programs

Ungulate Control

Program Goal: To keep domestic livestock from entering the preserve, and to determine and implement a management strategy for axis deer.

Moomomi contains a rare natural community, rare plant taxa, and other resources that are susceptible to damage caused by ungulates (hoofed animals), especially livestock. The current focus of our ungulate control program at Moomomi is to help maintain Molokai Ranch's fence to prevent cattle ingress. Cattle have also entered the preserve through gates that were inadvertently left open by visitors. The Ranch has agreed to build a new fence parallel to the shoreline between the first and second gates. The new fence will exclude cattle from the area adjacent to the gates, eliminating the problem of cattle entering the preserve through open gates. (When cattle or other livestock enter Moomomi, Molokai Ranch is responsible for removing them upon notification by the Conservancy.)

We will determine our management method for axis deer in Years 3 and 4 (FY97 and FY98) after collecting and examining the data from the three deer exclosures. Until that time, only preserve staff are allowed to hunt in the preserve. The meat from these hunts is used for home consumption or for community needs.

<u>Ungulate Control Timeline</u>

Year 1 (FY95)
* Maintain cattle fence, and report any stray cattle or other livestock to Molokai Ranch.
* Maintain deer exclosures, and conduct and assess annual monitoring.

Year 2 (FY96)
* Maintain cattle fence, and report any stray cattle or other livestock to Molokai Ranch.
* Maintain deer exclosures, conduct and assess annual monitoring.

Years 3 & 4 (FY97 & 98)
* Maintain cattle fence, and report any stray cattle/livestock to Molokai Ranch.
* Maintain deer exclosures, conduct and assess annual monitoring.
* Determine need for axis deer management using exclosure data.

Years 5 & 6 (FY99 & 2000)
* Maintain cattle fence, and report any stray cattle/livestock to Molokai Ranch.
* Maintain deer exclosures, conduct and assess annual monitoring.
* Continue axis deer management (if necessary).

Weed Control

Program Goal: Reduce the range of established habitat-modifying weeds, and eliminate populations of incipient weeds.

In some portions of the preserve, kiawe trees appear to be crowding out native plants. Kiawe is the most significant weed in the preserve; therefore, weed control tasks for the next 6 years will focus on developing removal and revegetation techniques for this non-native plant. Identifying and removing new weed infestations will also be an ongoing effort. We will conduct removal trials on small kiawe stands (no more than five plots each 400 square feet or smaller) within native natural communities, developing effective removal techniques, monitoring the rate of native plant recovery, and planting native species as needed. The results of the small-scale trials will be used to formulate a strategy for long-term management of kiawe in the preserve.

Herbicides are not currently used at Moomomi. However, small quantities of approved herbicides might be used in the kiawe removal trials to prevent regrowth of cut stumps. It is also possible that staff will use herbicides to control other weeds that are not now considered a serious threat. On all Conservancy preserves in Hawaii, herbicide use is strictly limited, and in full compliance with the state Department of Agriculture's pesticide branch. Furthermore, weed control staff are licensed by the state Department of Agriculture's pesticide branch.

Keeping livestock out of the preserve can also prevent the establishment and spread of new weeds. Cattle can facilitate weed invasion by trampling intact native plant communities, disturbing the ground, and transporting weed seeds through their solid waste.

Weed Control Timeline

Year 1 (FY95)
* Develop removal trials for small, outlying kiawe populations.
* Remove incipient habitat-modifying weeds as encountered.

Year 2 (FY96)
* Maintain kiawe removal trials modifying removal technique if necessary.
* Remove incipient habitat-modifying weeds as encountered.

Years 3 & 4 (FY97 & 98)
* Complete kiawe removal trials.
* Remove incipient habitat-modifying weeds as encountered.

Years 5 & 6 (FY99 & 2000)
* Remove outlying populations of kiawe.
* Develop strategy for removal and revegetation of large kiawe stands.
* Remove incipient habitat-modifying weeds as encountered.

Resource Monitoring and Research

Program Goal: To track the biological and physical resources of the preserve and evaluate changes in these resources over time to guide management programs.

Baseline resource monitoring tracks important biological and physical resources over time, and identifies trends in these resources. We have established plots to facilitate community- and population-level monitoring, and collect data from the plots annually. We will also track landscape-scale changes periodically using aerial photos.

Over the years, a few researchers have been given permits to work in the preserve. Specific projects are approved based on review by the Stewardship Ecologist and Preserve Manager. Steve Perlman of the National Tropical Botanical Garden is presently the only person doing biological research on the preserve. He is collecting seeds from three rare plants (*Tetramolopium rockii* var. *calcisabulorum*, *Solanum nelsonii*, and *Gnaphalium sandwicensium* var. *molokaiense*) to use in *ex situ* propagation for the recovery of these species.

Monitoring and Research Timeline

Year 1 (FY95)
* Collect monitoring data for all vegetation and rare species.
* Analyze monitoring data and prepare graphic display.
* Provide logistical assistance to approved research projects.

Year 2 (FY96)
* Collect monitoring data for all vegetation and rare species, and continue data input.
* Provide logistical assistance to approved research projects.

Years 3 & 4 (FY97 & 98)
* Collect monitoring data for all vegetation and rare species, and begin data analysis. Adjust management strategy for native natural communities if needed.
* Provide logistical assistance to approved research projects.

Years 5 & 6 (FY99 & 2000)
* Collect monitoring data for all vegetation and rare species, and continue analyzing changes or trends in data. Adjust management for native natural communities if needed.
* Provide logistical assistance to approved research projects.

