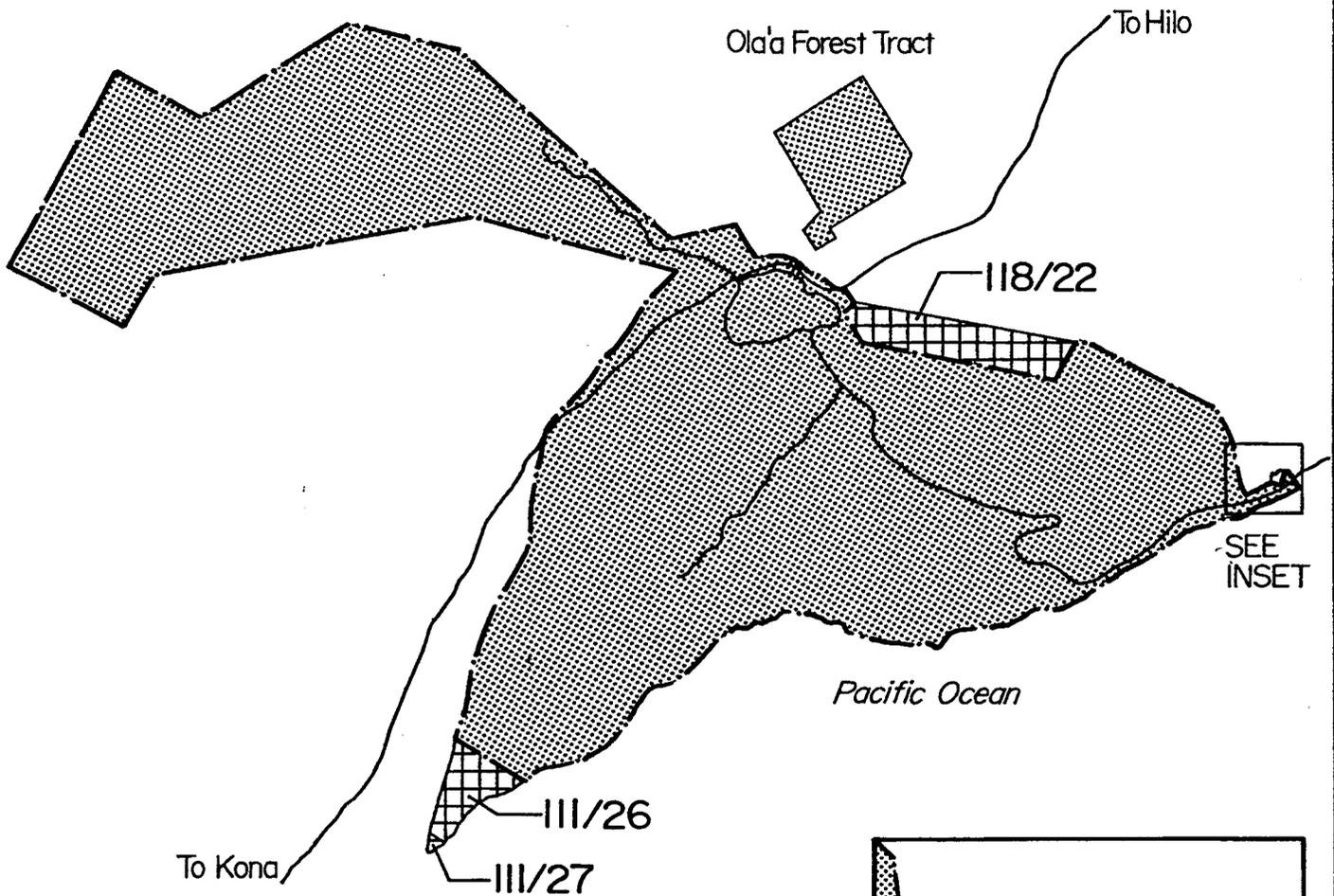
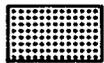
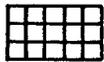


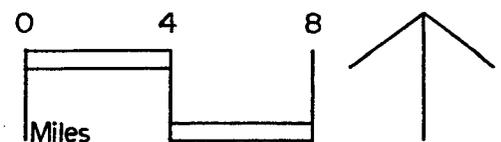
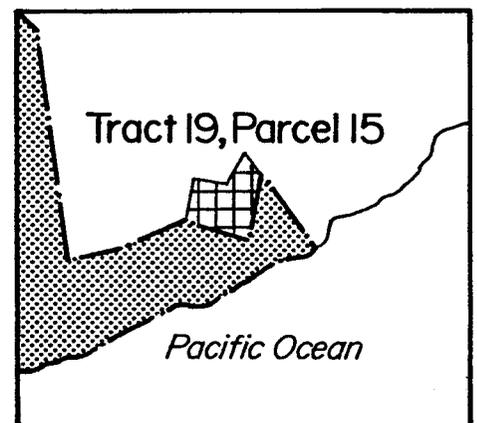
APPENDICES

Recommended Land Acquisition



LEGEND

-  Hawaii Volcanoes National Park
-  Federal Lands
-  Non-Federal Lands Requiring Additional Levels of Protection



**ADDENDUM TO
LAND PROTECTION PLAN FOR
HAWAI'I VOLCANOES NATIONAL PARK**

March 2001

The purpose of this addendum is to revise and update the July 1986 Land Protection Plan for Hawai'i Volcanoes National Park (HAVO) and the August 1998 Addendum to that plan. The lands covered by this Addendum consist of TMK 9:2-01-002 and TMK 9:3-04-002 (NPS tract numbers have not yet been assigned) comprising 115,652.96 acres and 135.03 acres respectively. The subject property is owned in fee by trustees and heirs under the will and of the estate of Samuel Mills Damon. Last year, the park superintendent was advised by The Nature Conservancy Hawaii (TNCH) that the Damon Estate was in a position where it would sell the Kahuku Ranch and that the preference of the trustees and heirs was to sell to an entity that would preserve the integrity of the property as a natural area.

