

GENERAL MANAGEMENT PLAN/ ENVIRONMENTAL IMPACT STATEMENT



HALEAKALĀ NATIONAL PARK Hawai'i

January 1995

United States Department of the Interior/National Park Service



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Final General Management Plan Environmental Impact Statement

Haleakalā National Park Maui County, Hawaii

This Final General Management Plan/Environmental Impact Statement presents a proposal and two alternatives as conceptual frameworks to guide the future management, development, and use of Haleakalā National Park. The proposal, which is the National Park Service's general management plan, calls for adding lands adjacent to the park that contain significant natural and cultural resources. The proposal also calls for new facilities and the upgrading of existing facilities to improve the quality of visitor services. These improvements are needed to accommodate the substantial increases that have occurred in Haleakalā's visitation over the past two decades.

Environmental consequences of the proposal are generally positive. Adding lands to the park will ensure the long-term protection of the natural and cultural resources found there. Adding these lands to the park will also permit safe and permanent visitor access. No adverse effect would result from the improvement of visitor use facilities since new construction is to take place in areas already disturbed and dominated by alien plants. The increased potential for visitors damaging cultural resources at Kīpahulu would be offset by the implementation of a more structured use pattern there.

The alternatives consist of no action alternative and a minimum requirements alternative. A long-term implication of the no action alternative would be a decrease in the quality of visitor services at Haleakalā, an adverse effect. The minimum requirements alternative would have the same environmental consequences as the proposal, except that since considerably less lands would be added to the park there would be less opportunities for long-term protection of natural and cultural resources.

The environmental consequences of the proposal and the two alternatives have been fully documented in the draft environmental impact statement and are presented again in the final. The public review period on the draft ended July 30, 1994. The results of public comment received on the draft document are included in the final. The no action period on this final plan and environmental impact statement will end 30 days after the Environmental Protection Agency has accepted the document and published a Notice of Availability in the Federal Register. For additional information, contact Superintendent, Haleakalā National Park, P. O. Box 369, Makawao, Maui, Hawai'i 96768.

United States Department of the Interior/National Park Service

SUMMARY

A proposal and two alternatives have been prepared for the future management and use of Haleakalā National Park. The proposal and the alternatives contain the following broad management objectives: protection of the unique geologic, biotic, and cultural resources of the park; improvement in the quality of the visitor's experience; and helping to sustain the traditional Hawaiian lifestyle of East Maui.

More than a decade ago, controversy arose over National Park Service plans to add adjacent lands to the Kīpahulu section of the national park. This issue resulted in postponing finalization of the general management plan/environmental impact statement then developed in draft for the park. Subsequently, a land protection plan was prepared for Haleakalā. This plan contained the National Park Service's goals regarding acquisition of land at Kīpahulu and elsewhere. Following public review of the land protection plan, it became feasible to proceed with the preparation of a general management plan.

Management objectives for the park have remained basically unchanged over the past decade and more; however, new issues have surfaced since the previous plan and environmental statement were publicly reviewed. These issues were a proposal by an adjacent landowner to build a tramway on the west slope of Haleakalā to terminate on the summit within the national park; dramatic increases in the number of commercial overflights over Haleakalā, including its designated Wilderness; and an offer by the owner to sell the adjacent Kaupō Ranch property to the National Park Service.

The proposal, which is the National Park Service's general management plan for Haleakalā, calls for acquisition of all lands identified in the park's land protection plan plus Kaupō Ranch lands in order to ensure the permanent protection of significant resources and the improvement of visitor services. New facilities contained in the proposal are minimal and, together with the proposed upgrading of existing ones, are needed to adequately handle the level of visitation. Since initiating the preparation of a general management plan some 15 years ago, visitation to Haleakalā has doubled. Improvements in visitor use facilities have been piecemeal and minimal. Existing facilities in the Crater District need to be expanded and new facilities built at Kīpahulu. Total cost of these facilities is estimated to be approximately \$8 million. The proposal also calls for research programs to refine the existing resource data and to add new resource data.

Two alternative plans were considered. The first, a no action alternative, calls for a continuation of current operations with no upgrading or development of park infrastructure. The second, the minimum requirements alternative, calls for the same new and expanded facilities as the proposal and adding the same lands except for the Kaupō Ranch property.

Overall, the environmental consequences of the proposal are generally positive. Adding lands to the park will permit both the improved management of the native vegetation now within the park and the long-term management of vegetation on the new park lands. The proposed new facilities will not adversely affect any of the park's native vegetation since new construction is to take place in areas that have already been disturbed and dominated by alien plants. The proposal will have a positive effect on the park's native wildlife. The proposal's effect on cultural resources also will be positive. The developments proposed in the Kīpahulu area, where concentrations of archeological and historical sites exist, will likely bring in more visitors. However, the potential for any increased damage to these sites by visitors would be offset by the implementation of a more structured use pattern here.

Environmental consequences under the no action alternative would be less beneficial than under the proposal. With no new facilities and only minimal upgrading of existing ones possible, there would be little opportunity to improve visitor services in the national park. This would be a long-term adverse effect. Under both the no action alternative and the minimum requirements alternative, there would be no opportunities for the National Park Service to manage lands in the Kaupō Ranch area for resource protection. The native vegetation, endangered wildlife, archeological sites and features, and wetland areas found here would not receive any additional levels of protection. Moreover, there would be no long-term guarantee of public access to this area.

Under the minimum requirements alternative, the environmental consequences would be the same as those identified in the proposal — that is, generally positive. There would be increased opportunities to protect resources and to improve visitor services. With the exclusion of the Kaupō Ranch property, however, the highly significant natural and cultural values found here would not receive the protection afforded by National Park Service management. This would be an adverse effect.

COMPARISON OF ALTERNATIVES

	Proposal	No Action	Minimum Requirements
Geology	No major impact on park's geology. The proposed West Crater Rim addition contains geologic features associated with the volcano in the park. This would be a positive impact. The construction of new facilities would not adversely effect the park's geology.	No impact	Same as proposal, except that the significant geologic features of the Kaupō area would not be in the park.
Vegetation	There would be no adverse effect on the park's vegetation. New construction would take place in areas already disturbed and dominated by alien plants. The proposed West Crater Rim addition would place more silversword habitat in a protected status. The Kaupō Ranch addition would protect remnant native forest communities and permit long-term management to restore these communities to their former range. These are all beneficial effects.	Long-term adverse effect. Management concepts for controlling alien plants and protecting native species would be more difficult to implement.	Same as proposal except that remnant native Hawaiian vegetation in Kaupō addition would remain unprotected.

Proposal	No Action	Minimum Requirements
<p>Wildlife</p> <p>The overall effect on the park's wildlife, including endangered species, would be beneficial. Implementation of management and use concepts would permit better control of non-natives such as feral goats, pigs, mongooses, and rats. The pigs, mongooses, and rats adversely effect the endangered dark-rumped petrel and native forest birds. The West Crater Rim addition would place more dark-rumped petrel habitat in a protective status. The Kaupō Ranch proposed addition contains the Nu'u Pond, habitat for the Hawaiian stilt and coot, both endangered species.</p>	<p>The long-term effect would be adverse because of the difficulties in implementing management concepts to control non-native species and protect native endangered birds.</p>	<p>Same as proposal, except that endangered species habitat for the Hawaiian stilt and coot at Nu'u Pond would not be included as a proposed addition to Haleakalā.</p>
<p>Cultural Resources</p> <p>Developments proposed in the Kīpahulu area will permit a more structured visitor use pattern here. This would have a beneficial effect on the Hawaiian archeological sites and features found in the area. Proposed additions in the Kīpahulu and Kaupō areas would place several Hawaiian <i>heiau</i> in a protected status.</p>	<p>The lack of new facilities and the difficulties in implementing visitor use concepts would in the long-term produce an adverse effect.</p>	<p>Same as proposal, except that the significant Hawaiian cultural sites and features found in the Kaupō Ranch area would not be included in the park.</p>

	Proposal	No Action	Minimum Requirements
Development Costs	Approximately \$7.3 million.	No additional cost.	Same as proposal.
Access	Positive effect. Permanent visitor access to and through the Kaupō Ranch area would be guaranteed.	Visitor access from Kaupō Gap through the Kaupō Ranch would become increasingly uncertain in the future.	Same as proposal, except that visitor accessibility from Kaupō Gap through the Kaupō Ranch would become increasingly uncertain in the future, particularly if current ownership changes.
Soils	Minor adverse impact. Construction of proposed new facilities would disturb a total of about 20 acres.	No effect.	Same as proposal.
Adjacent Lands	Through consultation with government officials and landowners, assist in sustaining the undeveloped rural character of these lands. Significant amounts of these lands would come under the control of the federal government.	No effect.	Same as proposal, except Kaupō Ranch lands would remain in private ownership.
Visitor Use	Positive effect due to facility development and implementation of management and use concepts. Adding the Kaupō Ranch would provide additional recreational opportunities and improve visitor safety.	Little or no improvement.	Same as proposed, except Kaupō Ranch area would not be available to visitors.

	Proposal	No Action	Minimum Requirements
Water and Air Quality	Total impact would be minimal.	Same as minimum requirements alternative.	Water drawn from streams in the national park could increase if commercial or residential developments were to take place in the Kaupō area and the Kīpahulu area.
Socio-Economic	Potential adverse impacts on the lifestyles of East Maui residents would be mitigated by consultation with State and County officials and by increased public involvement. Acquisition of additional park lands in the Kīpahulu and Kaupō areas would have very little effect on County property tax revenues.	No effect.	Same as proposal, except Kaupō Ranch lands would remain on County tax rolls.

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PURPOSE AND NEED FOR THE PROPOSAL

Introduction

For the past several decades, the Island of Maui, along with the rest of Hawai'i, has experienced both a growth in tourist development and increased local concern about preserving the traditional Hawaiian lifestyle. It follows that Haleakalā National Park is experiencing similar conflicting pressures. Mindful of the continuous increase in visitation and sensitive to the park's unique and vast scenic, geologic, cultural, biotic, and scientific resources, the National Park Service, utilizing public input, has developed a proposal and two alternatives for resource preservation and visitor use. The proposal seeks to improve the quality of the visitor's experience and assist in preserving the unique rural Hawaiian character of East Maui.

Haleakalā National Park lies on the eastern portion of the island of Maui, second largest in the Hawaiian chain. Presently encompassing about 27,000 acres of Federal lands, the park resources are greatly varied. The summit area of Haleakalā is a unique example of a volcano in a later stage of development, with colorful cinder cones, evidence of extensive erosion activity, and rare species of plants and animals, some found nowhere else in the world.

Kīpahulu Valley and its coastal vicinity, on the volcano's southeast flank, exhibit an entirely different element of the Hawaiian environment. Nearly impenetrable rain forests occupy the middle and upper elevations and provide habitat for rare endemic plants, birds, and insects. The lower elevations in the Kīpahulu open grasslands interspersed with shrubs and trees. Here, the Palikea Stream becomes a series of spectacular waterfalls and pools descending to a scenic coastline of black lava constantly lashed by rough seas.