Rare Species Protection

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

Rare species protection work will include monitoring nesting turtles and reporting sightings of monk seals and Laysan albatrosses. We are also planning to re-establish

two rare plants, *Marsilea villosa* (not seen in Moomomi since the 1970s) and *Sesbania tomentosa*, in selected areas of the preserve. We will consult with experts to determine propagation and planting methods, and will comply with all applicable state and federal laws. In Years 3 and 4 we will develop special plans to direct the management of turtle nesting sites and to encourage re-establishment of monk seals.

Rare Species Protection Timeline

Year 1 (FY95)
* Maintain turtle nesting monitoring under the guidance of National Marine Fisheries Service (NMFS) and State Division of Aquatic Resources (DAR) and with the help of volunteers.
* Report sightings of monk seals and Laysan albatrosses to Hawaii Heritage Program (HHP), U.S. Fish and Wildlife Service (USFWS), NMFS, and DAR.
* Identify possible sites for reestablishing *Marsilea villosa* and *Sesbania tomentosa*.

Year 2 (FY96)
* Maintain turtle nesting monitoring under the guidance of NMFS and DAR, and with the help of volunteers.
* Discuss with NMFS the possibility of reintroducing or encouraging natural re-establishment of monk seals to Moomomi.
* Report sightings of monk seals and Laysan albatrosses to HHP, USFWS, NMFS, and DAR.
* Develop translocation and propagation techniques for *Marsilea villosa* and *Sesbania tomentosa*; locate and begin to develop propagule source.

Years 3 & 4 (FY97 & 98)
* Maintain turtle nesting monitoring under the guidance of NMFS and DAR, and with the help of volunteers.
* Develop turtle nesting management plan.
* Develop monk seal management plan (if necessary).
* Report sightings of monk seals and Laysan albatrosses to HHP, USFWS, NMFS, and DAR.
* Implement *Marsilea villosa* and *Sesbania tomentosa* translocation.

Years 5 & 6 (FY99 & 2000)
* Maintain turtle nesting monitoring under the guidance of NMFS and DAR and with the help of volunteers, and implement turtle nesting plan.
* Implement monk seal management plan (as determined in Year 4).
* Determine feasibility of re-establishing Laysan albatrosses and other seabirds at Moomomi.
* Report sightings of monk seals and Laysan albatrosses to HHP, USFWS, NMFS, and DAR.
* Maintain *Marsilea villosa* and *Sesbania tomentosa* translocation sites.

Historical/Prehistorical/Cultural Programs

Program Goal: To identify and protect historical, prehistorical, and cultural remains on the preserve.

Moomomi contains several important archaeological sites including shelter caves, an adze quarry, *heiau*, and burial sites. Moomomi also contains rich paleontological deposits. To date, we have been working with archaeologist Marshall Weisler to set protection priorities for the preserve's archaeological resources. Our management is limited to preventing disturbance of these sites by identifying their location and general importance, and regulating human activities in the preserve to avoid these sites. We will seek a museum or other agency partner with the proper expertise to help us manage Moomomi's archaeological and paleontological sites. The program will be guided by advice from the Molokai community.

In Years 5 and 6 we will update the Moomomi Preserve brochure to include information on the preserve's archaeological, paleontological, and cultural resources.

Historical/Prehistorical/Cultural Timeline

Year 1 (FY95)
* Identify emergency protection tasks (e.g., reinterment of exposed bones) with help from archaeologist.
* Conduct emergency basic archaeology protection as needed.

Year 2 (FY96)
* Identify archaeological agency/museum to secure funding and develop and implement protection.
* Conduct emergency basic archaeology protection as needed.

Years 3 & 4 (FY97 & 98)
* Develop partnership with archaeological agency/museum to manage archaeological and paleontological resources (including conducting emergency protection).

Years 5 & 6 (FY99 & 2000)
* Continue partnership with archaeological agency/museum.
* Revise Moomomi interpretive brochure (FY99).

Public Outreach Program

Program Goal: To build public understanding and support for the preserve within the Molokai community, and to enlist volunteer assistance for preserve management.

Field trips and slide shows promote education and enjoyment of Hawaii's natural areas to the Molokai community and Molokai visitors. Interpretive hikes are led monthly by docent Joan Aidem, a resident Molokai naturalist. Volunteer groups perform labor-

intensive tasks such as trail clearing, disposing of beach debris, and clearing vegetation from the cattle fence line. While helping preserve staff achieve management goals, these volunteers are gaining hands-on conservation experience. The Conservancy also participates in community Arbor and Earth Day activities promoting conservation of natural resources.

Every summer, a Molokai High School intern and workers from *Alu Like* and the state Summer Youth Employment program join the preserve staff. We also work with Molokai Earth Preservation Organization (MEPO), an environmental club of Molokai High School students. MEPO is developing a greenhouse to propagate native plants; we help the students collect propagules (seeds and cuttings) of common native plants and take them on educational field trips. These opportunities expose Molokai youth to careers in conservation while they learn about Hawaii's natural areas and their need for protection.

In FY94 we formed the Molokai Advisory Council (MAC), a group of local residents who advise the Conservancy on issues related to preserve management. They help educate us and the Molokai community about our mutual goals as they relate to preserve use and protection. Working with MAC this past year, we have determined that we need Molokai *kupuna* and *laau lapaau* (herbal medicine) practitioners to help us identify, protect, and enhance native natural resources that have traditional uses, and share their knowledge with the community. A MAC subcommittee is leading this effort. We will also continue to work with Molokai Ranch and *Hui Malama O Moomomi* to coordinate on issues related to the use and management of natural resources in the Moomomi region.

Visitors enjoy access to the preserve via a pass-key system. Most pass-key users are local residents who access the shoreline to fish, or gather limu, opihi, crab, and salt. Many of the local residents are native Hawaiians from the Hoolehua community.