Those portions of the Kahuku Ranch proposed as additions to HAVO are contiguous to the park and consist of all of the Southwest Rift Zone of Mauna Loa between the 800-foot and 12,600-foot elevations of this mountain mass. The higher elevation portions of Kahuku Ranch were identified as proposed additions in the park's 1975 Master Plan due to their scenic and recreational values set against outstanding geological, biological and cultural resources. For decades, HAVO has regarded the forested portions of the Kahuku Ranch above 4000 feet and the ohia/koa forest of the national park as integral components of the same native forest. The property also contains native Hawaiian biotic resources different than those now found within the national park. Biological surveys of the native sub-alpine portions of Kahuku Ranch carried out in the late 1970s revealed this property to be one of several "hot spots" for avifauna diversity and populations of plant species thought to be nearly extinct. The property is the sole habitat for at least four Federally listed threatened and endangered bird species, as well as habitat for one the three remaining populations of the endangered Kau Silverword. At the higher elevations, there are large and complex native Hawaiian archeological sites believed to date back to 1200 A.D. or earlier. The untouched condition of these sites offers great potential for increasing the knowledge and understanding of this early period of the native Hawaiian culture. U.S. Geological Survey scientists consider geological features of the Southwest Rift Zone of Mauna Loa to be unique in the world. There is also great potential for a wide variety of outdoor recreation opportunities ranging from biking, camping and picnicking in the lower elevations to wilderness hiking in the upper elevations. This is the first and only time that the Kahuku Ranch property has been available to NPS.

Plan Implementation

Since the approval of Hawai'i Volcanoes National Park Land Protection Plan and Addendum, no lands have been added to the park.

However, the Act of June 20, 1938 (52 Stat.781) which provides this national park with authority to add "adjacent or contiguous" lands...."necessary for the proper rounding out of the boundaries of the park" has been amended. Section 2 of the Hawaii Volcanoes National Park Adjustment Act of 1999 (Public Law 106-510, November 11, 2000) amends the 1938 Act by providing the park with general authority to acquire lands by "purchase with donated or appropriated funds." Although HAVO has received authorization for appropriations to acquire specific parcels of land by purchase in the past, the park now has broad legislative authority to purchase "adjacent or contiguous" lands.

Changes to the Plan

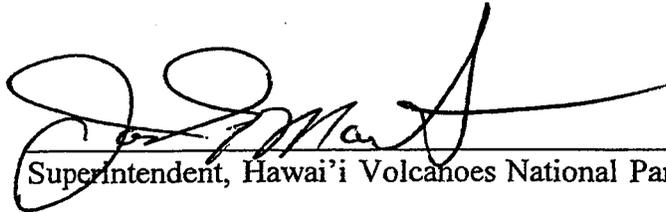
Negotiations between the property owner and NPS for the purchase of the Great Crack property (the subject of the 1998 Addendum to the Land Protection Plan) have been discontinued. During negotiations, the owner decided to subdivide his property and exclude from purchase a right-of-way and two coastal parcels. The park superintendent is no longer interested in the purchase since the property is now fragmented. The Interior Appropriations for FY2001 allow the \$1,500,000 provided in FY2000 for the purchase of the Great Crack property to be used toward the purchase of the Kahuku Ranch.

There is some urgency to the purchase of the Kahuku Ranch property. First, it has never been available before and it will not likely ever be available again and, two, there appears to be interest in selling to NPS at a favorable price below the market. The Damon Estate, as a trust, is shortly due to go out of existence. The trustees and the present beneficiaries, numbering around five and now in their eighties, have collectively expressed their desire to sell the Kahuku Ranch. If not acquired now and the estate passes to the heirs, which will number 35, it is highly unlikely there would ever again be a consensus regarding disposition of the property.

Adding these lands would place the Southwest Rift Zone of Mauna Loa, considered by USGS Hawaii Volcanoes Observatory scientists to be unique in the world, within the boundaries of Hawaii Volcanoes National Park. These lands are also the sole remaining habitat for at least four threatened and endangered avifauna species and the endangered, endemic Kau Silversword. Moreover, in this setting of dynamic geology and cultural history, there would be outstanding recreational and educational opportunities for visitors at the local to international levels.