The purpose of the general management plan for Haleakalā National Park is to provide a conceptual framework which will give direction to the future management and use of the unique complex of resources included within the park's boundary and to fulfill the needs and requirements dictated by Congress and the policies of the National Park Service. All proposed management and use programs are to conform to the following objectives:

Re-establish and perpetuate as nearly as possible the mosaic of ecosystems which would have evolved without the interference of human technology.

Protect and restore native biota by controlling non-native plants and animals, particularly those aggressive species which outcompete native forms.

Maintain the human altered Kīpahulu coastal area in its present state, with latitude for restoration of native plant communities where appropriate.

Isolate and carefully restrict use of the upper Kīpahulu Valley in order to ensure the perpetuation of nearly pristine native plant communities, native Hawaiian birds, and other native species.

Identify and protect cultural sites and remains; stabilize significant archeological structures; and, where appropriate, assist in the perpetuation and interpretation of the traditional Hawaiian culture.

Encourage a comprehensive park research program for improvement of management and interpretation of Haleakalā's geologic, biotic, and cultural values.

Manage the park primarily for day use, but continue to provide campgrounds within the park and facilities for overnight use within the crater at existing levels.

Develop park interpretation on the basis of three themes: (1) geologic processes and associated volcanic and erosional features; (2) the unique native ecosystems containing rare endemic biota; and (3) Hawaiian land use, culture, and history.

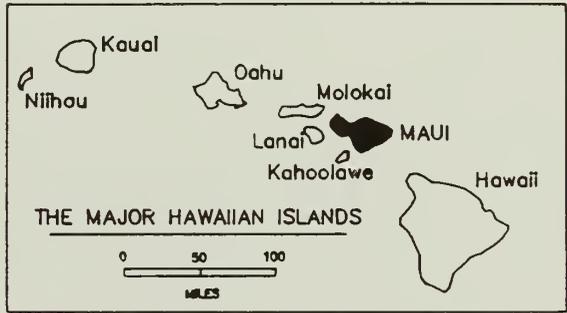
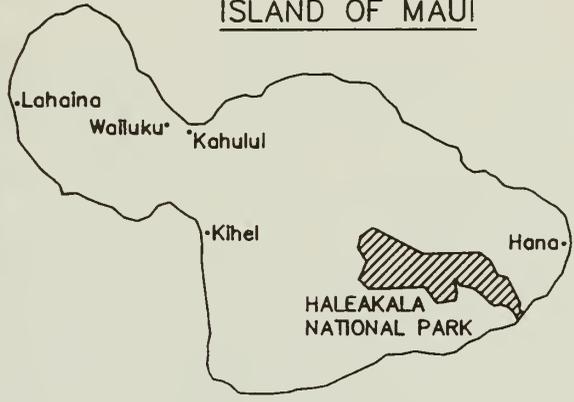
Include within park boundaries those adjacent lands which are important to the protection of the existing park resources and their interpretation, or contain significant resource values, or are essential for visitor access.



The sweeping expanse of Haleakalā Crater can be viewed from several overlooks along the winding mountain road leading up to the House of the Sun Visitor Center at the summit. Designated Wilderness by Congress in 1976, the crater is accessible to park visitors only by trail.



ISLAND OF MAUI

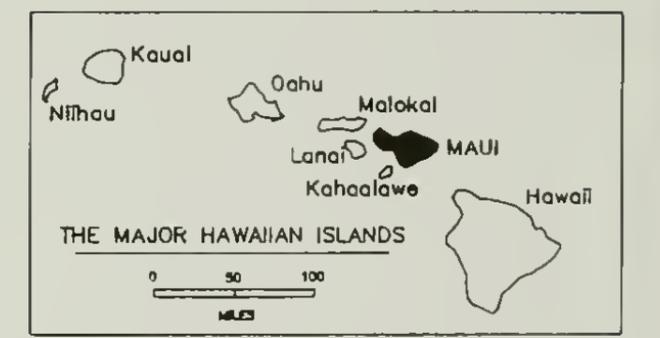
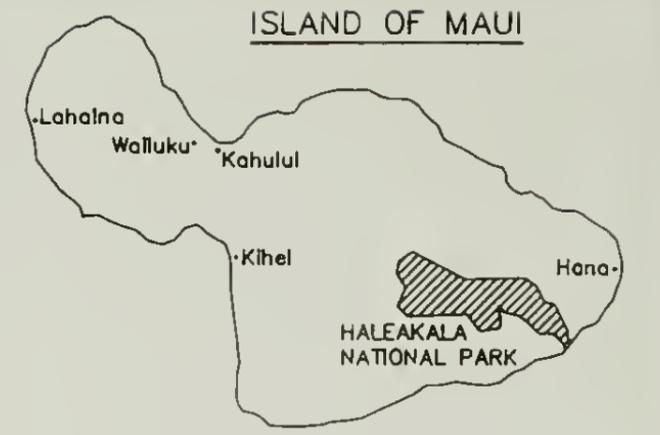
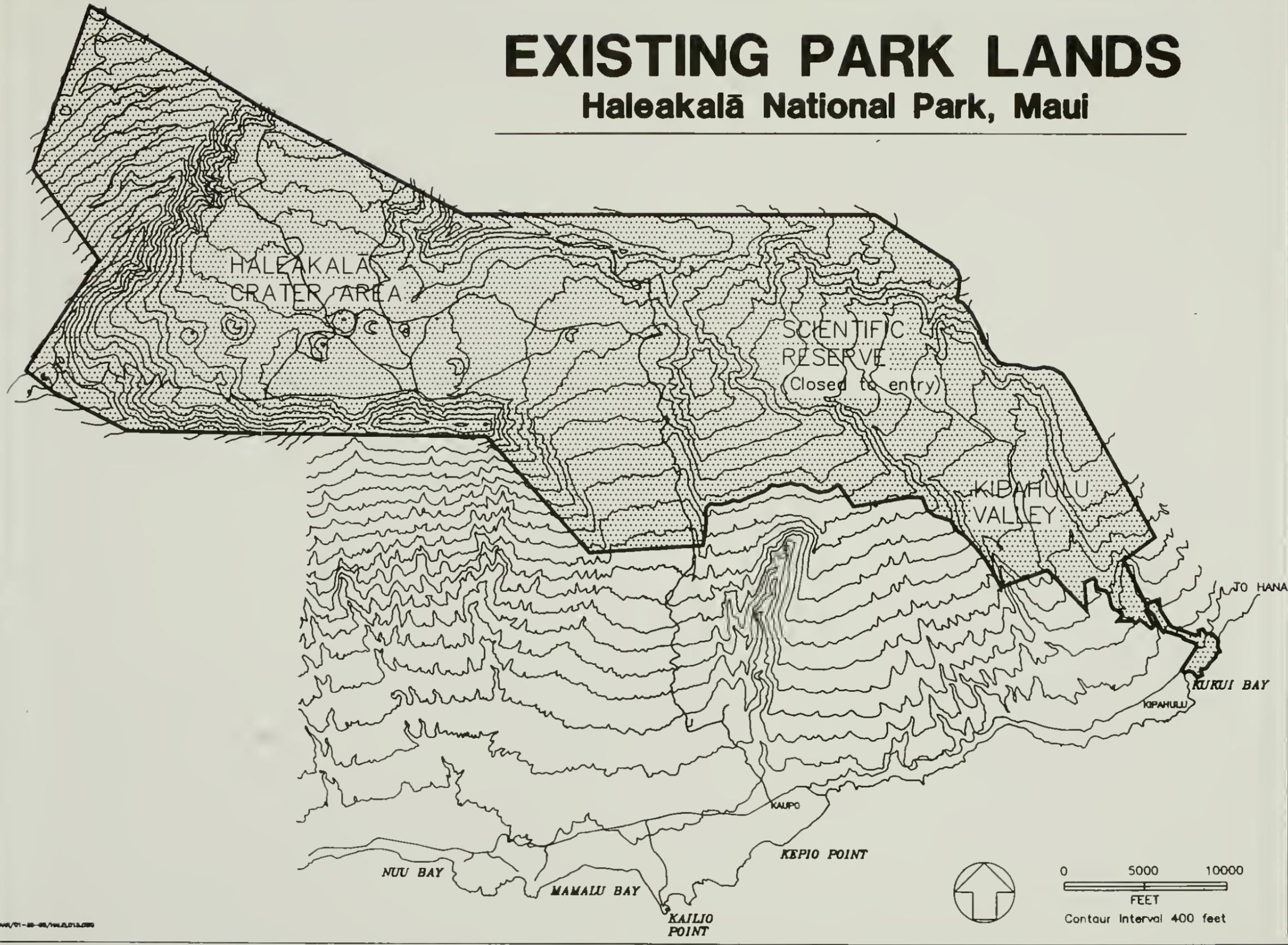


LEGEND

-  EXISTING BOUNDARY, Haleakala National Park
-  (Federal Lands)

EXISTING PARK LANDS

Haleakalā National Park, Maui



LEGEND

 EXISTING BOUNDARY, Haleakalā National Park (Federal Lands)

As an important land steward in the Kīpahulu area, help in maintaining the unique rural lifestyle for the residents of East Maui by working with residents and their representatives.

Planning History

In August 1978, based on and following a long planning process which included active and substantial public involvement, a revised draft environmental statement for Haleakalā National Park's proposed general management plan was completed. The draft statement was subsequently made available for public review.

Concurrent with general management plan development, the National Park Service also was actively involved in the acquisition of lands in the lower Kīpahulu area of the park. Earlier, The Nature Conservancy (TNC) had acquired an interest in lands at Kīpahulu for donation to the National Park Service. TNC was unable to make the donation, however, when it was learned that unknown interests had been acquired. As a result, a friendly condemnation action was proposed by the National Park Service to determine ownership.

A controversy developed centered on the National Park Service's plans to acquire lands in the Kīpahulu area by condemnation. This made the finalization of the general management plan for Haleakalā National Park impossible and it was withdrawn. A decision was made at that time to postpone finalization until the Kīpahulu land acquisition issue could be resolved. In 1987, with the approval of Haleakalā's land protection plan and following public review of that document, it became possible to renew the planning process.

In the intervening years between public review of the 1978 draft plan and environmental statement and the present, two major changes have occurred at Haleakalā National Park. The first change has been the enormous progress in the protection and preservation of the park's varied, unique, and threatened biotic resources, made possible by the controlling of feral ungulates in the park. Removal of feral goats from the crater has allowed Haleakalā's endemic, endangered silversword to make a remarkable and swift recovery. Good progress is being made in controlling feral pigs in upper Kīpahulu.