Public Outreach Timeline

Year 1 (FY95)

* Write annual progress report and coordinate plans with Molokai Ranch, MAC, and *Hui Malama O Moomomi.*
* Continue to develop regional planning with adjacent landowners and the *Hui.*
* Conduct minimum of three MAC meetings to discuss Molokai Preserves issues and continue to develop *kupuna* and *laau lapaau* practitioner involvement.
* Select and fund 12th annual Molokai High School summer intern.
* Train and oversee *Alu Like* and other Summer Youth Program participants in management activities throughout the summer months.
* Support MEPO's native plant greenhouse by providing propagule collecting opportunities.
* Provide educational slide shows and monthly hikes for local schools/community groups.
* Maintain current level of volunteer participation.

Year 2 (FY96)

* Write annual progress report and coordinate plans with Molokai Ranch, MAC, and the *Hui.*
* Continue to meet with adjacent landowners and the *Hui* to discuss integrating management and monitoring of marine and coastal resources for the Moomomi region.
* Conduct minimum of three MAC meetings to discuss Molokai Preserves issues and continue to develop *kupuna* and *laau lapaau* practitioner involvement.
* Select and fund 13th annual Molokai High School summer intern.
* Train and oversee *Alu Like* and other Summer Youth Program participants in management activities throughout the summer months.
* Support MEPO's native plant greenhouse by providing propagule collecting opportunities.
* Provide educational slide shows and monthly hikes for local schools/community groups.
* Maintain current level of volunteer participation.

Years 3 & 4 (FY97 & 98)

* Write annual progress report and coordinate plans with Molokai Ranch, MAC, and the *Hui.*
* With regional partners, develop management policies for the Moomomi region and begin implementation (cost to be determined).
* Conduct minimum of three MAC meetings to discuss Molokai Preserves issues and continue to develop *kupuna* and *laau lapaau* practitioner involvement.
* Select and fund 14th and 15th annual Molokai High School summer interns.
* Train and oversee *Alu Like* and other Summer Youth Program participants in management activities throughout the summer months.
* Support MEPO's native plant greenhouse by providing propagule collecting opportunities.
* Provide educational slide shows and monthly hikes for local schools/community groups.
* Maintain current level of volunteer participation.

Years 5 & 6 (FY99 & 2000)

* Write annual progress report and coordinate plans with Molokai Ranch, MAC, and the *Hui.*
* With regional partners, amend regional management policies as needed; continue implementation.
* Conduct minimum of three MAC meetings to discuss Molokai Preserves issues and continue to develop *kupuna* and *laau lapaau* practitioner involvement.
* Select and fund 16th and 17th annual Molokai High School summer interns.
* Train and oversee *Alu Like* and other Summer Youth Program participants in management activities throughout the summer months.
* Support MEPO's native plant greenhouse by providing propagule collecting opportunities.

* Provide educational slide shows and monthly hikes for local schools/community groups.
* Maintain current level of volunteer participation.

Emergency and Safety Programs

Program Goal: To conduct safe and efficient preserve operations, and to be prepared for fire and rescue emergencies.

Moomomi Preserve is situated in a remote area of Molokai. To be as prepared as possible, staff participate in a variety of training offered by state and federal agencies (fire training, helicopter safety, hunter safety, etc.). Wildfire presuppression and response plans are coordinated with the Molokai Fire Department (the lead emergency agency) and the state Division of Forestry and Wildlife (DOFAW) Maui District Manager. The Moomomi Wildfire Management Plan is reviewed annually with the lead emergency agency and updated as necessary.

Emergency and Safety Timeline

Year 1 (FY95)
* Update fire/emergency plans and training.

Year 2 (FY96)
* Update fire/emergency plans and training.

Years 3 & 4 (FY97 & 98)
* Update fire/emergency plans and training.

Years 5 & 6 (FY99 & 2000)
* Update fire/emergency plans and training.

Personnel, Equipment and Facilities

Program Goal: To provide administrative, logistical, and operational support for all of the Conservancy's field and community activities on Molokai.

The Conservancy currently has five full-time staff on Molokai, including the Preserves Manager, Field Naturalist, Field Coordinator (currently a Stewardship Trainee), a Field Technician, and an Administrative Coordinator. These staff manage three preserves, with about 10 percent of their time dedicated to Moomomi. Another Field Technician will be added in FY95. Office/baseyard, equipment, and travel costs on Molokai are also split among the three preserves, with 10 percent charged to the Moomomi budget. Management in Moomomi requires four-wheel drive vehicles, and 20 percent of our vehicle costs are paid from the Moomomi preserve budget. Roads and trails are maintained to provide safe access to the preserve. One of our goals for FY95 will be to

sign a formal agreement with DHHL for use of their portion of the main preserve access road.

Technical and annual planning support are provided by the Honolulu office of The Nature Conservancy. In particular, the Science and Stewardship Editor, Stewardship Ecologist, and Environmental Educator will help prepare annual plans and reports, develop and implement monitoring and research programs, and establish interpretive and intern programs at the preserve. In addition, biologists from the Hawaii Heritage Program will occasionally help Molokai staff with rare species monitoring and other stewardship projects.

Socio-economic

Moomomi provides the general public with a unique opportunity to visit a large, relatively intact native coastal dune ecosystem. For the people of Molokai, especially native Hawaiians, the preserve is an important gathering and cultural site. Fishing and gathering of marine resources such as sea salt, limu, and shellfish still occur in the area as they did long ago. Native plants such as hinahina and kaunaoa are important in lei making. The Molokai Community Plan recognizes these values and calls for Moomomi's preservation.