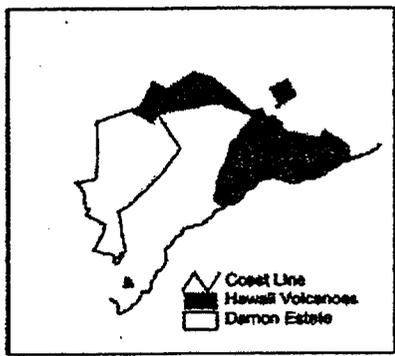
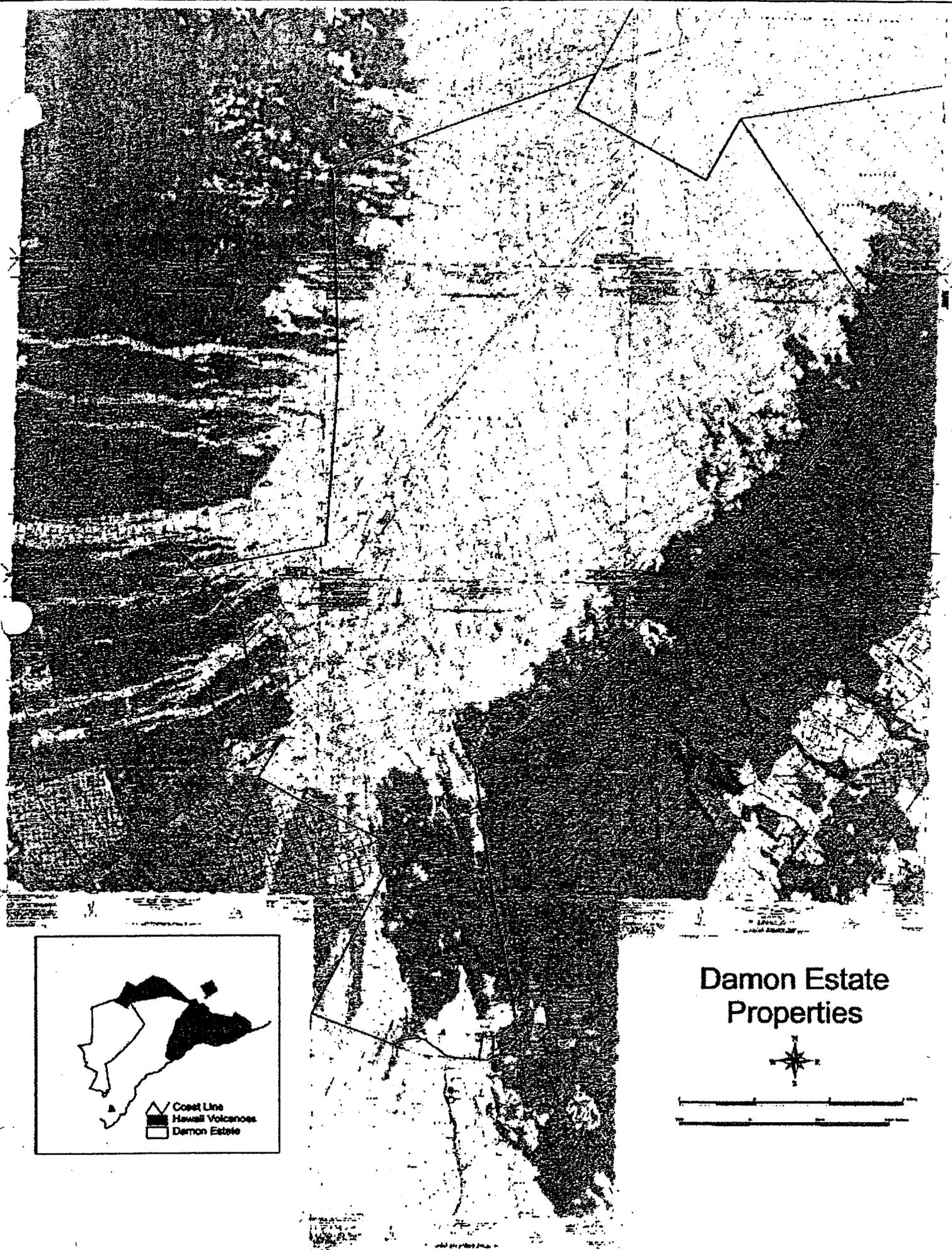
This Addendum would change acquisition priorities in the 1986 Land Protection Plan and the 1998 Addendum to include the 115,652.96-acre parcel (TMK 9:2-01-002) and the 135.03-acre parcel (TMK 9:3-04-002) as Hawaii Volcanoes National Park's number one and number two acquisition priorities.

RECOMMENDED:

 3/21/01
Superintendent, Hawai'i Volcanoes National Park / Date

CONCUR AND APPROVED:

Regional Director, Pacific West Region Date

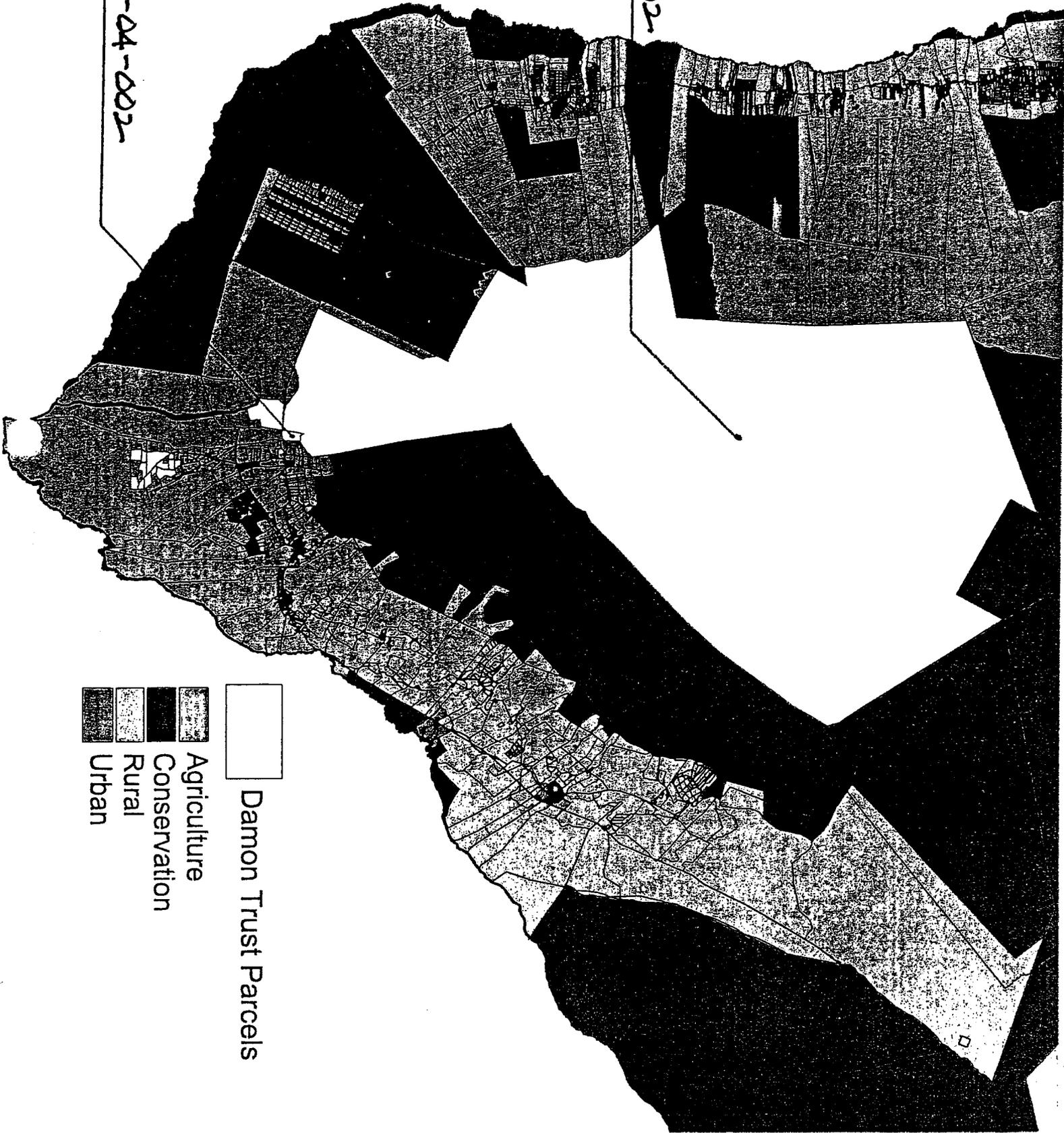


Damon Estate Properties



TMK 9:2-01-002

TMK 9:3-04-002



- Damon Trust Parcels
- Agriculture
- Conservation
- Rural
- Urban



United States Department of the Interior

NATIONAL PARK SERVICE

Hawaii Volcanoes National Park

P.O. Box 52

Hawaii 96718-0052

IN REPLY REFER TO:
L1417 (HAVO)

September 25, 1998

Memorandum:

To: Chief, Lands Resource Division, Pacific West Region

From: Superintendent, Hawaii Volcanoes National Park

Subject: Addendum to HAVO Land Protection Plan

Enclosed is an addendum to the 1986 Hawaii Volcanoes National Park's Land Protection Plan. This addendum justifies and recommends for acquisition additional lands that are next to and extensions of lands recommended for acquisition in the 1986 plan.

James F. Martin

Enclosures

cc: w/enclosure

✓ Superintendent, Pacific Island Support Office
Regional Director, Pacific West Region

**ADDENDUM TO
LAND PROTECTION PLAN FOR
HAWAII VOLCANOES NATIONAL PARK**

August 1998

The purpose of this addendum is to revise the July 1986 Hawaii Volcanoes National Park Land Protection Plan to include additional lands proposed for addition to the park. These lands are next to and an extension of lands recommended for acquisition in the 1986 land protection plan. The additional lands covered by this addendum encompass 1,628 acres. They are owned by the International Air Service Company, Ltd. (IASCO).

Plan Implementation

Since the approval of Hawaii Volcanoes National Park Land Protection Plan in July 1986, no lands have been added to the park. The park's existing acquisition authority is contained in the Act of 1938 (52 Stat. 781) which provides for the addition of "adjacent or contiguous" lands, but limits the means of acquisition to public or private donation. Hawaii Volcanoes is currently seeking legislation to provide the park with the authority to acquire land by purchase.

Changes to Plan

Recently, the owners of the lands specified in this addendum have expressed an interest in selling to the National Park Service. These same owners have title to 161 acres of adjacent lands, identified as NPS Tract No. 01-112. This parcel is recommended for acquisition in the 1986 land protection plan. The park wishes to acquire both tracts of land from the owner. The park also wishes to acquire the adjacent 1,951-acre NPS Tract No. 01-111 owned by Hawaii Outdoor Tours, also recommended for acquisition by the 1986 land protection plan. The owner of this 1,951-acre parcel has also expressed an interest in selling to the National Park Service.