The second major change at Haleakalā over the past 15 years has been the major increases occurring in visitation. During 1979, 1980, and 1981, visitation at Haleakalā averaged about 635,000 per year. However, by 1989, a decade later, it had reached 1.4 million and since then has been averaging about 1.25 million per year. Existing visitor use facilities at Haleakalā were built when visitation was less than one-half of what it is now. These facilities are less than adequate to handle the present number of visitors. This is particularly true at Kīpahulu. Consequently, Haleakalā needs to have an approved general management plan in order to be able to upgrade and expand existing facilities and build new visitor use facilities.

A careful and detailed review by the park superintendent, division chiefs, staff, as well as the director and park planner from the Pacific Area Office, revealed that the park's purpose, management objectives, and the issues facing Haleakalā National Park have remained essentially unchanged since public review of the 1978 draft plan. However, with the substantial increases in visitation, the issue of inadequate visitor use facilities has become more pressing. The review also revealed some new issues facing the national park.

New Issues

New issues which have been raised since public review are as follows:

Aerial Tramway — The owner of the Erehwon Ranch, a 4,000-acre property abutting the national park on the west slope of Haleakalā, proposed constructing an \$18 million aerial tramway up the mountain. The tramway would terminate at the summit area within the park where a restaurant would be built. The owner requested a permanent right-of-way through Haleakalā National Park to the House of the Sun Visitor Center. The National Park Service opposes the development as it would substantially increase the threat to endangered species habitat in the summit area, increase congestion there, and visually degrade the summit setting.

Aircraft Overflights — Scenic overflights of Haleakalā National Park by helicopter and fixed wing aircraft have increased significantly. The incompatibility of low-flying commercial aircraft with high quality wilderness experiences has been a subject of increasing complaints. Public Law 100-91, signed into law by Congress in 1987 made it unlawful for fixed wing aircraft or helicopters flying under visual flight rules, to fly at an altitude below 9,500 feet above mean sea level over the surface of any of the following areas in Haleakalā National Park: Haleakalā Crater, Crater Cabins, the Scientific Research Reserve, Halemau'u Trail, Kaupō Gap, or any designated tourist viewpoint. An important provision of the law is for the National Park Service to conduct a study to determine the proper minimum altitude which should be maintained by aircraft when flying over units of the National Park System. The law requires the NPS to specifically evaluate the impacts of aircraft noise on the safety of park visitors, impairment of visitor enjoyment associated with overflights, other injurious effects of overflights on park resources, and the values associated with overflights. This study has been completed; but because this issue is being addressed at the national level, this document will not propose a resolution. Haleakalā National Park has consistently recommended that flights over the crater and Kīpahulu Valley be prohibited.

Kaupō Ranch Addition — In August 1992 the superintendent met with the president of the Kaupō Ranch Corporation to discuss the acquisition of the Kaupō Trail. Haleakalā's approved land protection plan recommends acquiring a right-of-way along the trail corridor in

order to secure permanent and safe public access across ranch lands to the coast highway. The Kaupō Trail is one of Haleakalā National Park's three primary access/exit routes. It passes through the Kaupō Gap portion of the park and traverses three miles of Kaupō Ranch property. At the meeting the ranch president indicated he and his board of directors were interested in offering to sell a large portion of the ranch property to the National Park Service. In August 1994, the ownership of the ranch and the makeup of the board of directors changed. The present directors have indicated they do not have the need nor the intention to sell large portions of the ranch, but would probably be selling smaller parcels from time to time. Because the ranch area is known to contain considerable and significant cultural, natural, and recreational resources, it should receive consideration as a major addition to Haleakalā National Park, but only on a willing-seller, willing-buyer arrangement.



Kaupō Gap is the upper part of a great stream-cut canyon that has been partly refilled with lava flows from a later period. The lower parts of these spreading flows down to the scenic coastline are being proposed as additions to Haleakalā National Park.

ALTERNATIVES INCLUDING THE PROPOSAL

As an integral part of the planning process, various alternative actions including the proposal were identified, analyzed, and given consideration, along with the many elements that now constitute the proposed plan. These alternatives are related to all aspects of the park's management and use. The following discussion deals with these alternatives as individual subjects.

The Proposal

The proposal is deemed to be what is necessary for (1) prudent protection of park resources, including the acquisition of adjacent lands that contain significant resources; (2) providing opportunities for public enjoyment, and (3) making needed improvements in visitor safety, comfort, and access.

Proposed Park Additions

The following proposed additions to Haleakalā National Park contain resources of biological, geological, archeological, historical, or recreational significance. The proposal to add lands or interest in lands to Haleakalā will satisfy the following needs: (1) protect significant scenic and natural resources within and/or adjacent to the park, (2) provide space for development of needed facilities, and (3) enhance visitor access and safety. The authority for adding the below listed lands to Haleakalā National Park was granted to the Secretary of the Interior by the Act of June 20, 1938 (52 Stat. 781). The Kīpahulu additions are also authorized by other public law or by secretarial order (see Legal Background).

Complete the Acquisition of Lower Kīpahulu Lands Previously Proposed as Park Additions. The completion of the acquisition program proposed for the lower Kīpahulu Valley by the Secretary of the Interior in 1969 would add about 385 acres to the park to better manage and protect natural resources and to provide adequate, safe, and sanitary visitor facilities. The National Park Service has a partial interest in most of these lands, acquired several years ago from The Nature Conservancy. The acquisition of a portion of those lands proposed by Section 313 of Public Law 94-578 in 1976 (90 Stat. 2732) as additions to the park would add about 180 acres to preserve open space and protect important Hawaiian cultural resources in the Kīpahulu coastal area.

Kīpahulu Addition. This would add 229 acres of land on the southwest of the lower Kīpahulu Valley. The purpose of adding these lands is to provide a logical physical park boundary and include the spectacular canyon formed by Koukou'ai Stream. This addition will

also include a small portion of forest, which constitutes part of the important transition from the coastal pasture lands to the upper Kīpahulu Valley native ecosystem.

Kaupō Ranch Addition. This major addition to Haleakalā encompasses about 6,600 acres of land owned by Kaupō Ranch. Acquisition would allow the National Park Service to connect the Kaupō Gap portion of the park with the coast highway and with segments of the pristine and scenic shoreline. The Kaupō Trail, one of Haleakalā's three primary access/exit points, would be within the national park if this area were added. The area is rich in Hawaiian archeology, containing several *heiau*. Much of the area's native vegetation has been grossly disturbed by cattle, horses, goats, and pigs. Kaupō's chief biological attribute is its remnant native dryland forest community. There are also scattered stands of sandalwood and thousands of native *wiliwili*. The area contains Nu'u Pond, the only freshwater refuge in southeast Maui. The pond provides important habitat for the Hawaiian stilt and coot, both endangered species.

West Crater Rim. Add about 613 acres along the west side of Haleakalā Crater. The purpose of this addition is to protect major geologic, scenic, and biotic resources in the area. Additionally, this area is important habitat for the endangered dark-rumped petrel.



The dark-rumped petrel, or '*ua'u*' in Hawaiian, is an endangered species. There are estimated to be about 600 pairs of this seabird in Hawaii, about 85 percent of which nest on the upper slopes of Haleakalā Crater within the national park.

Hosmer Grove and Halemau'u Trail. Add about 110 acres of forested land to include nearly all of the historically significant Hosmer Grove and a short section of the Halemau'u Trail. Both of these areas, which are heavily used by park visitors, currently lie outside of the park boundary.

As noted, the proposed additions to Haleakalā are considered to be authorized by the Act of 1938 as "lands adjacent or contiguous" to the national park and by the 1976 amendment to the Act of 1960. Boundary adjustment criteria contained in NPS Management Policies (1988) and in Special Directive 92-11 have been consulted. An approved cost estimate for the proposed Kaupō Ranch addition has not been prepared. This estimate would be prepared if the landowners agree to sell to the National Park Service.

Summary of Proposed Park Additions

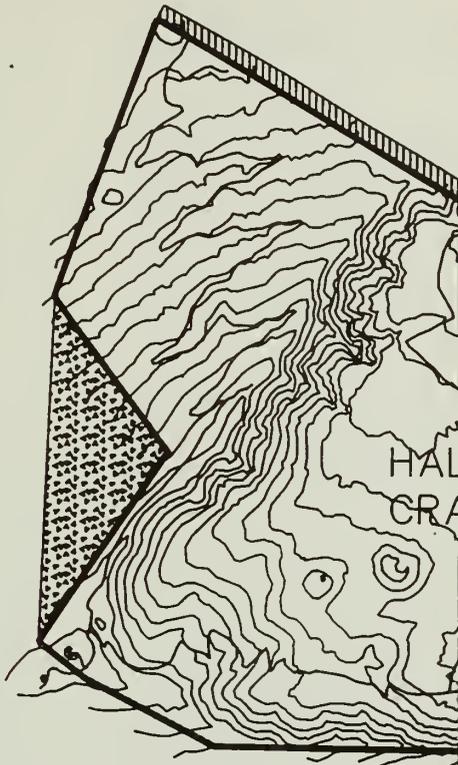
Existing Park Acreage (lands presently owned in fee)		27,087
Completion of 1969 Addition	±385	
Selected Acquisition of Lands		
Within the 1976 Addition	±180	
Kīpahulu Valley Extension	±229	
Kaupō Ranch Addition	± 6,600	
West Crater Rim Addition	±613	
Hosmer Grove/Halemau'u Trail Addition	<u>+110</u>	
Total Acreage, Proposed Additions	± 8,117	

Management Zoning

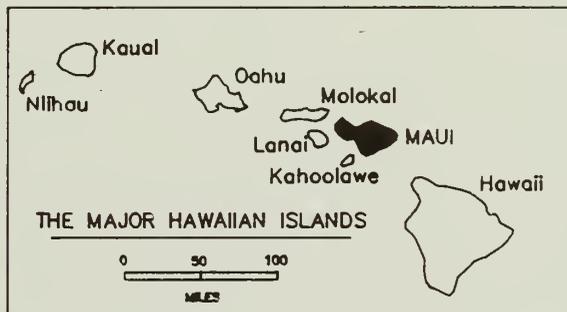
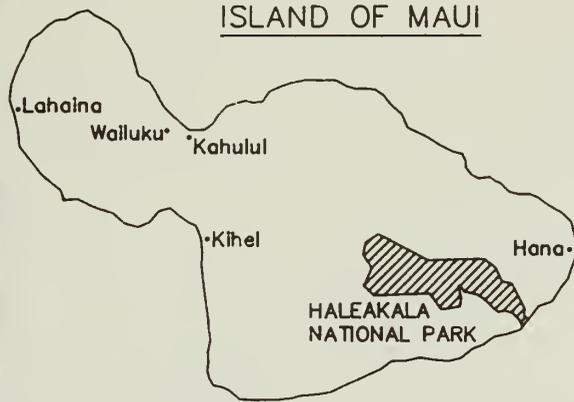
The following management zoning scheme is prescribed for Haleakalā National Park. Park zoning is based on the intent of the authorizing legislation, Wilderness designation, the nature and extent of natural and cultural resource values, and existing and proposed developments.

