

# Kānepu‘u Preserve Lāna‘i, Hawai‘i

## **Long-Range Management Plan Fiscal Years 2005–2010**



Submitted to the  
**Department of Land & Natural Resources**  
**Natural Area Partnership Program**

Submitted by  
**The Nature Conservancy – Hawai‘i Operating Unit**  
March 2004

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## EXECUTIVE SUMMARY

The Nature Conservancy of Hawai‘i (TNCH) is the Hawai‘i Chapter of The Nature Conservancy (TNC), an international private, non-profit organization based in Arlington, Virginia. Our mission is to preserve the plants, animals, and natural communities that represent the diversity of life on Earth by protecting the places they need to survive. Since 1980, the Hawai‘i program has established a statewide system of 12 preserves totaling 32,000 acres. Today, we are taking conservation to a new level in Hawai‘i by helping protect the larger landscapes in which our preserves lie. Through voluntary, cooperative partnerships that allow landowners to share expertise and resources while working across ownership boundaries, we are collaborating with public and private landowners, including the State of Hawai‘i, to protect almost 1 million acres of ecologically important lands in Hawai‘i.

The State of Hawai‘i’s Natural Area Partnership Program (NAPP) is an innovative program that aids private landowners, like the Conservancy, in the management of their native ecosystems. NAPP provides matching funds (\$2 state to \$1 private) for the management of qualified private lands that have been permanently dedicated to conservation. On Lāna‘i, TNCH manages the Kānepu‘u Preserve which was approved for NAPP funding in 1992.

In 1992, TNCH implemented the management programs described in our initial plan, *Kānepu‘u Preserve FY1992 – FY1997 Long-Range Management Plan*. (Prior to that, some specific management activities were conducted under Conservation District Use Permits [numbers LA-11/14/91-2534 & 2535]). In 1997, NAPP funding for a new 6-year period was reauthorized following a renewal procedure which included the preparation of an updated plan (*Kānepu‘u Preserve FY1998 – FY2003 Long-Range Management Plan*) and environmental assessment (*Final Environmental Assessment for Kānepu‘u Preserve Natural Area Partnership, 1997*).

Presently, as TNCH aligns its conservation priorities with its resources by focusing on those areas in the state with the highest conservation value and feasibility of success, all our existing programs are being reevaluated. This reevaluation, accompanied by budgetary constraints, expedited our decision to scale back our Kānepu‘u Program and close our Lāna‘i office in FY2004. During this transitional period, we have been actively seeking other entities to assist us with the preserve’s management. (Funding during this transitional period is being worked out with the State.) Unfortunately, at the time of this writing (March 2004), no new partner was ready to commit to preserve management activities.

Should a suitable managing partner come forward during the course of this six-year plan, the Conservancy and/or new partner will submit an updated management plan as is allowable under the administrative rules governing the NAP program. Until we find another managing partner to take over and/or assist us in the management of Kānepu‘u Preserve, our Maui staff are carrying out key management activities.

TNCH seeks reauthorization of NAPP funding for another 6-year period for the programs described within this *Kānepu‘u Preserve FY2005 – FY2010 Long-Range Management Plan*. This plan scales back the programs implemented under the previous long-range management

plan and environmental assessment. Herein, we request **\$108,800** in matched state funds for the 6 years spanning FY2005 – 2010. This reduced funding request (relative to past years) will free up hundreds of thousands of dollars of the Natural Area Reserve Fund for other conservation projects in the state.

Over the next six years our management efforts will focus on the following activities:

**Ungulate Control** – TNCH’s primary management activity will continue to be the complete removal of all axis deer from the two best preserve units, along with the continued exclusion of mouflon sheep and cattle from all seven units. Due to the corrosive effect of sand, salt and prevailing winds on the island, a significant factor in the ongoing campaign to remove ungulates will be the need for fence replacement and maintenance around the seven preserve units.

**Weed Control** – Selective weed removal will occur primarily in areas within or surrounding high quality patches of native vegetation. Additionally, we will continue to assist the Department of Agriculture in its efforts to contain fountain grass and prevent its spread to other islands.

**Fire Control** – Due to the relatively dry climate of the preserve, it is imperative for management to be especially vigilant in preventing wildfires from damaging the remaining resources. We will continue to maintain fuel breaks by mowing along the fence line.