As the best remaining habitat for several coastal plants and plant community types, Moomomi has great value as a natural repository for unique genetic material and ecological information. Its potential for enhancement of sea turtle, monk seal, and seabird habitat adds further value to the preserve. The Conservancy presently shares these values with the community through guided hikes, a public use program, slide-show talks to school and community groups, and summer internships that involve Molokai youth in management of the preserve. Our hope is to expand these programs by working with our newly formed Molokai Advisory Council and *Hui Malama O Moomomi* to determine appropriate uses and levels of use for the area. The preserve also provides added jobs on Molokai, as described above.

Environmental

This project has benefitted, and will continue to benefit the environment, by maintaining and enhancing native ecosystems, preserving biological diversity, and protecting valuable cultural, archaeological, and paleontological resources.

At least seven rare plants, one species of threatened sea turtle, and one rare natural community reported from Moomomi Preserve are better protected as a result of this project.

III. Summary of Major Impacts

Major Impacts — Positive

- Protection of the fragile dune ecosystem and important archaeological and paleontological sites from domestic livestock.
- Reduction of the range of habitat-modifying weeds (kiawe) and prevention of introduction of new problem weeds.
- Tracking of biological and physical resources in the preserve and evaluation of changes in these resources over time to identify new threats.
- Prevention of extinction of rare species in the preserve.
- Preservation of a living component of Hawaiian culture.

Major Impacts — Negative

No major negative impacts are expected to result from the proposed project. However, there are several *potential*, direct, negative impacts of management at Moomomi. One is the accidental introduction or spread of new weed or alien invertebrate species on equipment, supplies, or transport vehicles. Also, because herbicides might be needed to control kiawe or other alien plants in the preserve, there is a remote possibility of localized ground contamination. We are also aware that we might "unnaturally" alter Moomomi's dunes through trampling, or by removing alien plants such as kiawe, which help stabilize the sand. The Conservancy has taken measures to minimize or prevent all of these impacts (see Proposed Mitigation Measures below).

In addition to direct impacts of management actions, at Moomomi there are potential *indirect* environmental impacts. As previously mentioned in the Public Outreach Program description, Moomomi is open to the public on a limited basis. In addition to staff- and docent-led hikes, members of the Molokai community can visit the preserve unaccompanied by checking out a key from the Conservancy's office in Kualapuu. With such an open access policy come risks. For example, visitors could potentially harm Moomomi's resources by overharvesting marine or other resources, driving upon or trampling dunes or vegetation, dumping trash, introducing weeds or alien insects, starting destructive fires, collecting artifacts, and by damaging fossils or archaeological sites.

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 Moomomi's rare dune ecosystem. A no-action alternative would promote the loss of rare plants and animals.

V. PROPOSED MITIGATION MEASURES

To prevent the accidental introduction or spread of weeds and alien invertebrates, Conservancy staff inspect equipment taken into the preserve and monitor for new pest species. If herbicides are used in the preserve, they will be applied selectively, and according to label instructions. Applicators will be licensed by the state Department of Agriculture's pesticide branch, and all chemical use will comply with that agency's guidelines. We have also taken steps to minimize damage to the dunes. Staff do not walk on the crests of dunes, and they avoid sensitive areas such as the rare *Tetramolopium rockii* Coastal Dry Shrubland. To ensure that we do not unnaturally alter the dunes during weed control, prior to large-scale kiawe removal we will conduct small-scale trials to evaluate the effect of kiawe removal on dune dynamics.

We have also taken several steps to prevent or minimize user damage. Staff and trained docents guide hikes and advise visitors how to minimize their impact. Pass key users are given copies of the preserve rules (see Attachment 1). For example, we ask everyone to avoid the dune areas, using only beaches and designated trail and parking areas. The collection of artifacts, bones, and coral, and harvesting or collecting natural resources for commercial purposes are prohibited. We have erected signs and established trails and barriers to help prevent trampling and off-road vehicle damage. Visitor impact is assessed during regular staff visits, and through annual vegetation monitoring. Together with *Hui Malama O Moomomi* we will ensure that the harvesting of resources such as lei-making materials and salt is non-destructive and sustainable in the long term. We will also participate in establishing sustainable harvesting practices for Moomomi's marine resources; however, these are under the jurisdiction of the National Marine Fisheries Service, the state Division of Aquatic Resources, and the state Division of Conservation and Resources Enforcement. We are hopeful that the Molokai community will continue to use the preserve responsibly, recognizing the need to safeguard Moomomi's natural and cultural resources. If visitor damage becomes a problem, we will work with the *Hui* and others to ensure protection of Moomomi's natural and cultural values.

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

The proposed activities are expected to benefit rare species and native natural communities both in the project area and on adjacent lands. For example, weed control in the project area will help protect the rare dune ecosystem. The Conservancy's management of Moomomi Preserve also helps prevent overharvesting of coastal resources, and affords protection to archaeological and paleontological sites.

The risk of significant negative impact is low. Care will be taken not to damage archaeological or paleontological resources in the course of kiawe control. Management-related impacts on any historical resources in the area is expected to be negligible. Furthermore, the risk of herbicidal contamination is low because 1) only small volumes of approved herbicides would be used, 2) staff are well-trained in herbicidal application, and 3) all chemical use would be in compliance with the state Department of Agriculture's pesticide branch.

VIII. List of Preparers

Ed Misaki, Preserves Manager
Molokai Preserves Office
P.O. Box 220
Kualapuu, Hawaii 96757
(808) 553-5236

As this project is a joint state—private partnership agreement, the environmental assessment was prepared 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 Reserve System program. In addition, this environmental assessment incorporates many sections and figures from the Moomomi Preserve Long Range Management Plan (e.g., all maps, descriptions of resources, and proposed activities). The long range plan was prepared by The Nature Conservancy in January 1994 and submitted to the Natural Area Reserve System Commission in February 1994 for consideration as a Natural Area Partnership (NAP) project. The Commission approved the plan in April 1994 and recommends the project be approved by the Board of Land and Natural Resources pending the completion of this environmental assessment.