Natural Zone (28,150 acres). This zone takes in nearly all of the lands within Haleakalā National Park plus the proposed additions except for the Kaupō Ranch lands. The Natural Zone encompasses all of the park lands in the upper Kīpahulu Valley, nearly all of the park lands within the crater, most of the West Crater Rim lands, and park lands in the lower Kīpahulu Valley above the 800-foot contour. All of the crater and Kīpahulu lands designated Wilderness by Congress in 1976 are included in this zone, as well as those areas classified as Potential Wilderness. Due to the numerous and significant Hawaiian archeological sites it contains, Haleakalā crater was placed on the National Register of Historic Places in 1974 as the Crater Historic District. Therefore, though zoned Natural, the crater must also be managed to preserve, protect, and, in some cases, interpret the cultural sites and features found there.

The following proposed additions to Haleakalā are to be included within the Natural Zone, subject to their being acquired by the National Park Service: the entire West Crater Rim addition, nearly all of the Hosmer Grove/Halemau'u Trail addition, all of the 229-acre



ISLAND OF MAUI



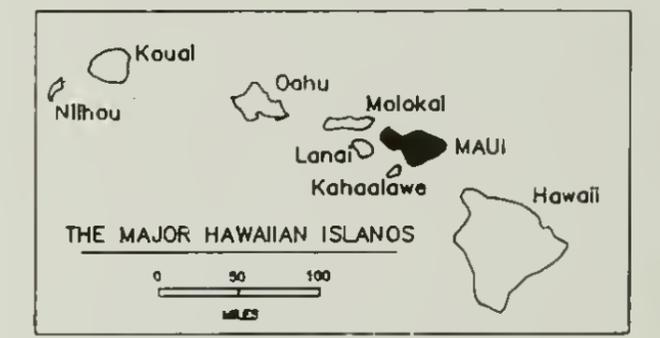
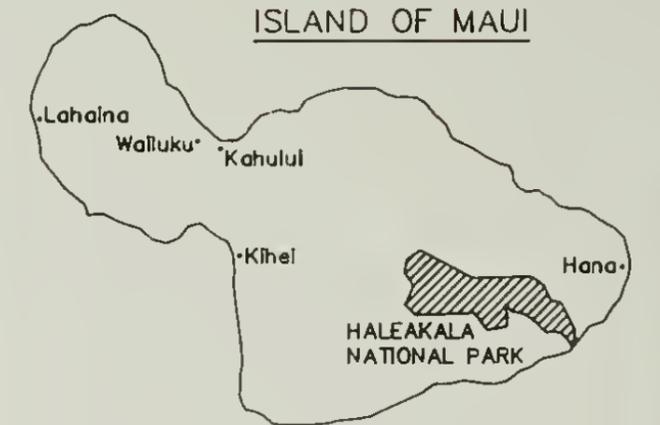
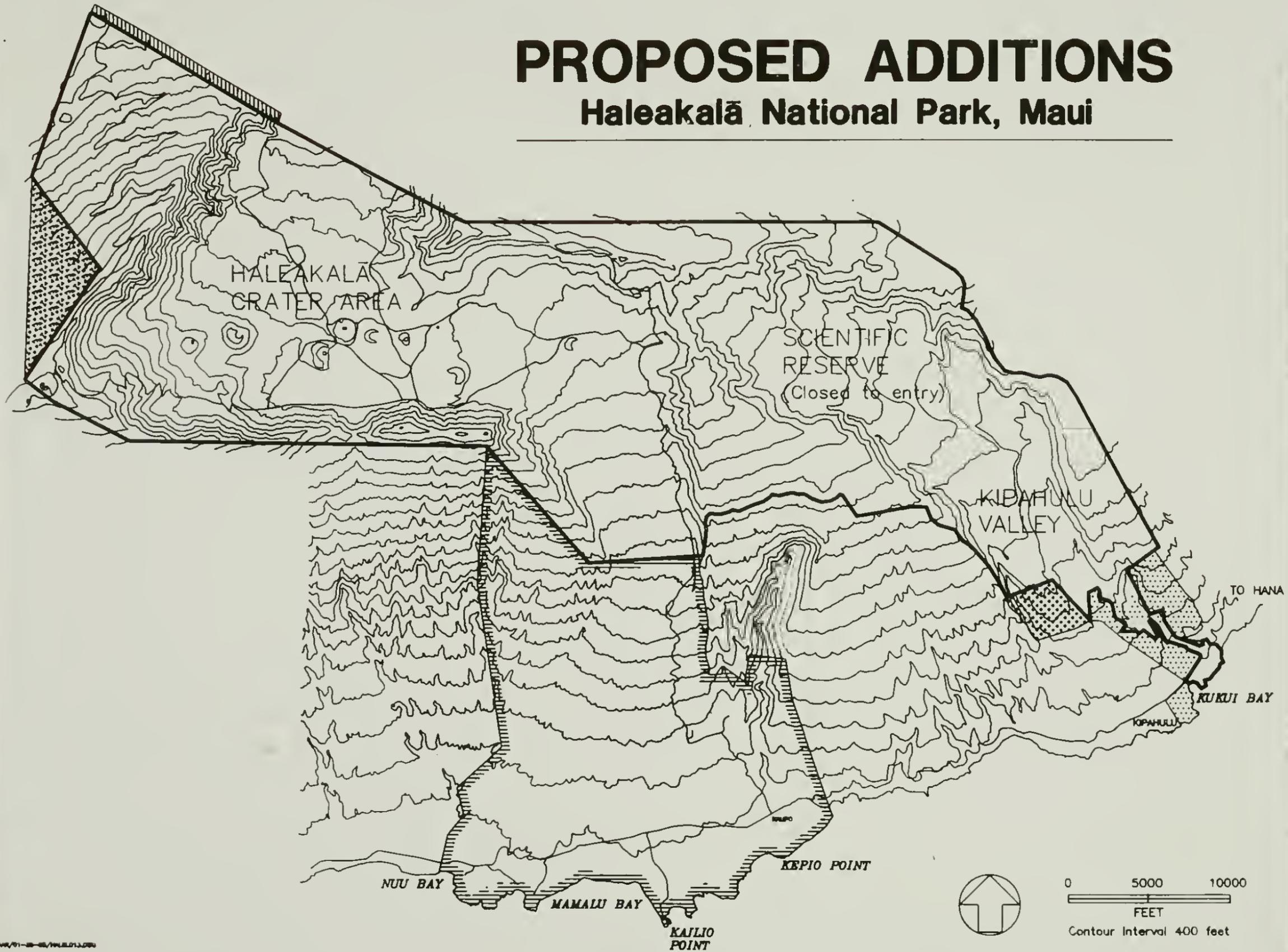
LEGEND

-  EXISTING BOUNDARY, Haleakala National Park (Federal Lands)
-  KAUPO RANCH ADDITION
-  LOWER KIPAHULU/OHE'O/OTHER LANDS
-  HOSMER GROVE/HALEMAU'U TRAIL
-  WEST CRATER RIM
-  KIPAHULU ADDITION

NOTE: THE PROPOSED KAUPO RANCH ADDITION CONSISTS ONLY OF THOSE LANDS OWNED IN FEE BY THE RANCH AND DOES NOT INCLUDE OTHER OWNERSHIPS.

PROPOSED ADDITIONS

Haleakalā National Park, Maui



- LEGEND
-  EXISTING BOUNDARY, Haleakalā National Park (Federal Lands)
 -  KAUPO RANCH ADDITION
 -  LOWER KIPAHULU/OHE'O/OTHER LANDS
 -  HOSMER GROVE/HALEMAU'U TRAIL
 -  WEST CRATER RIM
 -  KIPAHULU ADDITION

NOTE: THE PROPOSED KAUPO RANCH ADDITION CONSISTS ONLY OF THOSE LANDS OWNED IN FEE BY THE RANCH AND DOES NOT INCLUDE OTHER OWNERSHIPS.

Kīpahulu addition, and about 260 acres in the lower Kīpahulu Valley above the 800-foot contour.

Certain lands within the Natural Zone require a special management emphasis. These are the lands located in the upper Kīpahulu Valley. These particular lands have been set aside to be managed for strict protection because of the unusual fragility and uniqueness of the biotic resources found here, as well as the ecological significance. For these reasons this area is kept closed off to public entry. This entire area, encompassing about 8,000 acres, is to be placed within a Research Natural Area Subzone.

Also included within the Natural Zone are a strip of land along the Kīpahulu coast and lands within the 'Ohe'o Gulch. The former contains rare remnants of the native coastal strand community and the latter is composed of a native riparian plant community.

Cultural Zone (400 acres). This zone encompasses the Kīpahulu coastal area up into the lower Kīpahulu Valley to about the 800-foot contour and includes the proposed additions to Haleakalā in the Kīpahulu area. The entire area has been heavily modified by the activities of man, from pre-contact times down to the 1930's. Much of it is essentially a cultural landscape with multiple periods of significance. Very little of the native vegetation remains. The archeological and historical resources located thus far on these lands are of sufficient significance to make the area eligible for inclusion in the National Register of Historic Places as the Kīpahulu Historic District.

Certain lands within the Cultural Zone are once again being proposed for the growing of traditional Hawaiian crops. Called the Living Farm and encompassing about 5 acres, this area is to be a Special Use Subzone.

Development Zone (60 acres). Several different areas are included within this zone:

West Crater Rim Vicinity

Park headquarters area plus the nearby park housing area and the picnic area.

Hosmer Grove campground, picnic area, and the proposed environmental education center.

Pu'u Nianiau Area, including the maintenance base yard and research areas, the stable, resource management/research offices, lab, shop warehouse, dormitory buildings, gas pump, and parking.

Water catchment area.

Haleakalā Crater Road corridor (10 miles), plus the Kalahaku, Leleiwi, and Halemau'u overlooks and their adjacent parking areas.

House of the Sun Visitor Center, including the parking area and rest rooms.

Red Hill (Pu'u 'Ula'ula) area, including the summit overlook structure and parking.

Haleakalā Crater

The two crater cabin enclaves at Hōlua and Kapalaloa, and the two cabins at Palikū.

Kīpahulu Coastal Area

Kīpahulu Ranger Station, including parking area and rest rooms.

Base yard area, including heliport and bunkhouse.

If, in the future, the Kaupō Ranch area were to be added to Haleakalā National Park, it is likely that large portions would be managed for their natural values, while those segments known to contain cultural resources would be managed for their historic values. Other areas would likely be developed for visitor use facilities. However, management zones for the proposed Kaupō Ranch additions cannot be prescribed with any real precision at this time. If these lands were to become part of Haleakalā, research would be undertaken to learn more about the nature, extent, and condition of the resource values they contain. Based on research results, long-term management strategies would then be developed to care for these resources. At that time, the general management plan would be amended to include a prescribed management zoning scheme for these lands.

Management and Use Concepts

For purposes of further defining and clarifying management and use concepts, Haleakalā lands can be divided into five different areas, each with specific policies for management and use. They are the West Crater Rim, the Kīpahulu coastal area, Haleakalā Crater, the Kīpahulu Valley, and the Kaupō Coastal/Upland Area.