**Restoration, Monitoring, and Research** – We plan to collect seeds of native species incidental to other preserve activities and work with cooperative nurseries to propagate off-site. Also, we plan to perform rare plant monitoring incidental to other preserve activities and provide limited assistance to researchers as staff time and budget permits.

**Community Outreach** – We plan to use current TNCH staff to build the capacity of any interested group to assist with the management of the preserve, and we will look for outside funding to continue Project Stewardship.

**Watershed Partnerships** – The Lāna‘i Forest Watershed Partnership (LFWP) was formed in 2001 to assist in protecting the island’s watersheds by leveraging efforts among conservation partners. As a member of this group, TNCH will continue to work with partners to promote stewardship activities in forest and watershed regions of Lāna‘i.

The State Department of Land and Natural Resources (DLNR), which administers the NAP program, is kept apprised of our progress in the preserve through written reports and an annual inspection. Operational plans are submitted annually (the Conservancy has adopted a July 1 – June 30 fiscal year). In addition, a 6-month update is sent to DLNR each January. These documents are available upon request to others who are interested.

## RESOURCES SUMMARY

### *General Setting*

The formation of Kānepu‘u Preserve was announced in January 1989 and officially established in November 1991 when Castle and Cooke finalized a perpetual conservation easement with The Nature Conservancy of Hawai‘i (Figure 1). The preserve was created to protect and enhance the olopua/lama (*Nestegis/Diospyros*) dryland forest that once covered large portions of the lowlands on Maui, Moloka‘i, Kaho‘olawe, and Lāna‘i. Today, Kānepu‘u Preserve contains the last major remnant of this rare dryland forest community.

The climate at Kānepu‘u is relatively dry. Rainfall averages 71 cm (28 in) per year and falls primarily in the rainy season from November through March. Additional moisture comes in the form of fog that condenses on vegetation. Tradewinds are accelerated by funneling between the upwind islands of Moloka‘i and Maui. These strong and nearly constant winds increase evaporation of moisture, vegetation loss, and soil erosion in and around Kānepu‘u. In some places, over 6 feet of soil has been lost. These degraded areas usually have little vegetation and are, therefore, even more susceptible to additional erosion. Many of the eroded areas are characterized by a hard pan substrate that appears unsuitable for plant establishment. Other eroded areas are comprised of dunes of wind-blown soil that may shift with the season.

The preserve is comprised of seven disjunct sections ranging from 13 to 368 acres in size and totals 590 acres (Figure 2). Major threats to the preserve’s native vegetation are introduced game animals (axis deer and mouflon sheep), cattle, rapid soil erosion, wildfire, and a number of invasive alien (non-native) plants. Much of this area was protected from 1911 through 1935 by fencing and other efforts carried out by George Munro, then the ranch manager for the area. Subsequent ranchers removed these fences. From 1970 to 1989, dedicated volunteers and the Hui Mālama Pono O Lāna‘i built four small fenced exclosures that helped protect patches of native forest and associated rare plants. Without these efforts, the last remnants of this rare Hawaiian forest type would probably have been destroyed.

In 1992, The Nature Conservancy completed construction of a 6’3” tall deer fence around each of the seven patches of forest to prevent further damage by grazing animals. From 1996 through 2001, various sections of fence have been replaced due to severe corrosion from harsh environmental conditions. In 2002 and 2003, the fences around the two most biologically important units (the Kahue and Kānepu‘u units) were upgraded to stainless steel wire in an attempt to fend off corrosion problems. Fence maintenance and animal control continue to be the primary management activities at the preserve.

### *Flora and Fauna*

Two plant communities dominate Kānepu‘u Preserve: the native closed-canopy olopua/lama dryland forest and an alien shrubland. Some sections of the preserve are bordered by a windbreak of non-native trees. Areas of bare soil occur throughout the preserve.

The native forest canopy is approximately 50% olopua (*Nestegis sandwicensis*) and 20% lama (*Diospyros sandwicensis*). The canopy also contains non-native Christmas berry (*Schinus terebinthifolius*) and up to 12 native species including 'ohe makai (*Reynoldsia sandwicensis*), 'ahakea (*Bobea sandwicensis*), 'āla'a (*Pouteria sandwicensis*), and 'aiea (*Nothocestrum latifolium*). The understory has been severely damaged as a result of historical grazing and few native species remain. Common understory weeds include lantana (*Lantana camara*), scarlet sage (*Salvia coccinea*), and several grasses including dallis grass (*Paspalum dilatatum*) and molasses grass (*Melinis minutiflora*). Figure 2 shows the current natural communities of the Kānepu'u Preserve.