IX. APPENDICES

APPENDIX 1
NATIVE NATURAL COMMUNITIES OF MOOMOMI PRESERVE

NATIVE NATURAL COMMUNITY NAME	GLOBAL RANK (a)
'Aki'aki Coastal Dry Grassland	G4
Hinahina Coastal Dry Shrubland	G3
'Ilima Coastal Dry Shrubland	G3
Naupaka Kahakai Coastal Dry Shrubland	G4
Nehe Coastal Dry Shrubland	G3
Tetramolopium rockii Coastal Dry Shrubland[1]	G1

[1]Rare natural community

(a) Key to Global Ranks as defined by Heritage Program:
- G1 = Critically imperilled globally (typically 1 to 6 current occurrences).
- G3 = Restricted range (typically 21 to 100 current occurrences).
- G4 = Apparently secure globally (> 100 occurrences).

APPENDIX 2
RARE NATIVE PLANTS OF MOOMOMI PRESERVE

SCIENTIFIC NAME	HAWAIIAN NAME	GLOBAL RANK (a)	FEDERAL STATUS (b)
Chamaesyce skottsbergii var. *skottsbergii*	ʻAkoko, koko, kokomalei	G2T2	LE
Gnaphalium sandwicensium var. *molokaiense*	ʻEnaʻena	G3T1	C2
Marsilea villosa[1]	ʻIhiʻihi, ʻihi laʻau	G1	LE
Ophioglossum concinnum	Pololei	G2	3B
Sesbania tomentosa[2]	ʻOhai	G2	PE
Solanum nelsonii		G2	3B
Tetramolopium rockii var. *calcisabulorum*		G1T1	LT
Tetramolopium rockii var. *rockii*		G1T1	LT

[1] Reported in preserve in 1970s; may still occur in preserve.

[2] Known from just outside the preserve.

(a) Key to Global Ranks as defined by Heritage Program:
- G1 – Species critically imperilled globally (typically 1 to 5 current occurrences).
- G2 – Imperilled globally (typically 6 to 20 current occurrences).
- G3 – Restricted range (typically 21 to 100 current locations).
- T1 – Subspecies or variety critically imperilled globally.
- T2 – Subspecies or variety imperilled globally (typically 6 to 20 current occurrences).

(b) Key to Federal Status:
- LE – Taxa formally listed as endangered.
- LT – Taxa formally listed as threatened.
- PE – Taxa already proposed to be listed as endangered.
- C2 – Candidate taxa for which the USFWS has substantial information which indicates that proposing to list them as endangered or threatened species is possibly appropriate.
- 3B – No longer candidates for listing: names that, on the basis of current taxonomic understanding, do not represent distinct taxa. Such supposed taxa could be reevaluated in the future on the basis of new information.

APPENDIX 3
RARE NATIVE ANIMALS OF MOOMOMI PRESERVE

TAXON	COMMON NAME	GLOBAL RANK (a)	FEDERAL STATUS (b)
Chelonia mydas	Honu, Green turtle	G3	LT

(a)Key to Global Ranks as defined by Heritage Program:
G3 = Restricted range (typically 21 to 100 occurrences).

(b)Key to Federal Status:
LT = Taxa formally listed as threatened.

APPENDIX 4
RESPONSES TO COMMENTS ON THE MOOMOMI DRAFT ENVIRONMENTAL ASSESSMENT

Sarah E. Sykes
May 24, 1994

State of Hawai'i-DLNR
Division of Forestry and Wildlife
ATTN: Betsy Gagne
1151 Punchbowl Street, Room 325
Honolulu, Hawai'i 96813

Good morning!

In the interest of saving time and paper, I respond herein to both the Kamakou and Mo'omomi Preserves Natural Area Partnership proposals as published in the OEQC Bulletin of May 23, 1994.

Please incorporate by reference the recommendations and requested amendments as submitted to DLNR-DOFAW in my letters of March 31 (Mo'omomi), April 12 (Kamakou) and April 26 (Mo'omomi and Kamakou), 1994. All noted conflicts remain unless the proposals have already been changed to address expressed concerns.

Truly hope all areas of disagreement can be resolved before the plans receive final approval.

Thank you for the opportunity to comment.

Sincerely,

Sarah E. Sykes

P.O. Box 370 Kaunakakai, Hawai'i 96748 (808) 553-3831

Sarah E. Sykes
March 31, 1994

State of Hawai'i-DLNR
Division of Forestry and Wildlife
Natural Area Partnership Program
1151 Punchbowl Street
Honolulu, Hawai'i 96813

RE: LONG-RANGE MANAGEMENT PLAN FOR MO'OMOMI PRESERVE

Because The Nature Conservancy-Hawai'i is discussing the implementation details of their Mo'omomi Preserve Long-Range Management Plan with their Molokai Advisory Council and the Molokai Ho'olehua Homesteader group, Hui Malama O Mo'omomi, I believe their plans will work well for the land as well as for the community.

I have only two remaining concerns:

1. Page 5. That some formal agreement between DHHL and TNCH re: use of the main preserve road be instituted so that the anticipated neighborly reciprocity be appropriately institutionalized. Eventual staff and governmental personnel changes might one day thwart the current good relationships. Also, clear procedural/operational agreements are important so that the rules might be easily publicized to the community.