West Crater Rim. This area currently contains nearly all of the existing park development, such as roads, overlooks, campground, picnic area, trails, and park administrative facilities. Management and use is now and will continue to be oriented toward providing for appreciation of the major geological features of Haleakalā Crater. Biological and historic features also exist and will continue to be interpreted. No significant changes are proposed other than replacement, expansion, or refinement of existing facilities and interpretive programs.

Management of the resources will concentrate on control of non-native species, such as feral goats, pigs, rats, mongooses, cats, dogs, ants, yellowjackets, and alien plants to help ensure continuation of native species. It is important to recognize that measures for preservation of native species and control of non-native or alien species have not been fully identified. It is important to conduct additional research directed toward solving these problems.

Kīpahulu Coastal Area. Management of the Kīpahulu coastal area will focus on scenic values and cultural and biological resources. Continued concentrated visitor use will be allowed to continue in the area *makai* (coastal) of the road. Informal hiking and walking will be permitted in the *mauka* (upland) lands.

Public use is currently centered around the undeveloped lower falls and of Palikea Stream and is expected to continue. It is proposed to provide only limited, informal, and necessary facilities in the Kīpahulu coastal area for a maximum of about 1,300 persons per day.

Management will also concentrate on maintaining the open character of the former pasture lands and protecting and improving the environment for the few remaining rare plant and animal species. Management also will focus on the archeological and historical aspects of this area, particularly in the development of programs to interpret these resources. Management will also encourage the active participation of local Hawaiian residents in the care, interpretation, and use of cultural resources in the area. Liaison will be maintained with the State of Hawai'i to ensure that any future water collection systems do not endanger scenic values or diminish the native populations of *opae*, *hihiwai*, *o'opu*, and other elements of the stream environment.

Haleakalā Crater. This area comprises the large central core of the park and its prime resources. Resource management and use must first consider the legal requirements of Wilderness designation for the crater. Palikū, Kapalaoa, and Hōlua cabins, all located within the crater, are excluded as small non-wilderness enclaves.

Haleakalā Crater is proposed to be managed in a manner that will protect fragile cultural and natural features and provide for hiking and overnight camping at specific sites.

Upper Kīpahulu Valley. Kīpahulu Valley is a key refuge for species of Hawaiian plants and animals disappearing elsewhere. As a result, no trails or other improvements will be constructed in this area. Research projects will be authorized only by written permit from the Superintendent. There will be no visitor entry on these lands. The area can, however, be viewed and interpreted from viewpoints along the Kīpahulu coast, and from along the crater rim above Palikū. Resources management programs will concentrate on control of alien

plants and animals to protect the unique and fragile biota in the Kīpahulu Valley.

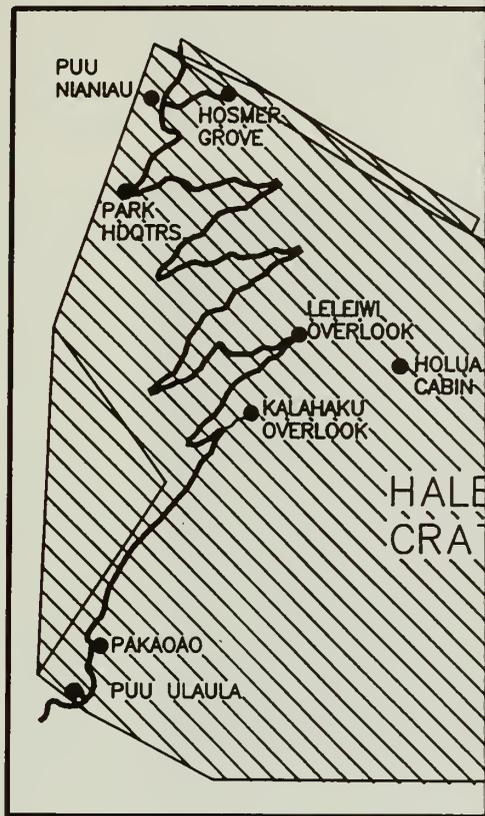


The *i'iwi* is one of Hawaii's rare native forest birds. Its inch-long curved bill allows the *i'iwi* to reach deep into flowers to obtain nectar. This one is being banded by scientists in Haleakalā's Kīpahulu Valley.

Kaupō Coastal/Upland Area. Due to its large size and the differences in the resources it contains, separate management and use concepts would need to be developed for this area should it be added to the park. Generally, it appears to be suitable for controlled public camping, hiking, shoreline recreation, and the interpretation of its cultural and natural resources. Cultural resource management would initially focus on the identification and inventorying of archeological resources. Research is needed to determine nature, condition, and extent of native flora and fauna. These needed first steps would lead to the development of management strategies for these resources. Natural resource management would include the development of long-term strategies for restoring native vegetation in certain areas, particularly along the coast. The presence of endangered native water birds at Nu'u Pond would require the development of special management strategies here.

Development Concepts

Facilities to support the management and use programs identified above will be dictated to a large degree by those programs. The location and type of facilities are shown on the General Development graphic. A summary of estimated development costs appears on page 21.



SEE INSET AT RIGHT

PUU NIANIAU
 Maintenance
 Housing
 Entrance Stn.
 Residences
 Storage
 Horse Corral
 and Stable
 Research Lab

HOSMER GROVE
 -Camping
 -Picnic Area
 -Environmental Ed. Ctr.
 -Trailhead

ARK HDQTRS.
 Administration
 Housing
 Visitor Contact
 Picnic Area
 Parking
 Restrooms

WATER COLLECTION AND STORAGE TANKS

HALEMAUUI TRAILHEAD

LELEWI OVERLOOK

HOLUA CABIN

KALAHAKU OVERLOOK

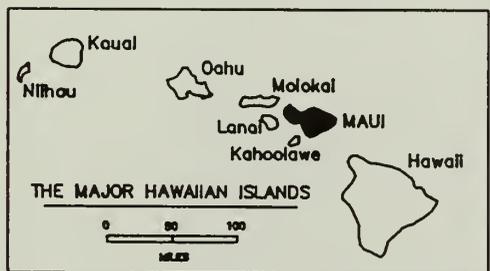
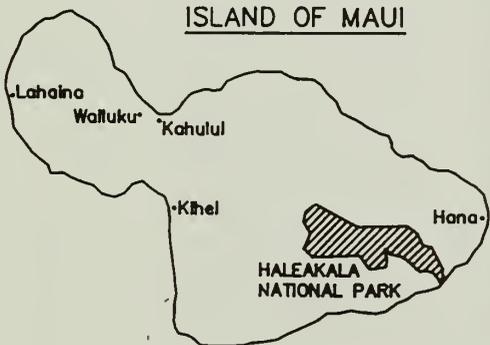
PUU ULUULA
 Overlook
 Parking

HOUSE OF THE SUN
 -Visitor Center
 -Parking
 -Trailhead

HALEAKALĀ OBSERVATORIES

SLEIGH SANDS TRAIL

ISLAND OF MAUI

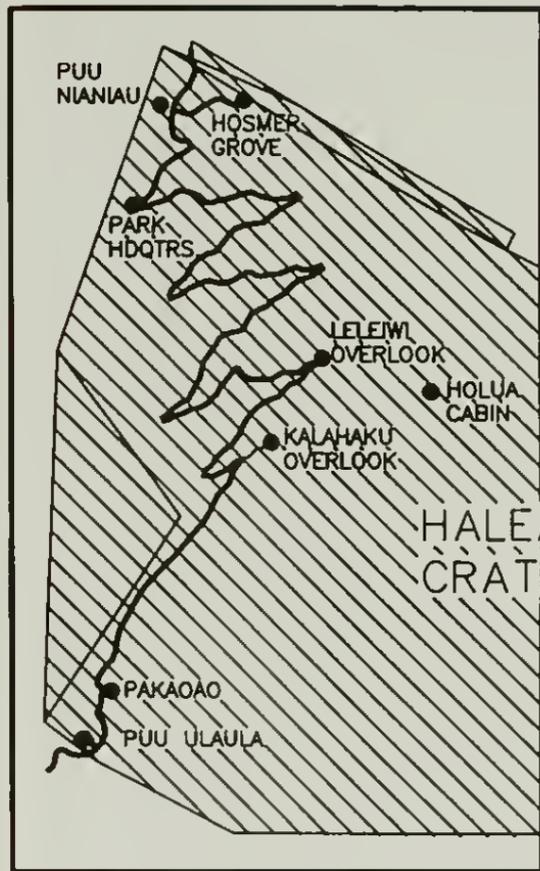


TO HANA

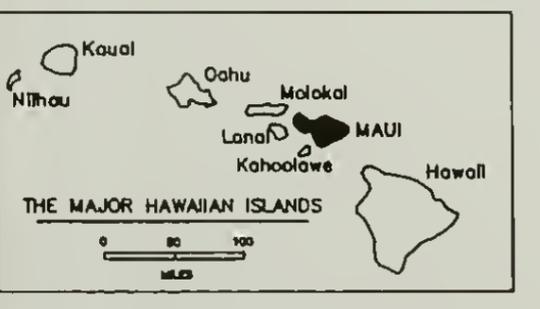
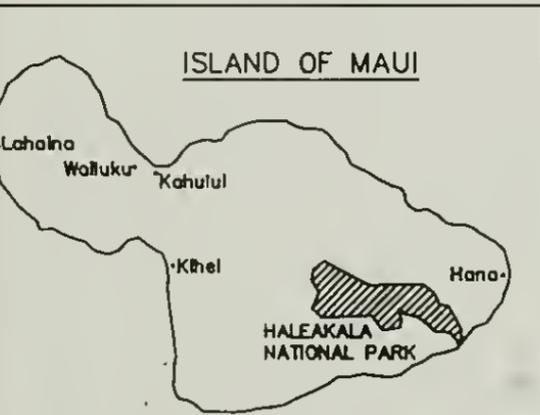
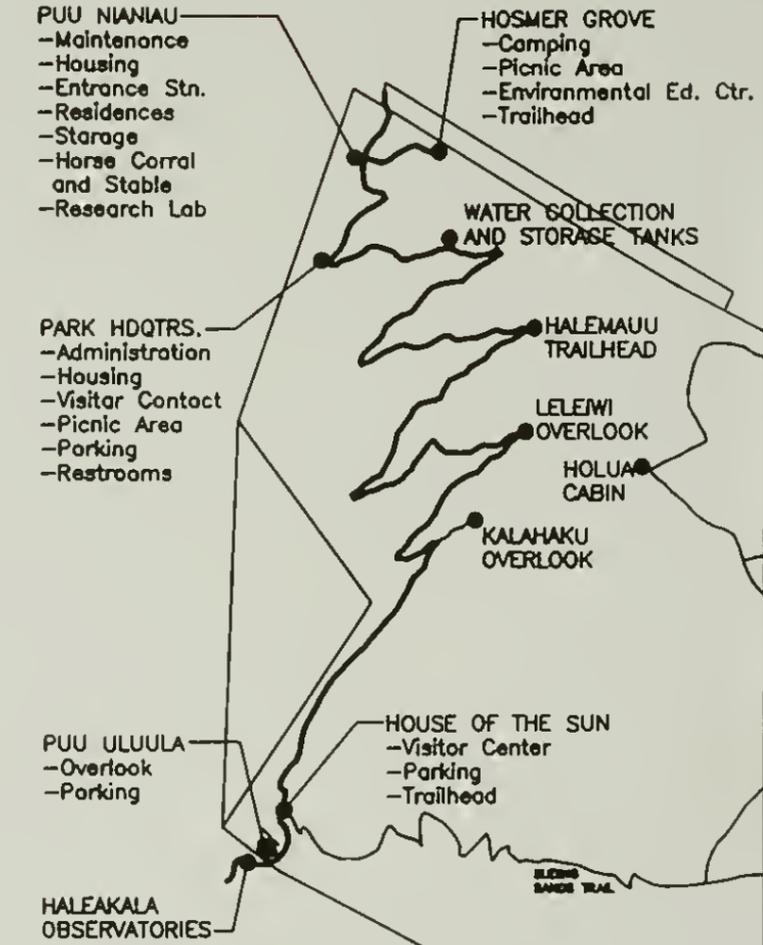