Ten rare plant taxa have been reported in Kānepu'u Preserve; six of these are listed as federally endangered. However, two of these listed species, along with another with no federal status, are known only from historical records and have not been seen in Kānepu'u Preserve since 1930 (Appendix 1). The four endangered plant species currently in the preserve are: the fragrantly flowered *Gardenia brighamii*; sandalwood or 'iliahi (*Santalum freycinetianum* var. *lanaiense*); the vining *Bonamia menziesii*; and the ma'o hau hele (*Hibiscus brackenridgei* ssp. *brackenridgei*). The ma'o hau hele was planted in the preserve and may not have occurred there naturally.

Two native birds frequent Kānepu'u Preserve: the pueo (short-eared owl, *Asio flammeus sandwicensis*) and the kōlea (Pacific golden-plover, *Pluvialis fulva*). In addition, the endemic 'amakihi (*Hemignathus virens virens*), 'apapane (*Himatione sanguinea*), and 'elepaio (*Chasiempis sandwicensis*) have been reported in Kānepu'u Preserve in recent years; although their presence has yet to be confirmed by qualified ornithologists. Eleven non-native birds are also found in the preserve's forest and open areas. At least ten different land snail taxa were identified in a subfossil sample found in the preserve.

Kānepu'u Preserve's arthropod fauna was sampled in 1992. According to collection records, 153 different insect species (some unidentified) were found. Nineteen spider taxa, two isopods, and one species of amphipod were also collected. Native taxa include a pyralid moth (genus *Scoparia*), mirids, drosophilids (fruit flies), yellow-faced bees (genus *Hylaeus*), and sphecid wasps. Karl Magnacca (Cornell University) conducted a study of native bees in 2000.

## MANAGEMENT

### *Management Considerations*

1. The lands surrounding the preserve support sustained-yield sport hunting of axis deer and mouflon sheep, and cattle grazing. The preserve has been fenced to prevent these animals from further damaging native vegetation. Preserve activities must be coordinated with surrounding neighbors, not only for safety reasons, but also to ensure good working relationships.
2. All units of the preserve are accessible by good-quality dirt roads, although four-wheel drive vehicles are needed during wet weather. Unit boundaries, fence lines, and firebreaks are mostly accessible via tractors or other equipment. Access to the preserve is generally obtained through abandoned pineapple field roads, which may move over time. The preserve is easily accessible on foot. Mapped corridors that link the seven preserve units were established to satisfy county subdivision requirements and do not represent road access between units.
3. The Lānaʻi community and other members of the public were involved at Kānepuʻu before it was a Conservancy preserve. As such, interpretive and other programs offered to the public will continue to encourage their participation.
4. A central challenge of conservation in Hawaiʻi is to integrate stewardship of native resources with community development, planning, corporate/landowner needs, and the priorities of the grass-roots community. Because of the history of community grass-roots involvement at Kānepuʻu, we initiated a capacity building effort in 1998 with the Hui Mālama Pono O Lānaʻi and other interested groups. The goal was to increase their organization effectiveness and develop a solid fundraising track record so that eventually they could become the managers of Kānepuʻu Preserve. To date, no community group has demonstrated both the willingness and the capacity to manage Kānepuʻu Preserve. The Conservancy continues to believe that a community-based organization will provide the best solution for long-term management of the preserve. Should a suitable group present itself during the course of this six-year plan, the Conservancy and/or the new group will update the plan to reflect the desired arrangement of that group in the protection of Kānepuʻu .
5. Due to past deforestation and grazing by animals, massive wind and rain erosion remains a major threat to our fences. Initially, erosion problems caused by heavy rains were the focus of fence maintenance efforts. A culvert was constructed in one area, and a ditch dug to channel water away from the fence line in another. In 1995 and 1996, aprons were constructed to repair areas where fence posts had been lifted out of the ground and caused the bottom wire to rise (in some cases 1 to 2 feet). Additionally, fence wire corrosion accelerated significantly in 1996. Wind during the dry years, along with heavy rains during winter 2001–02, caused more major erosion. Wattles have been planted along the bottom of the Kahue fence and a contractor has removed some sand dunes that had buried the fence to within three feet of the top of the posts.