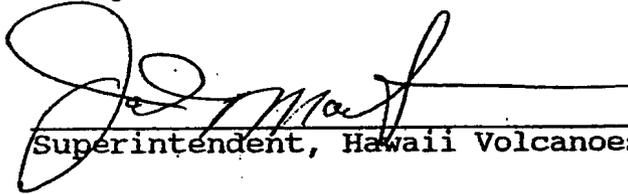
Together, the acquisition of these lands would place the entire Southwest Rift Zone within the park and also protect significant ancient Hawaiian archeological sites.

Over the past several years, these lands have been proposed for extensive development. Due to the decline of sugar on the island of Hawaii, replacement industries are being sought to form new economic bases for former agricultural communities. Developments proposed on these lands include a commercial satellite launching facility, light industry, resort, and a private prison. If developed, these new industries not only could degrade resources

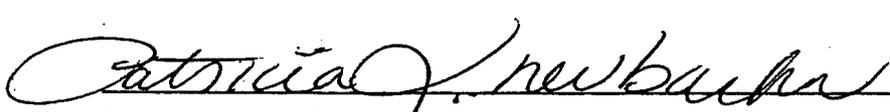
found on these lands, but also indirectly threaten adjacent national park resources. Uncontrolled access to these lands would likely result in damage and/or destruction of Hawaiian archeological features, the spread of alien plant and animal species, and an increase in the fire hazard.

The lands to be added to the park by this addendum contain historic and ancient lava flows, two significant Hawaiian archeological sites, and remnant akia shrub land. Archeological features found on these lands include house platforms, petroglyphs, and lava tubes containing cultural remains. These features may date from around 700 A.D., the earliest arrival of Polynesians in Hawaii.

The list of acquisition priorities in the 1986 land protection plan would be modified to include the 1,628-acre parcel covered by this addendum. This parcel would be inserted in the list after NPS Tract No. 01-112 and before Master Plan Tract No. 19, Parcel 15. The 1,628 acres proposed as an addition to the park have not yet been assigned a NPS tract number.



Superintendent, Hawaii Volcanoes National Park 9/25/98
Date



Concur and Approved 10/5/98

ADDENDUM TO
LAND PROTECTION PLAN FOR
HAWAII VOLCANOES NATIONAL PARK

August 1998

The purpose of this addendum is to revise the July 1986 Hawaii Volcanoes National Park Land Protection Plan to include additional lands proposed for addition to the park. These lands are next to and an extension of lands recommended for acquisition in the 1986 land protection plan. The additional lands covered by this addendum encompass 1,628 acres. They are owned by the International Air Service Company, Ltd. (IASCO).

Plan Implementation

Since the approval of Hawaii Volcanoes National Park Land Protection Plan in July 1986, no lands have been added to the park.

The park's existing acquisition authority is contained in the Act of 1938 (52 Stat. 781) which provides for the addition of "adjacent or contiguous" lands, but limits the means of acquisition to public or private donation. Hawaii Volcanoes is currently seeking legislation to provide the park with the authority to acquire land by purchase.

Changes to Plan

Recently, the owners of the lands specified in this addendum have expressed an interest in selling to the National Park Service. These same owners have title to 161 acres of adjacent lands, identified as NPS Tract No. 01-112. This parcel is recommended for acquisition in the 1986 land protection plan. The park wishes to acquire both tracts of land from the owner. The park also wishes to acquire the adjacent 1,951-acre NPS Tract No. 01-111 owned by Hawaii Outdoor Tours, also recommended for acquisition by the 1986 land protection plan. The owner of this 1,951-acre parcel has also expressed an interest in selling to the National Park Service.

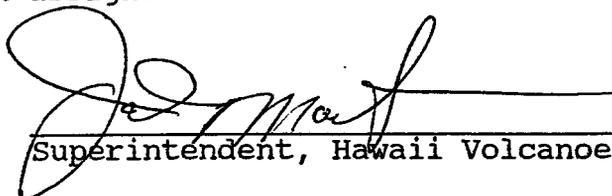
Together, the acquisition of these lands would place the entire Southwest Rift Zone within the park and also protect significant ancient Hawaiian archeological sites.

Over the past several years, these lands have been proposed for extensive development. Due to the decline of sugar on the island of Hawaii, replacement industries are being sought to form new economic bases for former agricultural communities. Developments proposed on these lands include a commercial satellite launching facility, light industry, resort, and a private prison. If developed, these new industries not only could degrade resources

found on these lands, but also indirectly threaten adjacent national park resources. Uncontrolled access to these lands would likely result in damage and/or destruction of Hawaiian archeological features, the spread of alien plant and animal species, and an increase in the fire hazard.

The lands to be added to the park by this addendum contain historic and ancient lava flows, two significant Hawaiian archeological sites, and remnant akia shrub land. Archeological features found on these lands include house platforms, petroglyphs, and lava tubes containing cultural remains. These features may date from around 700 A.D., the earliest arrival of Polynesians in Hawaii.

The list of acquisition priorities in the 1986 land protection plan would be modified to include the 1,628-acre parcel covered by this addendum. This parcel would be inserted in the list after NPS Tract No. 01-112 and before Master Plan Tract No. 19, Parcel 15. The 1,628 acres proposed as an addition to the park have not yet been assigned a NPS tract number.