MANAGEMENT ZONING

Haleakalā National Park, Maui

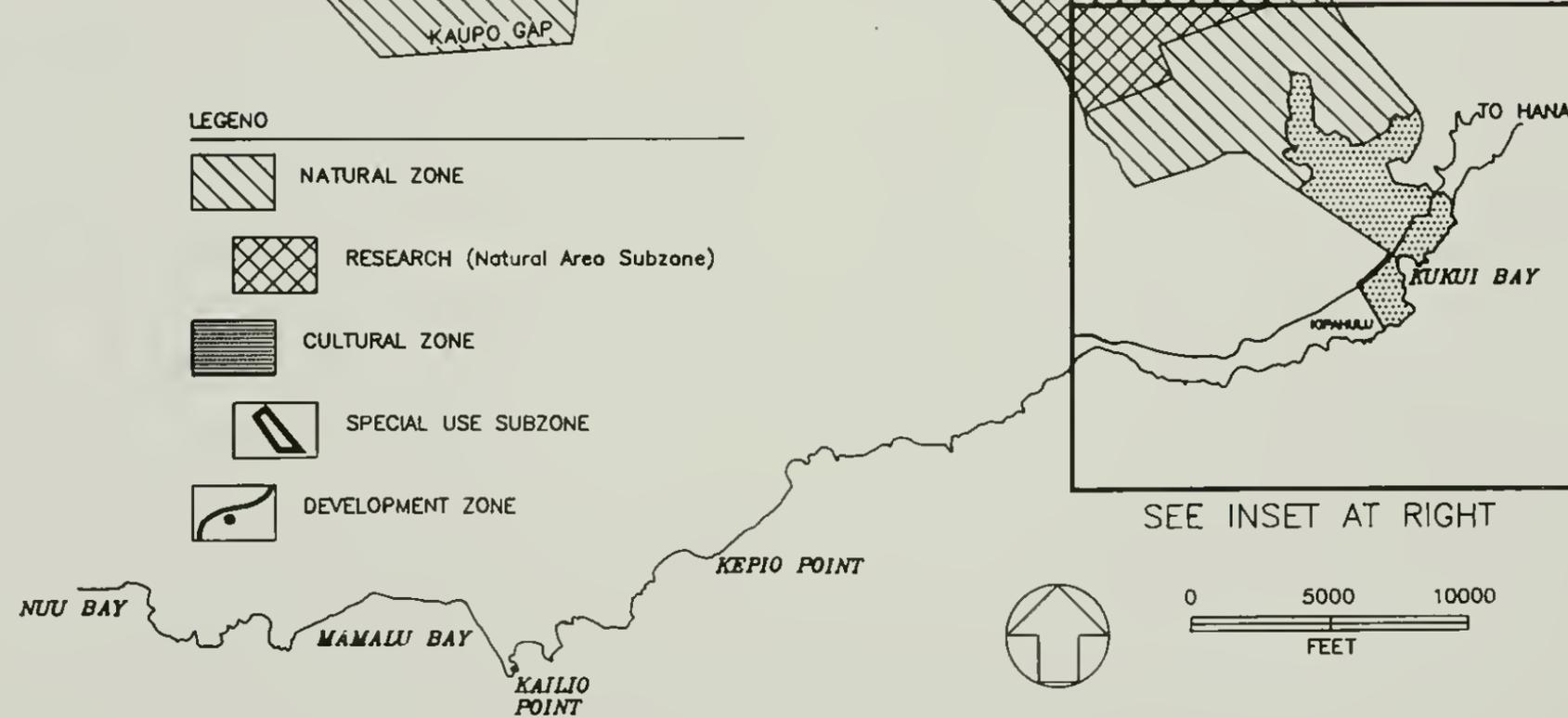


SEE INSET AT RIGHT



LEGENO

	NATURAL ZONE
	RESEARCH (Natural Area Subzone)
	CULTURAL ZONE
	SPECIAL USE SUBZONE
	DEVELOPMENT ZONE



SEE INSET AT RIGHT



As noted, there have been large increases in visitation to Haleakalā over the past 15 years. During this period, no major improvements or additions have been made to visitor use facilities. The proposed improvements and additions therefore are a critical need.



Nu'u pond, located along the Kaupō coast, is one of the few remaining wetland areas found on the island of Maui. The pond provides important habitat for two endangered native water birds, the Hawaiian stilt and the coot.

West Crater Rim. While the number of visitors to the West Crater Rim has increased considerably in recent years, the pattern of use has not changed materially nor does the proposal call for any changes in that pattern. Visitors will continue to arrive by car, limousine, or tour bus and stop at overlooks and interpretive points along the park road. The eventual destination, however, will be near the summit of the mountain. Here on the crater rim is the park's major interpretive facility, House of the Sun. This facility is now outmoded and will be expanded and modernized. Because this is the destination for most visitors, the capacity of this facility to handle visitors becomes the controlling capacity figure for the entire West Crater Rim area. Based on the sensitivity of nearby habitat for the endangered native bird, the dark-rumped petrel, and judgments on the desired quality for the individual visitor's experience, the proposed target level for visitation is about 250 persons at any one time, an average of a one-hour stay in the entire summit vicinity, and a concentration of users between sunrise and 4:00 p.m. This is based on an analysis by park staff and planners and is recognized as a preliminary capacity developed as a guide for more detailed planning and research. Future monitoring of the resource may alter capacity figures. Possible methods of implementation or control of capacities will include no expansion of parking area size and turning away visitors when all spaces are full. Methods for controlling use capacities for the remaining portions of the West Crater Rim have not been determined.

Proposed expansion of facilities at the House of the Sun will require approximately one-fourth acre of land. In addition, it is proposed to retain an overlook structure at Red Hill.

No food or beverage service will be provided. Drinking water will continue to be available.

The existing Crater Rim Road has been upgraded on its existing alignment to a minimum standard that safely accommodates both buses and automobiles. No further change in the engineering standard or alignment of this road is proposed.

No changes in camping in the Hosmer Grove area are proposed. Total development here utilizes about five acres to accommodate about 20 individuals (five group campsites and a small picnic area). Hosmer Grove will continue to be used as a minor interpretive area with a nature trail and parking for not more than ten cars.

To better serve the increasing use of the park by school groups, a low profile environmental education shelter to be located along the road to Hosmer is proposed. It is proposed that the three abandoned redwood water tanks now in the area be removed and the wood utilized for the construction of the shelter.

Improvements at the park administrative area include the expansion of public rest rooms, upgrading maintenance facilities, and the expansion of administrative offices. The water systems at headquarters and at the summit have been reconstructed. This involved upgrading collection areas and constructing new water lines and storage facilities as follows:

Headquarters Vicinity

Removal of the existing tanks, rainsheds, and all other unnecessary structures in the headquarters and Hosmer Grove vicinity. Above-ground pipes have been dismantled and removed. One 100,000-gallon concrete tank remains and will be maintained for fire control.

House of the Sun Vicinity

Continue to utilize the runoff from the parking area for flush toilets.

Continue to use the existing septic system at House of the Sun, utilizing runoff from the parking area.

Kīpahulu Coastal Area. Following extensive public participation, the National Park Service approved a development concept plan for this area in 1977. Facilities proposed in this general management plan are to remain low-key and will be limited to those necessary to

accommodate the approximately 1,000 visitors per day, but not encourage overnight use. Overnight use capacity is about 120 persons, based on judgment of park staff and recommendations in the development concept plan. Day-use capacity has been set at 1,300 persons per day. This is based on an estimated average one-hour stay in the area, maximum visitation of 300 persons at any one time during the peak period of 12:00 noon to 3:00 p.m., and a sharp decrease in use during the remainder of the day. Both the day and overnight capacities, as stated, are considered maximum; if the resource and the quality of the visitor's experience are observed to be diminishing, capacities will be adjusted accordingly. The method of implementation for control of visitor numbers must be approved by the State and Maui County since all visitors arrive via County Routes 31 and State Route 360, which encircle East Maui.

Facilities to accommodate this number of visitors will conform to the following general requirements:

Informal camping will be provided to accommodate a total of about 40 sites, some adjacent to parking and some designed as walk-in sites, mainly for night fishing use.

Rest rooms expanded and potable water provided when well water is made available.

No vehicular access *mauka* of the existing coastal road.

Day-use parking will be limited.

No food or beverage service will be provided (except for traditional Hawaiian foods and beverages offered to visitors as part of cultural demonstrations).

No overnight lodging facilities will be provided.

Foot trails totaling about three miles will be provided to the coast and to *mauka* areas for views and to features such as waterfalls and certain cultural sites.

An information structure will provide visitor orientation and interpretation.

Cultural demonstrations of Hawaiian crafts, farming, house construction will be incorporated into the interpretive program.

Kaupō Area. Because this area is presently not within the park, development concepts have not yet been formulated. In general, development in this large area would consist of informal campgrounds, parking, rest rooms, and trails (the latter would be both new

and design of these facilities would take place if this area were to be acquired.

Haleakalā Crater. Development in Haleakalā Crater will be limited to existing facilities. Facilities are designed to accommodate day-use hikers and backcountry overnight use and to meet management needs. The existing public use cabins, one each at Kapalaoa, Hōlua, and Palikū, will remain but not be expanded beyond their existing capacity of 12 persons per cabin. Primitive camping areas will continue to be located at the west and east ends of the crater in the vicinity of Hōlua and Palikū. Total overnight use capacity for the crater is presently set at 86 persons including both cabin users and campers. There is also a current limit of 25 horses or other pack animals in the crater at any one time. The overnight capacities for the crater are based on the physical capacity of the existing cabins, available water, and the judgment of park managers and planners.