6. We have learned that once the galvanizing on the 12.5 gauge fence wire becomes noticeably corroded (rusted looking), the wire fails quickly (i.e. within about 6 months). Salt spray, carried 3 miles inland and up to Kānepu‘u Preserve's 1,700-foot elevation, seems to be the largest corrosive factor. Professional fence builders and natural area managers surmise that the dry environs of Kānepu‘u, exacerbated by drought, have allowed salt spray to stick to the wire rather than being washed clean by rains. Only where a tall shrub, tree, or fence post protects wire from the salt spray is corrosion minimal or non-existent. The corrosion appears accelerated where the fence is downwind from an unvegetated area; this is probably due to soil particles constantly battering the fence. While we considered re-vegetation as part of the fence protection program, it appears that only tall vegetation will protect the fence, but this poses other problems to fence maintenance.
7. From October 1996 through June 2002, fencing was replaced for all of Kahue and much of Kānepu‘u. Fences at Paoma‘i 1, Paoma‘i 2, and Upper Paoma‘i were also completely replaced, as were major sections of ‘Ahakea and Mahana. During these replacements, a fence materials test was completed to determine the most durable materials. Costs for the materials and installation were also assessed. Results indicated that the best solution to the fence deterioration problem was to use stainless steel fence. This type of stainless steel wire is used successfully in New Zealand on deer farms. Other materials were unsuitable. Although stainless steel wire is more expensive than the Bezial or galvanized fencing, it should prove less costly in the long run.
8. In December 2002, the State said it would fund the complete replacement of rusted fence in the Kānepu‘u and Kahue units (the two largest and most intact units). The Conservancy may decide to replace the fencing for the other units at a later date.
9. Over the past ten years, we have noted the increasing presence of native tree seedlings of many species (previously deer had eaten seedlings). Moreover, mature trees, formerly stripped of leaves and branches to the height a deer can reach, are now re-sprouting from the base.
10. A short, 750-meter self-guided trail was established in the Kānepu‘u unit in 1997 to allow for unguided visitation along the main (unpaved) Polihua Road. The trail makes a quick visit possible and will improve the community’s understanding of the preserve’s resources. Brief trail signs were designed to match the existing interpretive signs on the island at the request of Castle & Cooke and the Hui to ensure a feeling of continuity with other important island sites. In discussions with the Hui, concerns were raised about abuse of the trail and preserve resources through unguided use (particularly the threat of taking native trees for woodworking). We agreed to watch for impacts on the trail and the surrounding area (mostly lantana-dominated, a deterrent to wandering off the trail). If we see evidence of abuse, we will take measures to prevent it and will remove the signs and halt use of the trail if necessary. To date no evidence of abuse has been seen. See Appendix 2 for further details on trail use.

## ***Management Areas/Units***

The preserve is divided into seven units. Kahue unit has the highest diversity of rare plants and is important for both restoration and interpretation. Kānepu‘u unit has the largest patches of native forest; interpretation potential here is also great because of its location along a public road. ‘Ahakea unit has rare plants and patches of native forest. The three Paoma‘i units contain nice patches of forest, but these are quite small. The Mahana unit is the most distant unit and is also biologically the lowest priority for management and restoration.

## ***Management Programs***

For each program listed in the following section, we identify a major goal and discuss the management methods and/or any management issues. Next, activities and costs for FY2005–FY2010 are listed. (Staff time and effort, along with equipment expenses, are included separately within the *Personnel, Equipment, and Facilities* section.)

### ***Program 1: Non-native Species Control***

#### **A. Ungulate Control**

Program Goal: Control axis deer in the Kahue and Kānepu‘u fenced units; continue to exclude mouflon sheep and cattle in all units. (There are no feral pigs or goats on the island of Lāna‘i.)

All major fencing projects for the preserve were officially completed in December 2003. The two most biologically important units (Kahue and Kānepu‘u) are now entirely surrounded with stainless steel wire fencing; while the other five units are protected with galvanized and Bezial fencing. Mouflon sheep, which are becoming more abundant on the island, and cattle, which previously wandered into some of the preserve units, are now fenced out of all units. Staff are in the process of removing deer from both the Kahue and Kānepu‘u units, which were the last units to upgrade to stainless steel wire in 2002 and 2003.