2. Page 8. That the proposed weed control program recognize the threat to the land and the ocean, both from erosion once trees and weeds are removed and from possible herbicide pollution. I am uncomfortable with the unquantified phrases "small kiawe stands" and "other established weeds." Perhaps greater clarification of TNCH plans and some area limitation on trials might most easily resolve this potential problem.

Otherwise, keep up the good effort of working with the community of steward-users.

Sincerely,

Sarah E. Sykes

P.O. Box 370 Kaunakakai, Hawai'i 96748 (808) 553-5831

Sarah E. Sykes
April 26, 1994

State of Hawai'i-DLNR
Division of Forestry and Wildlife
ATTN: Mike Buck
1151 Punchbowl Street
Honolulu, Hawai'i 96813

RE: Environmental Assessment Preparation Consultation Response
to Long-Range Management Plan for Mo'omomi Preserve

As stated in my initial response to the first draft plan, because The Nature Conservancy-Hawai'i is discussing the implementation details of their Mo'omomi Preserve Long-Range Management Plan with their Molokai Advisory Council and the Molokai Ho'olehua Homesteader group, Hui Malama O Mo'omomi, I believe their plans will work well for the land as well as for the community. Hope to additionally see a formalized public agreement among all involved so the community is assured open communication will continue.

There is a discomfiting change in the second draft, page 6, "Due to safety concerns. . . for the reasons stated above." I disagree with the expressed opinions. "TNC's limited resources for administration and enforcement" are being greatly increased through funding this program, and more funds could be sought to facilitate legal public hunting. Staff hunting is ongoing, so safety concerns and adjacent cattle operations as reasons to prohibit public hunting are invalid for an island like Molokai, where residents are so dependent upon supplementing their family food supplies with subsistence hunting. This is too important a matter, too easily resolved, to dismiss it so lightly in one short paragraph.

Relieved to note taxpayers are no longer helping pay for Molokai Ranch gate improvements. And, I appreciate the revisions on page 14, acknowledging the importance of maintaining Hawaiian access, as well as promoting cultural imperatives.

I have only two remaining concerns:

(con'd.)

P.O. Box 370 Kaunakakai, Hawai'i 96748 (808) 553-3831

Sarah E. Sykes

1. Page 5. That some formal agreement between DHHL and TNCH re: use of the main preserve road be instituted so that the anticipated neighborly reciprocity be appropriately institutionalized. Eventual staff and governmental personnel changes might one day thwart the current good relationships. Also, clear procedural/operational agreements are important so that the rules might be easily publicized to the community.

2. Page 8. That the proposed weed control program recognize the threat to the land and the ocean, both from erosion once trees and weeds are removed and from possible herbicide pollution. I am uncomfortable with the unquantified phrases "small kiawe stands" and "other established weeds." Perhaps greater clarification of TNCH plans and some area limitation on trials might most easily resolve this potential problem. This concern was voiced in response to the first draft, and has not been resolved in this latest version.

Otherwise, keep up the good effort of working with the community of steward-users.

Sincerely,

Sarah E. Sykes

P.O. Box 370 Kaunakakai, Hawai'i 96748 (808) 553-3831

The Nature Conservancy of Hawaii

• 1116 SMITH STREET • SUITE 201 • HONOLULU, HAWAII • 96817 • PH: (808) 537-4508 • FAX (808) 545-2019

July 13, 1994

Ms. Sarah Sykes
P.O. Box 370
Kaunakakai, Hawaii 96748

Dear Ms. Sykes:

We received your letter concerning the *Draft Moomomi Environmental Assessment* (published in the *OEQC Bulletin* May 23, 1994), which referenced two previous letters you sent to the Division of Forestry and Wildlife commenting on the Conservancy's management of Moomomi Preserve. I respond to each of your points below.

Letter dated March 31, 1994

Regarding an agreement between the Department of Hawaiian Homelands and the Conservancy concerning use of the main preserve road (page 1, 2nd paragraph): We concur that such an agreement is necessary and plan to pursue this goal during FY95. This is stated on page 17 of the draft environmental assessment (page 18 of the final assessment).

Regarding threats to the land and ocean from erosion and herbicide use during kiawe control (page 1, 3rd paragraph): Our efforts will be directed at avoiding negative impacts of management. The risks of herbicide contamination are very slight because 1) only small quantities of approved herbicides would be used, and 2) staff are trained in the proper and safe application of these compounds (refer to page 19 of the draft assessment [page 20 in the final assessment]). Regarding the potential threat of erosion and your concerns about unquantified phrases in the draft long-range plan, the weed control sections of the draft and final environmental assessments state that kiawe removal trials will consist of five or fewer plots, each 400 square feet in size, or smaller. We will monitor these small plots for signs of erosion.

Letter dated April 26, 1994

Regarding axis deer hunting in Moomomi (page 1, 2nd paragraph)): Natural Area Partnership Program funding will not enable the Conservancy to increase staff dedicated to administration and enforcement. Also, the current hunting by staff is highly controlled, and

the Conservancy will have to find a way to ensure similar controls for any public hunting at Moomomi in order to honor its responsibilities to neighboring landowners and fragile preserve resources subject to trampling or vandalism. The concerns stated in the environmental assessment regarding limitations on public access for hunting at Moomomi will be resolved through discussions with the Molokai Advisory Council and *Hui Malama O Moomomi*. We recognize the value of axis deer as a food resource for Molokai families, and will make every effort to protect the preserve while respecting this value.

Please contact me if you have further concerns about Conservancy management at Moomomi.