Superintendent, Hawaii Volcanoes National Park 9/25/98
Date

STATUS OF PLANNING, PARK RESOURCES, AND
VISITOR USE ACTIVITIES AND OBJECTIVES

Status of Planning

The Hawaii Volcanoes National Park Master Plan, approved November 1975, identifies additional lands needed to further the purposes of the park. These included lands adjacent to the park and generally consisted of the area around Hualalai volcano, the area between that mountain and Mauna Loa volcano, the upper slopes of Mauna Loa, and a strip to provide access to these additional park lands from the Kona side; tide and submerged lands extending one-eighth mile offshore along the park's coastal boundary were also included.

The Upper Oloa Forest, over which the National Park Service has "protective custody," but which is not legally within the park, was also included in the master plan list of adjacent lands to be added. The master plan proposes that legislation be sought to legally include the Oloa Forest lands as a non-contiguous part of the park.

The master plan also calls for legislative action to authorize purchase of three tracts of land which previously had been proposed as additions to the park. One of these tracts, located within the 1938 Kalapana extension, has, since master plan approval, been partially acquired (purchased in 1979). The other two tracts were both included as part of the lands proposed as additions by the 1951 Secretarial Order.

Finally, the master plan calls for the deletion of two tracts of land. One of these is within the Kalapana extension, the other consists of most of one of the tracts proposed by the 1951 Secretarial Order.

Master plan management objectives pertinent to this plan include the following:

Preserve the evolving natural scene by protecting outstanding geologic features, such as the calderas and rift zones, steam and sulphur banks, the profile of Mauna Loa, and the associated native ecosystems.

Cooperate with public and private landowners in striving to maintain the evolving natural landscape adjacent to the park.

Acquire those lands which will improve the geologic, ecologic, and scenic integrity of the park.

Protect the park's remnant Hawaiian ecosystems, including endangered species, from further depredation and competition by those exotic animals and plants introduced by modern man.

Re-establish the park's endemic species into their former ranges, concentrating efforts on those species which are in danger of extinction, and those that are key components of major native ecosystems.

Support the U. S. Geological Survey's research program on volcanism which contributes invaluable knowledge needed for park management and interpretation.

Conduct and encourage natural history research focused upon:

(1) further definition and insight into the park's native island ecosystems; (2) developing life history and ecologic understanding of species facing extinction; and (3) developing management strategies for preserving endemic island ecosystems.

Encourage visitor enjoyment of remote areas, including the summit and slopes of Mauna Loa, Kau Desert, and the Kau coast.

When reasonable, provide safe routes of access for visitors to significant interpretive features and visitor facilities even though special hazards may exist.

In order to protect the native ecosystem and the ecological processes which support them, the park's natural resource management program has as its main objective the suppression and/or removal of the most disruptive plant and animal introductions. The resource management plan was last updated in November 1984. Major elements of the program consist of feral goat and pig control, feral pig research, exotic plant control, nene (Hawaiian goose) restoration, and native plant management.

The park's feral goat control project has been in existence for more than a decade and is now considered to be in its final stages. Approximately 100 to 200 goats still inhabit the park's higher elevations (above 2,000

meters) where fences have not yet been constructed. The inspection, maintenance, and periodic replacement of the existing fence is ongoing and continuous.

Feral pig research and management has been underway in the park since the mid-1970's. However, funding, organized research and control have been underway only since 1983. Approximately 6,000 acres of the park have so far been cleared of pigs and they have been reduced to remnant populations in another 2,500 acres. By the end of 1985, it is expected that approximately 12,000 acres will be either cleared or their numbers significantly reduced. Park research emphasizes elimination of remnant animals and monitoring of management effectiveness.

The control of exotic plants in the park is a complex problem because of the overwhelming number of species (about 400), the vulnerability of native ecosystems to exotic plants, lack of ecological knowledge about target species, and the lack of specific control methods. The program emphasizes identification and control of localized species which have high potential to disrupt natural ecosystems. A quarantine facility was recently built and certified in the park to identify, study, and evaluate potential insect releases as biological control organisms for banana poka, a serious exotic plant threat to the park's mid-elevation forests.

Native plant management is directed toward intensive control of exotic plants and feral animals found within remnant and intact communities of native plants and/or rare threatened and endangered species.

An updated statement for management has been completed in draft and is presently undergoing review by Western Region staff. A preliminary draft of the cultural resource management plan has recently been prepared and is being reviewed.

The park's land acquisition plan, approved in April 1980, called for the acquisition of the same three tracts proposed in the 1975 master plan. The land acquisition plan recommended these lands be purchased in fee simple and also indicated that legislative authority would be needed to allow for that purchase.

Park Resources

The park's natural features — geology, vegetation, animal life, history, and archeology — are all accurately and adequately described on pages 11 through 19 of the 1975 master plan. Since that plan was written, significant changes along the park's middle East Rift have been brought about by the volcanic eruptions which began in January 1983. As of March 1985, there have been 31 separate phases of these eruption activities. The lava flows have generally gone in an easterly direction crossing the Kamoamo portion of the Kalapana extension along the eastern boundary of the park. New lava flows of basalt have covered sizeable areas, mostly outside the park. A cinder/spatter cone, recently named the Puu O'o vent, rising more than 600 feet in elevation has been created. At this writing, there is no indication that this series of eruptions has ceased.

The park's cultural resources are likewise covered in the 1975 master plan. Specifically, pages 20 through 24 discuss the park's history and archeology.