#### Activities

##### **Years 1-6 (FY2005-10)**

- Check fences 4 times a year
- Repair fences where damaged in selected units
- Conduct periodic staff hunts in Kānepu‘u & Kahue units

Fence materials and supplies; ammunition; contracted assistance (annually)                      \$5,300

## **B. Weed Control**

Program Goal: Assist other groups (e.g. Invasive Species Committees) with regional initiatives for incipient weed control; encourage volunteer groups to remove weeds within or surrounding high quality patches of native vegetation.

A number of non-native plants are well established in the preserve. As such, personnel costs (i.e., a vegetation management crew) associated with a comprehensive weed reduction program are too costly to maintain under current funding. Primarily, we will continue to encourage volunteer groups (e.g. high-school groups, trail and mountain clubs) to hand-pull weeds in high quality patches of native vegetation. As part of the Maui Invasive Species Committee's goal of containing a localized population of fountain grass (*Pennisetum setaceum*), we will continue to assist the Department of Agriculture in its efforts to control fountain grass and prevent its spread to other islands.

### Activities

#### **Years 1-6 (FY2005-10)**

- Conduct weed control in high quality patches of native vegetation
- Assist with removal of potentially harmful incipient weeds found outside the preserve
- Work with Invasive Species Committees to develop regional initiatives for incipient weeds

Supplies (annually)                      \$250

## **C. Small Mammal Control**

This program has been suspended due to the elimination of on-island preserve staff and hence our inability to check bait stations as frequently as needed to run an effective control program.

### ***Program 2: Fire Control***

Program Goal: Attempt to mitigate fires in the preserve.

Wildfire is a major threat and has diminished the extent of native vegetation in the preserve in the past. Vehicle traffic along roads passing through or near the preserve is the primary source of ignition. Nevertheless, the Conservancy is required to accommodate public access through the preserve along these or suitable alternate roads. A 15–20 foot wide swath of cleared vegetation along the fence line of each preserve unit will be maintained as a fuel break for fire prevention.

Activities

**Years 1-6 (FY2005-10)**

Maintain fuel breaks along fence line, as needed, to accommodate mower.

Mowing service, grading, fire and safety tools (annually) \$1,000

***Program 3: Restoration, Research and Monitoring***

**A. Restoration**

This program has been reduced due to the elimination of on-island staff. No major activities or expenditures are proposed. We plan to use Maui staff (and volunteers) to collect seeds incidental to other preserve activities and work with cooperative nurseries to propagate off-site.

**B. Research and Resource Monitoring**

This program has been reduced due to the elimination of on-island staff. No major activities or expenditures are proposed. We plan to use Maui staff to perform rare plant monitoring incidental to other preserve activities and provide logistical assistance to researchers as staff time and budget permits.

***Program 4: Community Outreach***

This program has been reduced due to the elimination of on-island staff. No major activities or expenditures are proposed. We plan to use current TNCH staff to continue to build the capacity of any interested group to assist with the management of the preserve, and we will look for outside funding to continue Project Stewardship.

***Program 5: Watershed Partnerships***

On October 11, 2001 a Memorandum of Agreement was signed, bringing together the following entities into a Lānaʻi Forest and Watershed Partnership: Castle & Cooke Resorts LLC (formerly known as Lānaʻi Company Inc.), Hui Mālama Pono O Lānaʻi, Maui County Board of Water Supply, State of Hawaiʻi Department of Land and Natural Resources Division of Forestry and Wildlife, U.S. Fish and Wildlife Service, The Nature Conservancy, the United States Department of Agriculture Natural Resources Conservation Service, Molokaʻi-Lānaʻi Soil and Water Conservation District, Lānaʻi Water Advisory Committee, State of Hawaiʻi Commission on Water Resource Management, and Maui County. During the next six years, we plan to attend quarterly meetings and work with landowners, if so requested, to educate them on the importance of watershed regions in Hawaiʻi.

**Program 6: Personnel, Equipment, and Facilities**

Program Goal: During this transitional period, use our Maui staff and facilities to implement the above-mentioned goals in a safe, productive environment.

A team led by the Maui Natural Resource Manager (NRM) manages Kānepu‘u Preserve. The NRM plans and oversees the implementation of priority threat abatement and management activities. The NRM also leads or guides the development of management/conservation plans and budgets, negotiating and managing contracts to accomplish preserve objectives. The current NRM (Melissa Chimera) is supervised by TNCH’s Maui Director (Anders Lyons). In addition to the NRM, the Maui team working at Kānepu‘u includes a Field Coordinator (Clark Hill), a Field Technician (Peter Smith), and an Outreach Coordinator (Kepa Naeole). A Program Assistant (Debbie Anthony) helps with purchasing, reporting, and community outreach activities. The budgeted amounts for salaries and fringe are based mainly on a field crew of four making trips (3-4 days each) four times per year and on a week of office time for the Program Assistant or NRM. Due to budgetary constraints we are no longer able to fund the summer internship program under the NAP program.