Sincerely,

Edwin T. Misaki
Director, Molokai Preserves

cc
Alan Holt
Amy Lester
Peter Schuyler

University of Hawai'i at Mānoa

Environmental Center
A Unit of Water Resources Research Center
Crawford 317 • 2550 Campus Road • Honolulu, Hawai'i 96822
Telephone: (808) 956-7361 • Facsimile: (808) 956-3980

June 22, 1994
EA:0067

Ms. Betsy Gagne
Department of Land and Natural Resources
1151 Punchbowl Street, Room 325
Honolulu, Hawaii 96813

Dear Ms. Gagne:

Draft Environmental Assessment (EA)
Moomomi Preserve Natural Area Partnership
Moomomi, Molokai

The referenced document concerns a proposed long-term management agreement between the Department of Land and Natural Resources (DLNR) Division of Forestry and Wildlife and the Nature Conservancy of Hawaii to manage and protect the native species living in the 921-acre Moomomi Preserve on Molokai, Maui County, Hawaii.

We have reviewed the Draft EA with the assistance of Karla McDermid, General Science; Clifford Smith, Botany; and Malia Akutagawa of the Environmental Center.

Our reviewers commend the parties to this proposed agreement for its efforts to facilitate the participation of members of the Molokai community in the preparation of this document and in helping to execute the management plan (as kupuna, la'au practitioners, Hawaiian homesteaders, subsistence users, and student workers). The reviewers were impressed with the document's thoroughness in covering the management strategies to be used in the protection of the native flora and fauna existing in the Moomomi Preserve, as well as its honest approach to the possible negative impacts of the project and identifying ways to mitigate them.

Visitors

There was only one minor suggestion made by our reviewers regarding visitors. Although the Conservancy distributes brochures containing visitor rules, visitor traffic

should still be monitored for persons with access keys for security and data collection reasons. It was mentioned that Conservancy staff inspect their equipment and vehicles to minimize accidental introductions of alien weeds and invertebrates. Does the Conservancy exercise a similar monitoring system with regard to visitors?

Summary

Overall, the draft EA was well prepared and meets the requirements of Sections 11-200-9, 11-200-10, and 11-200-12 of the Hawaii Administrative Rules. We strongly endorse the positive aspects of this project, namely, protection of a Hawaiian dune ecosystem rich in archaeological and paleontological significance and home to a variety of rare or endangered plants and marine animals.

Thank you for the opportunity to review this draft EA.

Sincerely,

John T. Harrison
Environmental Coordinator

cc: OEQC
Roger Fujioka
Karla McDermid
Clifford Smith
Malia Akutagawa

The Nature Conservancy of Hawaii

• 1116 SMITH STREET • SUITE 201 • HONOLULU, HAWAII • 96817 • PH: (808) 537-4508 • FAX (808) 545-2019

July 13, 1994

Mr. John T. Harrison, Environmental Coordinator
Environmental Center
University of Hawai`i at Mānoa
Crawford 317
2580 Campus Road
Honolulu, Hawaii 96822

Dear Mr. Harrison:

Thank you for reviewing and commenting upon the *Draft Moomomi Environmental Assessment* (published in the *OEQC Bulletin* May 23, 1994). You raised an important point in your letter regarding the potential impact of unaccompanied visitors and the need to monitor access for security and data collection reasons.

To gain access to the preserve, visitors (except those that attend docent-led hikes) must come to the Conservancy office in Kualapuu to obtain the gate key. They fill out a form with the names of everyone in their party, and leave a $25 key deposit. This system enables us to closely track who enters the preserve. We do not, however, require visitors to inspect their vehicles and equipment before entering Moomomi. We believe this is unnecessary because visitor use is almost entirely restricted to the beach and other areas that are not at serious risk from the alien plants or invertebrates likely to be transported by Molokai visitors. In addition, we regularly monitor the preserve's natural communities for new weed infestations.

Once again, thank you for your interest in this project.

Sincerely,

Edwin T. Misaki
Director of Molokai Programs

cc
Alan Holt
Amy Lester
Peter Schuyler

You Can Help, Too

We welcome your interest and invite you to join our efforts. As a donor of $25 or more, you become a member of both the Hawai'i chapter and the International Nature Conservancy. You also have the satisfaction of knowing that you are taking a part in protecting Hawaii's natural lands and wildlife for future generations.

Coastlines have seen more change than any other part of Hawai'i. It's no wonder so many people regard Mo'omomi as a rare opportunity to preserve a living portion of the past for the future. The coastal dunes and native species can endure, and even flourish, if we acknowledge their significance with action.

If saving Hawaii's lands and wildlife for future generations is important to you, join us today. Call 808-537-4508 or write:

The Nature Conservancy of Hawai'i
1116 Smith Street
Honolulu, Hawai'i 96817
Telephone (808) 537-4508

Mo'omomi Preserve
Moloka'i Preserves Office
P.O. Box 220
Kualapu'u, Moloka'i, Hawai'i 96757
Telephone (808) 553-5236

Headquarters:
The Nature Conservancy
1815 N. Lynn Street
Arlington, Virginia 22209
Telephone (703) 841-5300

The Nature Conservancy of Hawaii

PUBLIC USE OF MO'OMOMI PRESERVE, MOLOKA'I

1. Because many parts of Mo'omomi are extremely fragile and must be protected from trampling and overuse, visitors are asked to use only the beaches and designated parking and trail areas, and to avoid sand dune areas.
2. Mo'omomi is a place of great cultural significance to the Hawaiian people. Non-destructive traditional uses of the area are encouraged. Tampering with archaeological sites or taking artifacts is prohibited.
3. The preserve was established to protect and enhance the natural and cultural value of Mo'omomi.
   a) Collecting of native plants is not encouraged, as collecting may diminish native plant survival.
   b) Collecting of marine resources (limu, crab, salt, opihi, fish, etc.) is allowed for non-commercial use, subject to state laws and regulations.
   c) Please leave bones, coral, rocks, and other natural objects where you find them.
4. Firearms and fireworks are prohibited at all times. Littering is prohibited — please take all litter and rubbish with you when you leave.
5. Mo'omomi is an important educational and recreational resource for Moloka'i. The Conservancy will enhance opportunities for people to visit this area, but needs to limit the number and impact of the visitors in order to preserve the solitude and fragile resources of the preserve.