Visitor Use Activities and Objectives

Visitation in the park has risen by about 40 percent in the last decade:

1975 - 1,672,008	1980 - 2,367,911
1976 - 1,852,654	1982 - 2,368,907
1977 - 1,816,836	1982 - 2,626,971
1978 - 2,321,980	1983 - 2,821,115
1979 - 2,266,713	1984 - 2,597,838

This use is spread throughout the year, with a slight increase during the summer months. Generally, about 20 percent of the total visitation is "non-recreational;" i.e., composed of visitors who are utilizing State Highway 11, the major road which connects Hilo with the southern part of the Island of Hawaii, and are just passing through. Most of the park's visitation has been and will continue to be day-use. Nearly all visitation takes place in and around the headquarters area, the Crater Rim summit loop drive, the Chain of Craters corridor, and the Wahaula Visitor Center area.

Over the past decade, rental cars have replaced the tour bus as the mode of transportation most used by visitors. Overnight accommodations in the park are limited and consist of the concessioner-operated Volcano House, an 83-guest capacity lodge; Namakani Paio Campground, which includes 10 rustic camper-cabins. The Kilauea Military Camp provides overnight accommodations for 300, but is not available to civilian park visitors. In addition, there are two small campgrounds at Kamoamo and Kipuka Nene. Camping in the park's backcountry has averaged about 5,000 overnight visitors for the past five years and does not appear to be increasing.

Certain volcanic eruptions cause abrupt and dramatic increases in the numbers of park visitors. The recent eruptions along Kilauea's East Rift, however, are of short duration and located in a remote section of the park. These have not caused significant changes in visitation patterns.

Visitor use objectives in the park are focused primarily on providing basic day-use needs, including meal service. Overnight facilities (lodging and campgrounds) are provided within the established overnight carrying-capacity of the park. The park relies on the gateway communities (private enterprise) for the development of any additional overnight facilities for park visitors.

ENVIRONMENTAL ASSESSMENT
LAND PROTECTION PLAN
HAWAII VOLCANOES NATIONAL PARK

PURPOSE AND NEED

There are six tracts of non-federal lands totalling 11,879 acres located within areas which are authorized additions to Hawaii Volcanoes National Park. About 11,875 acres are in private ownership and four acres are owned by the State of Hawaii.

Three of these tracts encompassing 4,177 acres are no longer considered to be viable additions to the park. They contain developments—residences, roads, a state highway corridor, and a golf course—which have altered their natural values and made them unsuitable. However, this unsuitability does not extend to a 144 acre portion of one of these tracts. This parcel (Tract 19, Parcel 15) requires additional protection to buffer adjacent parklands and to preserve the archeological sites and features within. These three tracts, two in their entirety and all but the 144 acres of the third, were recommended for deletion by the 1975 master plan. However, since they were never legally within the boundaries of the park, no action is required to have them deleted.

The other three tracts of land contain resource values of national significance. Moreover, they are either now being or could potentially be threatened by developments which would adversely affect these values. These three tracts have been judged to be in need of additional level of protection. The Land Protection Plan for Hawaii Volcanoes National Park

recommends the acquisition of these tracts as the most reasonable method to ensure the long-term preservation of their natural and/or cultural resource values.

One of these tracts (118/22), encompassing 5650 acres, is located within a larger area now being proposed by the land owner for large-scale geothermal power production. The scale of these developments and their proximity to the park would significantly alter and degrade the natural values of this tract and of the adjacent lands now within the park. The other two tracts (111/26 and 112/27), covering 2052 acres, have been identified by the State of Hawaii as being within an area having geothermal resource potential resource values.

DISCUSSION OF ALTERNATIVES

A land protection plan has been prepared to identify the most reasonable method to assure that these parcels of land will be protected. In selecting the recommended method, the plan considered alternative ways to protect resources such as land use regulation, cooperative agreements, fee acquisition, and less-than fee acquisition. Purchase, exchange, and donation were evaluated as possible means of acquisition.

Land use regulation exists at the State level on Tract 118/22 proposed for geothermal development since it is located within a conservation district. This level of protection, the highest provided by the State of Hawaii's land use law, was judged to be sufficient, at least in the short-term, until June 1983. At that time a State law was enacted which allowed for geothermal resource development on conservation district land.

Henceforth, this level of protection was removed placing the resources within this tract and on the adjacent park lands in jeopardy. This alternative would have the same socio-economic and environmental impacts as a no-action alternative.

Existing regulations on Tracts 111/26 and 112/27 -- within an agriculture district and 20-acre minimum lot size--allow subdivision to the extent that resource values would be adversely affected. Moreover, the State has recently identified the area as part of a proposed geothermal resource subzone. Though there is presently no threat, it seems clear that regulatory authority is insufficient to protect resources here in the long-term.

Land use regulations present on the 144 acre parcel provide adequate protection to its open space values. However, there is great probability that this area contains numerous and perhaps significant archeological features. It is uncertain whether or not these can be adequately protected by regulation.

Agreements with landowners do not appear to hold much promise for protecting resources on any of the tracts requiring it. These lands are not within the legal boundaries of the park and the National Park Service presently has no authority to enter into agreements under those conditions.

Acquisition appears to be the most reasonable alternative for providing the needed protection to the above tracts of land. Refer to Pages 38 to

42 in the Land Protection Plan for a discussion on donation and exchange possibilities.

PERSONS/AGENCIES CONSULTED

Due to the small number of landowners involved and the sensitive nature of the geothermal energy issue in Hawaii, no public meetings were held during the preparation of the draft land protection plan for Hawaii Volcanoes National Park. Meetings and discussions took place during the preparation of the plan with landowners or their representatives. More discussions and meetings with the affected landowners will take place. Copies of the draft land protection plan will be made available for public review.