Travel costs consist of inter-island transportation (primarily via ferry) and a food allowance for TNCH staff. Facilities costs to support the Kānepu‘u Preserve program include baseyard rent on Lāna‘i and insurance. Supplies include the cost of fuel and vehicle maintenance. In FY05, we will purchase a used vehicle to replace the dilapidated existing vehicles. Maintenance for other field equipment includes a chipper and power tools; in addition, general supplies and equipment are also needed to perform overall management activities.

The Nature Conservancy’s Honolulu office provides administrative, technical and annual planning support. In particular, the Coordinator of Landscape Conservation helps prepare annual plans and reports.

Activities

**Year 1 (FY2005)**

Salaries and fringe	\$9,165
Travel	1,150
Facilities	3,102
Supplies/Equipment	<u>14,760</u>
Subtotal	\$28,177

**Years 2-6 (FY2006-10)**

Salaries and fringe (annually)	\$9,165
Travel (annually)	1,150
Facilities (annually)	3,102
Supplies/Equipment (annually)	<u>2,760</u>
Subtotal (annually)	\$16,177

## BUDGET SUMMARY

The following tables summarize the 6-year budget for Kānepu‘u Preserve. Through the NAP program, the State of Hawai‘i will fund two-thirds of the costs outlined in this long-range management plan. Recognizing that the NAPP budget is not expected to increase significantly in the coming years, we have not included routine, annual increases for most of the program activities described above. In addition, little provision has been made for possible future inflation or general cost increases. If significant cost increases occur over the course of this plan, we may need to work with DLNR to revise goals or seek additional NAPP funds through an amended plan.

An overhead charge is included to recognize the administrative support provided by TNCH; although TNCH’s current negotiated rate with the federal government is 25%, a maximum of 10% is allowable by the NAP Program. TNCH will absorb the 15% in indirect differential, as well as any future increases to or other changes in the overhead rate.

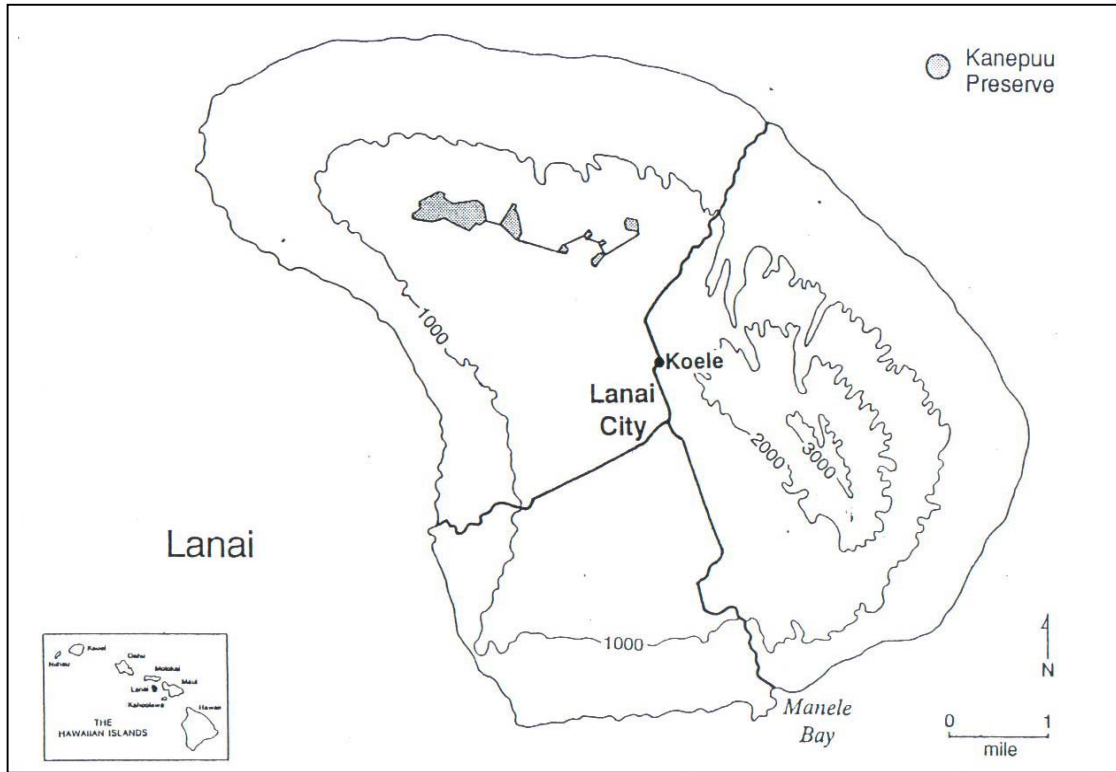
	<b>FY2005</b>	<b>FY2006</b>	<b>FY2007</b>	<b>FY2008</b>	<b>FY2009</b>	<b>FY2010</b>	<b>Total</b>
Non-Native Species Control:							
Ungulate Control	5,300	5,300	5,300	5,300	5,300	5,300	31,800
Weed Control	250	250	250	250	250	250	1,500
Fire Control	1,000	1,000	1,000	1,000	1,000	1,000	6,000
Personnel, Equip. & Facilities	28,177	16,177	16,177	16,177	16,177	16,177	109,062
<b>Subtotal</b>	<b>34,727</b>	<b>22,727</b>	<b>22,727</b>	<b>22,727</b>	<b>22,727</b>	<b>22,727</b>	<b>148,362</b>
Overhead (10%)	3,473	2,273	2,273	2,273	2,273	2,273	14,838
<b>TOTAL</b>	<b>38,200</b>	<b>25,000</b>	<b>25,000</b>	<b>25,000</b>	<b>25,000</b>	<b>25,000</b>	<b>163,200</b>