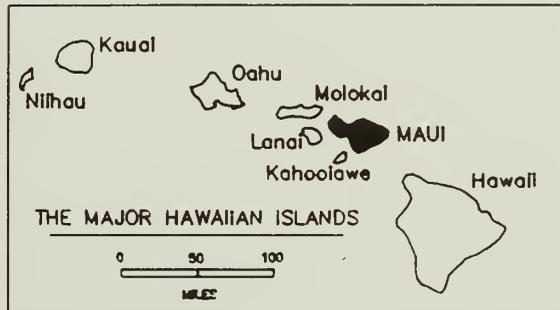
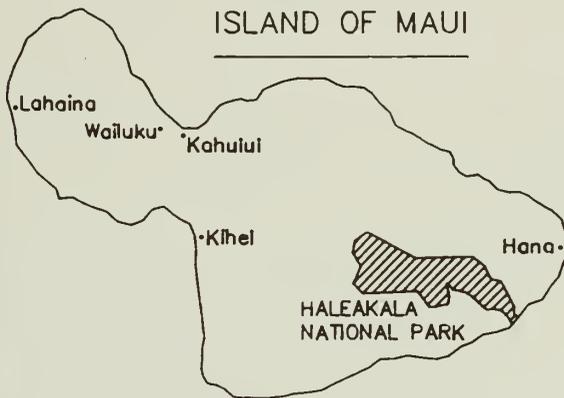
The crater trail system is proposed to remain at its current level of development except for a few minor refinements, as may be needed to control erosion or to protect sensitive natural and cultural resources.

Estimated Development Costs

	<u>Gross Construction</u>	<u>Construction Planning</u>	<u>Total Project</u>
Rehabilitate House of the Sun Rest Rooms and Visitor Center	\$2,620,000	\$500,000	\$3,120,000
Expand Park Headquarters	524,000	100,000	624,000
Construct Maintenance Storage Building, Pu'u Nianiau	229,000	45,000	274,000
Construct New Entrance Station	105,000	25,000	130,000
Construct Kīpahulu Water System, Employee Quarters, Maintenance Yard, Trails, and Foot Bridges, Administrative Facilities and Parking	3,015,000	575,000	3,590,000
Construct Environmental Education Shelter	<u>105,000</u>	<u>25,000</u>	<u>130,000</u>
Total Estimated Development Costs	\$6,598,000	\$1,270,000	\$7,868,000



ISLAND OF MAUI



LEGEND

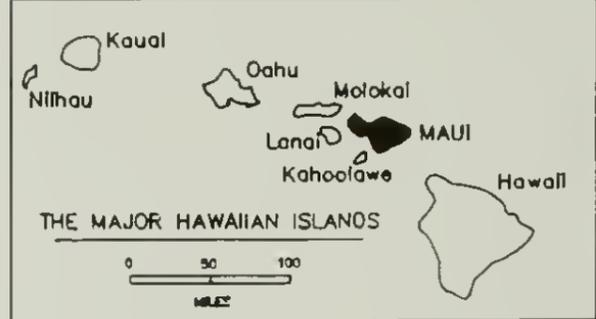
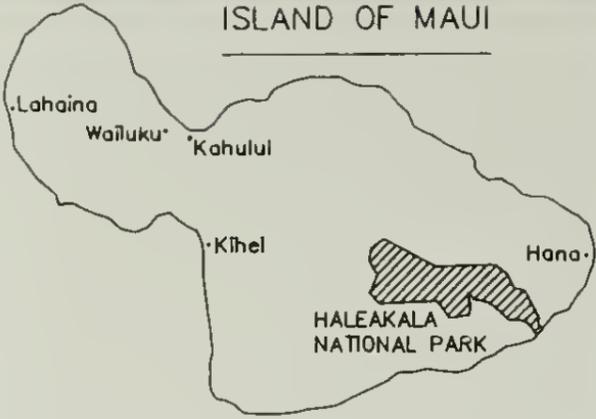
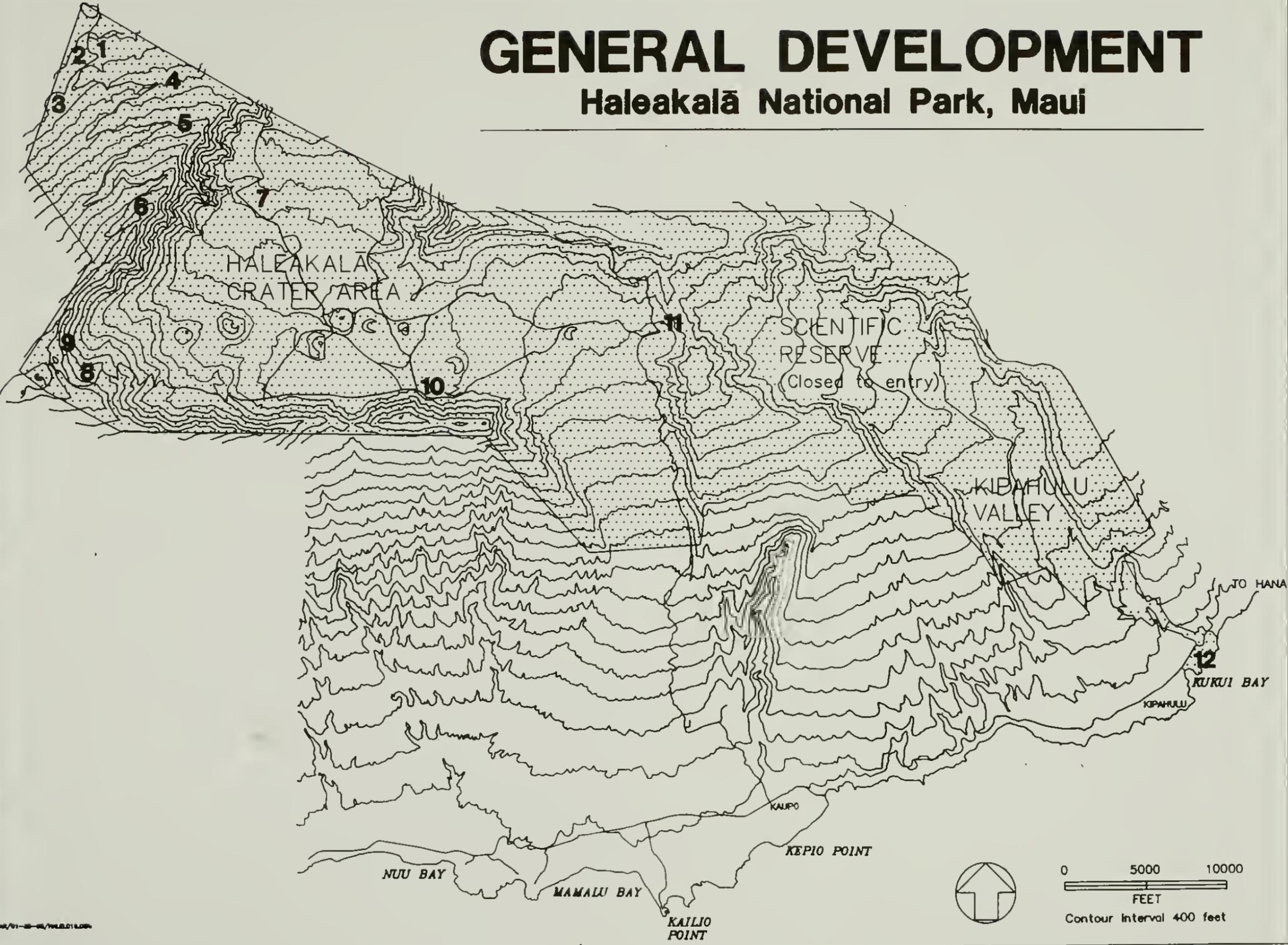


EXISTING BOUNDARY, Haleakala National Park
(Federal Lands)

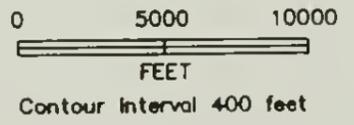
- 1** HOSMER GROVE
Camping, Picnic Area, Nature Trail, Environmental Education Center
- 2** PU'U NIANIAU
Maintenance (to be expanded), Housing (to be expanded), Entrance Station
- 3** PARK HEADQUARTERS
Administration (to be expanded), Housing, Visitor Contact, Picnic Area, Parking, Restrooms
- 4** HALEMAUU
Trailhead, Parking
- 5** LELEWI OVERLOOK
Trailhead, Parking
- 6** KALAHAKU OVERLOOK
Wayside Exhibits
- 7** HOLLIA CABIN
Cabin, Primitive Camping
- 8** PU'U ULAULA OVERLOOK
Parking
- 9** HOUSE OF THE SUN
Visitor Center (to be expanded), Trailhead, Parking
- 10** KAPALAOA
Cabin
- 11** PALIKU
Cabin, Primitive Camping, Patrol Cabin
- 12** KIPAHULU/OHE'O
Information Shelter (proposed), Campground, Administration (proposed), Residential and Maintenance (proposed), Trailhead (proposed), Parking, Self-contained restrooms (to be expanded), Ranger Station

GENERAL DEVELOPMENT

Haleakalā National Park, Maui



- LEGEND**
-  EXISTING BOUNDARY, Haleakalā National Park (Federal Lands)
 - 1** HOSMER GROVE
Camping, Picnic Area, Nature Trail, Environmental Education Center
 - 2** PU'U NIANIAU
Maintenance (to be expanded), Housing (to be expanded), Entrance Station
 - 3** PARK HEADQUARTERS
Administration (to be expanded), Housing, Visitor Contact, Picnic Area, Parking, Restrooms
 - 4** HALEMAJU
Trailhead, Parking
 - 5** LELEWI OVERLOOK
Trailhead, Parking
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Cabin, Primitive Camping, Patrol Cabin
 - 12** KIPAHULU/OHE'O
Information Shelter (proposed), Campground, Administration (proposed), Residential and Maintenance (proposed), Trailhead (proposed), Parking, Self-contained restrooms (to be expanded), Ranger Station



Budget and Staffing

Haleakalā's current annual budget is shown below:

<u>Division</u>	<u>Budget</u>	<u>Person-Years</u>
Administration	\$ 258,000	4.5
<u>Division</u>	<u>Budget</u>	<u>Person-Years</u>
Operations (visitor services, fee collection)	799,000	20.5
Maintenance (buildings, utilities, grounds, roads, trails, quarters, cyclic)	697,000	14.0
Resource Management	739,000	6.0
Total	\$2,493,000	45.0

In order to implement the proposal, the following estimated additional funds and staffing would be needed:

<u>Division</u>	<u>Budget</u>	<u>Person-Years</u>
Administration	\$ 92,000	1.5
Operations (visitor services, fee collection)	201,000	4.5
Maintenance (buildings, utilities, grounds, roads, trails, quarters, cyclic)	303,000	6.0
Resource Management	461,000	9.0
Total	\$1,057,000	21.0

Research Programs

Research at Haleakalā focuses on the planning, coordinating, and executing of programs and studies necessary to provide scientific data upon which to base the park's resource management strategies. Haleakalā's scientific research priorities deal primarily with the following facets:

Developing strategies for preventing the arrival and establishment of new alien species on Maui which potentially threaten Haleakalā National Park.