IMPACTS OF ALTERNATIVES

Alternative

A. Land Use
Regulation
Tract 22/118
(Same as no
action)

Vegetation

More than 100 acres of native ohia and tree fern community would be destroyed by the development of two power plants, about a dozen well drilling sites, and the roads and pipelines to connect them—all of which are part of the geothermal power project proposed within this tract.

Project development would also increase the likelihood of alien plant species invading the tract and spreading to the adjacent park lands.

Marijuana cultivation would continue with its attendant adverse effect on the native vegetation.

Wildlife

Several hundred acres of endemic bird habitat, including that for endangered species, would be degraded by the development of the proposed project. Also, the development would increase the opportunities for the spread of alien animal species which would likewise adversely affect native bird species.

Aesthetic

The ohia canopy would be interrupted by the 75' (3-story) power plant buildings resulting in a visual intrusion on the natural scene. In the open areas of lava, power plants, well sites, roads, and pipelines would be highly visible, aesthetic intrusions on the natural scene. Located adjacent to 7600 acres of a designated wilderness area which is dominated by recent lava flows interacting with native rain forest. The existing views of the tract from the park wilderness consists only of natural features. The proposed geothermal development would alter and degrade the aesthetics of that view.

Archaeological/
Historical

No records of archaeological sites are known to exist within the tract. However, the absence of any recorded sites does not mean that none exist. On nearby lands which have been surveyed, numerous sites and features have been identified.

Socio-economic

Full and successful development of the proposed power project would generally have a positive effect on the local economy. This would be mainly from construction jobs and would last for 15 to 20 years. These jobs would depend upon whether or not the geothermal resource is found to be economically viable. Indirect benefits associated with increased sales to local commercial establishments would also accrue. There would also be a beneficial effect on the State's economy due to the lessening of Hawaii's dependence on imported oil for its energy. There would be a reduction in the outflow of dollars from the State for the purchase of fuel oil.

Alternative
Tract 22/118
(continued)

Vegetation

Wildlife

Aesthetic

Archaeological/
Historical

Socio-economic

Tracts 111/26
and 112/27
(Same as no
action)

Destruction of the native grasses by feral goats would continue, as would the opportunities for invasion of alien plant species.

No effect.

Area would be subject to exploration and potential development for geothermal energy. Such development would have an adverse effect on the native grasses.

Continued browsing by feral goats would degrade the visual quality and natural character of the landscape.

No protection would be afforded the archaeological sites and features believed to exist within those tracts.

Area would be subject to exploration for geothermal energy development and/or subdivision, both of which would adversely affect its visual quality.

Area would be subject to geothermal energy exploration and development which could destroy archaeological features believed to exist within.

The above benefits would be offset somewhat by the costs to the local community of providing services to support the new developments. Another offsetting factor would be that geothermal development would go against the feelings of those Native Hawaiians who have expressed their opposition to the project because it would disturb the domain of Pele, the Fire Goddess whose domain includes Kilauea.

If the area's geothermal energy potential proved to be viable, its development would generally have beneficial effects on the local economy. However, at the present time the area's geothermal potential remains unproven.

Alternative

Tract 19
Parcel 15
(Same as no
action)

Vegetation

Little or no effect.

Wildlife

No effect.

Aesthetic

Little or no effect.

Archaeological/
Historical

No protection would be afforded the numerous archaeological features believed to be within this tract.

Socio-economic

Little or no effect.

B. Acquisition
Tract 22/118

Would protect and allow management of the area's native flora and tree fern community. NPS management of the area would result in its eventually being cleared of marjuna plants. Area would begin to be managed for the preservation and protection of its native plants.

The endemic bird habitat would be managed so as to maintain its integrity. Management would also consist of undertaking efforts to control the introduction and spread of alien animals.

The natural landscape would be retained. Views from the adjacent park lands would be protected.

Any archaeological sites within this tract would be professionally surveyed and recommendations made as to how they should be managed.

Development of the area's geothermal resources potential would not be realized. Benefits to the local economy accruing from jobs associated with the construction of geothermal energy power plants, well-drilling sites, roads, pipelines, etc. related to the project as planned for this particular tract would not take place. However, acquisition of this tract would permit the exchange of lands between Campbell Estates and the State of Hawaii to take place thereby making it possible for geothermal resource development to take place on a nearby location. Consequently, there would be no loss of socio-economic benefits -- at either the local or state levels.

Alternative

Tracts 111/26
and 112/27

Vegetation

Would permit management to control and eventually eliminate feral goats thereby permitting the restoration of native grasses to their natural range.

Wildlife

No effect.

Aesthetic

The natural landscape would be retained and, where required, restored.

Archeological/
Historical

The archeological sites and features believed to be located within these tracts would eventually be surveyed and managed for the long-term protection of their resource values.

Socio-economic

The exploration and development of the area's geothermal energy potential would not take place. Any potential benefits associated with that development here would not be realized.

Exploration and development for geothermal power would be forestalled and the attendant adverse effect on native grasses would be eliminated.

Little or no effect.

No effect.

Little or no effect.

The archeological sites and features believed to be located on this tract would be professionally surveyed and managed for their long-term protection.

Tract 19,
Parcel 15

The archeological sites and features believed to be located on this tract would be professionally surveyed and managed for their long-term protection.