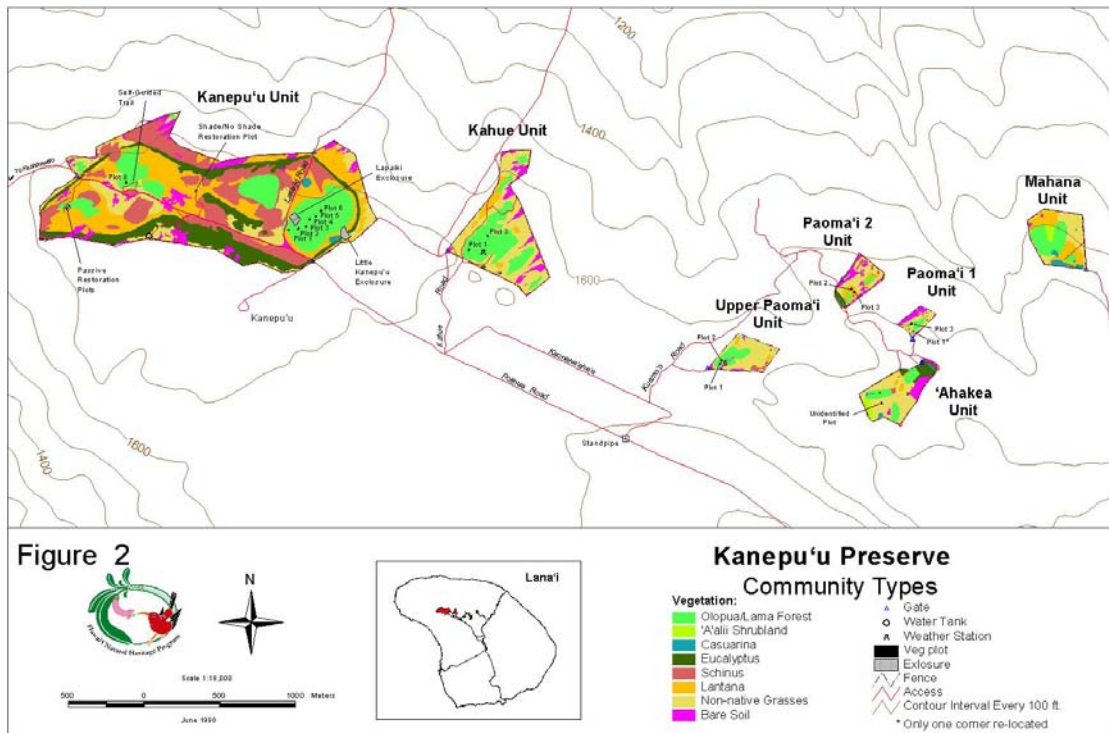
	<b>FY2005</b>	<b>FY2006</b>	<b>FY2007</b>	<b>FY2008</b>	<b>FY2009</b>	<b>FY2010</b>	<b>Total</b>
Kānepu‘u Budget	<b>38,200</b>	<b>25,000</b>	<b>25,000</b>	<b>25,000</b>	<b>25,000</b>	<b>25,000</b>	<b>163,200</b>
TNC Match (1/3)	12,733	8,333	8,333	8,333	8,333	8,333	54,400
<b>NAPP Request (2/3)</b>	<b>25,467</b>	<b>16,667</b>	<b>16,667</b>	<b>16,667</b>	<b>16,667</b>	<b>16,667</b>	<b>108,800</b>