WAYS TO VISIT THE PRESERVE

- **Guided Hikes** — Conservancy staff and docents lead regular excursions into the preserve. Contact the preserve office for information.
- **Walking Into the Preserve** — Foot route begins from the Hawaiian Home Lands beach area east of the preserve. No permit is required. See caution below.
- **Daytime Visits by Vehicle** — Visitors may drive to designated parking areas and walk into the preserve along a marked trail or the shore. Permit and key required. Four-wheel drive vehicle recommended on the preserve roads.
- **Overnight Use** — Fishermen wishing to stay overnight within the preserve may request a permit to drive to designated parking areas and walk to the beach. Camping is allowed only on the beach below the vegetation line. Permit and key required.

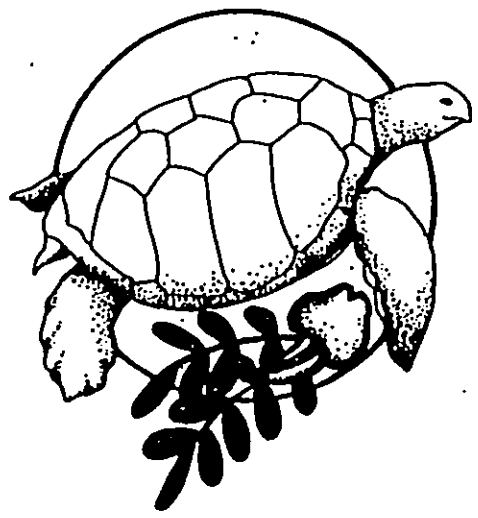
GUIDED HIKES AND PERMITS ARE AVAILABLE ON A LIMITED, FIRST-COME, FIRST-SERVED BASIS. THE CONSERVANCY RESERVES THE RIGHT TO CLOSE VEHICLE ACCESS TO THE PRESERVE AT ANY TIME FOR REASONS OF PUBLIC SAFETY OR TO PROTECT THE AREA'S FRAGILE RESOURCES. THIS IS A REMOTE, WILD AREA. THERE IS NO FRESH WATER AVAILABLE. THERE ARE NO RESTROOMS OR OTHER SERVICES. SWIMMING IS DISCOURAGED DUE TO STRONG CURRENTS, SHARP ROCKS, AND BIG SURF. THERE IS NO LIFEGUARD ON DUTY.

This brochure was made possible by a grant from the Frear Eleemosynary Trust.

ATTACHMENT 1

MO'OMOMI PRESERVE

Island of Moloka'i



The Nature Conservancy of Hawai'i

Mo'omomi Preserve

A Last Refuge for Hawaiian Plants

At first glance, the dunes of Mo'omomi appear nearly barren. Yet, within vast communities of native grasses and shrubs grow more rare coastal species than in any other single place in the main Hawaiian Islands. Mo'omomi is a last stronghold of a major Hawaiian coastal ecosystem, a holdover from an ancient era.

This 921-acre preserve protects more than 22 native Hawaiian plant species, four of which are globally rare or endangered. These rare plants, like 'akoko and 'ena 'ena, thrive in the dry, windy, salt-sprayed environment.

Over time, most of Hawaii's native beaches have been lost to coastal development. Today, Mo'omomi is the most intact beach and sand dune area in the main Hawaiian Islands. Strong and steady northeast trade winds shape the dunes of Mo'omomi, as they carry beach sands far inland, creating linear dunes a mile long and hundreds of feet wide.

Conservancy staff and volunteers at Mo'omomi are not only protecting native plants found nowhere else on Earth, they are helping to preserve an important nesting site for the endangered green sea turtle. In time the rare Hawaiian monk seal and seabirds like the Laysan albatross may recolonize Mo'omomi's pristine beaches.

Sand Dunes Unlock Secrets of the Past

The ancient Hawaiians lived seasonally at Mo'omomi as early as the 11th century. Keen observers can see evidence of a native Hawaiian reliance on and reverence for the abundant coastal resources of Mo'omomi.

Hawaiians from Moloka'i's wet, north shore valleys spent the summer months at Mo'omomi catching and drying fish to see them through winters too rough for fishing. Basalt chips still remain along the beaches, evidence of adze tool making from a nearby outcrop of exceptionally dense basalt. Today, local residents still rely on the area for gathering fish, seaweed, sea salt, and other resources.

Deposits of bird bones reveal that the dunes were once home to at least 30 bird species, about one-third of which have since become extinct: a sea eagle, a falconing owl, a flightless ibis, and a giant flightless duck. The pueo (Hawaiian owl) is one of the few native land birds that can still be observed regularly at Mo'omomi. Native shorebirds, like sanderlings and plovers, and seabirds, like the great frigatebird ('iwa) can also be seen along the preserve shoreline.

Establishing the Preserve

The Nature Conservancy established Mo'omomi Preserve in 1988. The purchase of the land and initial protective management for Mo'omomi Preserve were made possible by a challenge grant from the Kresge Foundation and contributions from thousands of individuals.

The Nature Conservancy's Role

The Nature Conservancy of Hawai'i establishes and manages preserves like Mo'omomi throughout Hawai'i. We are part of a private, non-profit, international organization devoted to the protection of natural areas that best preserve the diversity of life on Earth. We rely on the generous support of individuals, corporations, and foundations to accomplish our mission.

MOLOKA'I