## **ENVIRONMENTAL REVIEW COMPLIANCE**

All actions being proposed for reauthorization in this long-range management plan are substantially similar to, and relevant to, the actions previously considered in the *Final Environmental Assessment of Kānepu‘u* for which we received a "Finding of No Significant Impact" in 1997. Pursuant to Hawai‘i Administrative Rule 11-200-13 (*Consideration of previous determination and accepted statements*), all environmental review obligations under the Hawai‘i Revised Statutes (Ch. 343) have been fulfilled and are in keeping with the letter and intent of the administrative rules regulating the Natural Area Partnership Program (HAR 13-210).

Figure 1





**APPENDIX 1**  
**RARE PLANTS OF KĀNEPU‘U PRESERVE**

SCIENTIFIC NAME	COMMON NAME	HERITAGE RANK (a)	FEDERAL STATUS (b)
<i>Bidens micrantha</i> ssp. <i>kalealaha</i> *	Ko‘oko‘olau	G3?T1	LE
<i>Bobea sandwicensis</i>	‘Ahakea	G2	—
<i>Bonamia menziesii</i>		G2	LE
<i>Gardenia brighamii</i>	Nā‘ū	G1	LE
<i>Haplostachys munroi</i> *		GH	—
<i>Hibiscus brackenridgei</i> ssp. <i>brackenridgei</i> <sup>1</sup>	Ma‘o hau hele	G1T1	LE
<i>Nesoluma polynesianum</i>	Keahi	G2	—
<i>Nothocestrum latifolium</i>	‘Aiea	G1	—
<i>Santalum freycinetianum</i> var. <i>lanaiense</i>	‘Iliahi	G3T2	LE
<i>Vigna o-wahuensis</i> *		G1	LE

\* Plants known historically from preserve

<sup>1</sup> Planted in the preserve; not historically known from area

(a) Heritage Rank:

G1=Species critically imperiled globally (typically 1–5 current occurrences).

G2=Species imperiled globally (typically 6–20 current occurrences).

G3=Species very rare and local (typically 21–100 current occurrences).

GH=No known observations in the past 15 years.

G?=Rank tentative, more information needed to confirm.

T1=Subspecies or variety critically imperiled globally.

T2=Subspecies or variety imperiled globally (typically 6–20 current occurrences).

(b) Federal Status:

LE=Listed endangered.

**APPENDIX 2**  
**SELF-GUIDED TRAIL USE AT KĀNEPU‘U PRESERVE**

**Self-Guided Trail Use**

	FY00	FY01	FY02
Total Visitors	288	377	335
United States*	226	280	252
Hawai‘i**	42	73	65
International***	20	24	18
Lāna‘i City	7	14	2

\*United States residents, not including Hawai‘i residents

\*\* Hawai‘i residents, including Lāna‘i City residents

\*\*\* International residents include Japan, Canada, England, Switzerland, Sweden, Denmark, the Bahamas

**Comments Received:**

- Interesting contrast to resort/villa – MN
- Very educational –IL
- Heard about from TNC website, long time supporters – NY
- Confused as to whether it is okay to walk this trail (hunter safety warning) – AK
- Signs for endangered plants (pointing them out) would be informative – HI
- More signage along path in and out – CA
- Heard via Foder's guide book – CT
- Saw driving by and in guide book – AK
- Proud to be members of TNCH! Good job. – HI
- Excellent preserve and tour. Please expand. – Japan
- Trail should be longer (several groups)
- We're concerned to see the fence down and the deer tracks in the preserve. – HI