Developing a design for a long-term network to monitor the status of Haleakalā's biological resources and the threats to them.

Developing strategies for protecting threatened, endangered, and sensitive plant communities of the park and its immediate environs.

Working toward documentation of the unique climatic parameters necessary for the healthy functioning of Haleakalā's ecosystem and towards participation in the Global Climate Change Research Program.

Proposed research for Haleakalā is designed to refine existing data on all park resources and to obtain new data that will assist in park management and interpretation. Major emphasis will continue to be on the unique plants and animals that make up the park's ecosystems, and the impact and control of alien species. There appears to be inadequate baseline information on the park's cultural resources. Additional research is required on historical, archeological, and ethnographical resources, particularly when new park facilities are being planned.

General research topics include the following:

Determination of effects of particular alien plant and animal species on native ecosystems.

Development and testing of methods to control certain alien species.

Monitoring recovery of native ecosystems after removal of alien influences.

Monitoring the status of populations of selected native species to keep track of the general "health" of the biota.

Detection of new alien species and new threats to park resources.

Continual refinement of inventory information on the park's native plants and animals.

Archeological studies of the entire park to determine what features, if any, need preservation or stabilization treatment and what sites or features need interpretation.

A cultural landscape inventory and evaluation, including history and ethnographic studies, for the entire park.

No Action Alternative

This alternative calls for no significant changes in the existing operation and management of Haleakalā National Park. It is essentially a continuation of the status quo. Current operations are to continue and visitor services would continue to be provided at the same level with no specific proposed action to manage or control increasing visitation. Under this alternative, there is to be no additional infrastructure development proposed for the park to improve visitor services. The land within Haleakalā would continue to be protected from any physical development that could disturb or destroy native Hawaiian ecosystems, but there would be no new management programs designed to cope with the problems inherent in visitation and use.



Haleakalā's famous silversword plant, called *'āhainahina* in Hawaiian, has been making a remarkable comeback in the crater now that feral goats have been fenced out. However, recovery of this threatened species remains uncertain because of the potential impact of alien Argentine ants and yellowjacket wasps which eat native pollinating insects.

Under this alternative, there would be no additional staffing.

The park would continue to push for the additional lands recommended in Haleakalā's land protection plan. The no-action alternative, however, would not include the Kaupō Ranch proposed addition.

Under this alternative, management and use concepts for the West Crater Rim, the Kīpahulu coastal area, the crater, and the Kīpahulu Valley would be the same as those described in the proposal.

The development concepts described in the proposal would not take place under this alternative. There would be no expansion or modernization of the House of the Sun interpretive facility on the

crater rim. Also, under this alternative, there would be no construction of additional living quarters for park staff, nor would the improvements proposed for the park's administrative area take place. For the Kīpahulu coastal area and the crater, no major development would be proposed for rehabilitation or construction.

General park use patterns would continue, with road access to the West Crater Rim and summit area and to the lower Kīpahulu area. Haleakalā Crater trail use would continue. Those crater hikers bound for the village of Kaupō from Kaupō Gap would cross private grazing land to reach Route 31. Alien and feral animal programs would be continued. Except for the Hosmer Grove and Kīpahulu campgrounds, backcountry camping and cabin use in the crater, the park would remain primarily a day-use park.

Even under the no-action alternative, changes will occur in the environment of East Maui. They involve some changes in land use, gradual continuing changes in the biotic communities, and changes in the lifestyle of local residents. Specific known trends are as follows:

Independent of proposals to refine and improve facilities at Kīpahulu or the existence of the low-standard road from Kahului to Hāna and Kīpahulu, East Maui and its relaxed lifestyle will continue to attract increasing numbers of off-island tourists.

No major change is expected, such as large resort complexes or new extensive State recreation facilities. There will, however, continue to be small increases in construction of residences in some sections of the coastal area between Hāna and Kīpahulu. Uses such as grazing and agriculture are expected to remain the same or increase slightly. This change will reflect itself in a minor trend toward urbanization and a diminishing of the heretofore rural atmosphere, probably one of the last remnants in the State of traditional "old Hawai'i," with its considerable dependence on local resources for food and social life.

For many years, alien plants have been moving gradually from more heavily developed coastal areas toward pristine areas in the dry forests and rain forests in the undeveloped higher elevations. Recent research has shown that the presence of feral pigs in the Kīpahulu area has accelerated the encroachment of these alien plants.

Minimum Requirements Alternative

This alternative is identical to the proposal, except that it does not call for the acquisition of the Kaupō Ranch lands. The park would, however, continue to push for the acquisition of Kaupō Ranch land sufficient for the development of a trail corridor, a trailhead, and limited parking, as called for in the land protection plan.

Estimated development costs connected with this alternative would total \$7.9 million — that is, the same as the proposal.

In order to implement the minimum requirements alternative, the following estimated additional funds and staffing would be needed:

<u>Division</u>	<u>Budget</u>	<u>Person-Years</u>
Administration	\$ 42,000	.5
Operations (visitor services, fee collection)	100,000	1.5
Maintenance (buildings, utilities, grounds, roads, trails, quarters, cyclic)	103,000	4.0
Resource Management	<u>161,000</u>	<u>4.0</u>
Total	\$406,000	10.0

AFFECTED ENVIRONMENT

Regional Setting

The Hawaiian archipelago consists of 124 islands, islets, and atolls extending in a chain nearly 2,000 miles across the north-central Pacific Ocean. The islands are the emerged peaks of a tremendous volcanic mountain range rising from the deep ocean floor. Volcanism is still active and appears to be continuing the development of the archipelago by the northwestern movement of the Pacific Plate over a hot spot in the earth's mantle. Situated within the subtropics, these islands have a pleasant climate, moderated by the surrounding ocean and cooled by the prevailing northeasterly trade winds.

Lying at the southeast end of the chain are eight large islands comprising approximately 99.9 percent of the land surface of the archipelago. These are popularly referred to as the Hawaiian Islands. They are mostly mountainous and exhibit a remarkable variety of climates, landscapes, and ecosystems. Easterly slopes, especially those on islands with high land masses, collect clouds and rain from trade winds; west slopes often lie within comparatively dry zones. There is a transition in temperature and plant cover from the balmy seacoast to the higher peaks, some of which may be snow-covered in winter. Vegetation, like weather, changes abruptly from the verdant rain-soaked eastern exposures to the drier and sometimes desert-like west slopes.

Each island is different and distinctive. Maui, containing 728 square miles, is the second largest and second highest of the Hawaiian Islands. Maui fits well with Hawai'i's image as an island paradise. Its balmy climate, lush tropical vegetation, sandy beaches, scenic wave-lashed cliffs, and friendly cosmopolitan people make the island an ideal resort area.

Two dome-shaped volcanic masses, connected by a low sandy isthmus, form the island of Maui. The West Maui mountains have been deeply eroded into a series of spectacular gorges and valleys, which tend to converge on the 5,788-foot cloud covered summit at Pu'u Kukui. East Maui is composed of the tremendous mass of Haleakalā Volcano, which rises to just over 10,000 feet. Haleakalā National Park occupies the summit depression of Haleakalā Volcano and extends to the southeast along the enclosing ridges of rain-soaked Kīpahulu Valley to the coast at Kīpahulu.

Most of Maui's population, industry, agriculture, and tourist accommodations are in the isthmus "valley", along the coast and foothills on the dry side of West Maui, and on the Kīhei/Wailea coast. The upper mountains are largely undeveloped and difficult to reach, except for the summit of Haleakalā Volcano, which is within Haleakalā National Park. The park is commonly visited by island

residents — especially during winter snow periods — and most tourists year round.

Haleakalā's rugged features and primitive condition complement the extensive recreation and resort developments along Maui's western coast.

Access. Air transportation is essentially the only means of access to the State of Hawai'i, although a few visitors (less than one percent) still arrive by cruise ship. Jetliners arriving from the mainland U. S., Japan, Canada, Australia, and New Zealand make Honolulu one of the world's busiest airports and Maui-bound visitors fly from Honolulu, the Big Island, or the Mainland to Kahului on one of about 50 flights each day. Schedules are sufficiently frequent and airliner capacities large enough that few visitors experience any delay in reaching Maui. Air taxis and secondary scheduled airlines provide transportation between Honolulu and the outer islands, including Maui, landing at Kahului and Hāna.

State and County roads connect airports with Maui's major attractions, including Haleakalā National Park. Access to the West Crater area requires driving up a winding road from Kula to the crater rim. Highways connect Kahului, Wailuku, Lahaina, and Kā'anapali. Beyond Kā'anapali, an unpaved road completes the loop around West Maui back to Wailuku. A short section of this road in the vicinity of Kahakuloa remains unpaved. Paved roads east of Kahului traverse an exceptionally scenic and rugged coast, requiring about a two-hour drive to Hāna and an additional half hour to Kīpahulu. A road continues on around the south coast, completing the East Maui loop; this route has been improved, but a portion remains unpaved. The rugged mountain areas of the island are largely inaccessible to visitors except for the developed western summit of Haleakalā Volcano. Large areas lack roads or trails and are even difficult to traverse on foot.

Visitors to Maui obtain transportation over roads through the services of a score of rental car agencies and about a dozen tour companies. Recreation vehicles with cooling and sleeping equipment may also be rented. The car rental and tour business appears to be keeping pace with expanding tourism.

Tourist travel to the State of Hawai'i has increased from 168,829 visitors in 1957 to 1,035,000 in 1968. By 1975, it had increased to 2,827,700 visitors and by 1980 to about 3,934,500. In 1985, 4,884,100 visitors came to Hawai'i. Visitation to Hawai'i has decreased somewhat over the past few years, staying at a little more than 4 million per year. Maui is one of the primary tourist destinations of the State, with visitation increasing from 61,000 in 1962 to over 313,400 in 1968, 929,600 in 1975, and about 1,350,000 in 1980. By 1985 visitation to Maui was about 1.8 million and by 1986 it had reached the two million mark. More recently, there has been a

decrease in visitation to Maui, mirroring the decrease in visitation state-wide.

A significant number of tourists from Asia, mostly Japan, visit the islands.

Up until very recently, visitation to Haleakalā National Park had generally followed the visitation pattern to Maui. In 1968 it was 132,000; by 1975 it had increased to 533,570. In 1980, 577,059 visitors came to the park. By 1981, with the completion of upgrading of the summit road, visitation had increased to 644,661. Since that time visitation to the park has increased at a greater rate than visitation to Maui. By 1984, it had exceeded one million and by 1989 the total visitation to the park was nearly 1.4 million. Then, from 1990 to 1992, visitation to Haleakalā decreased slightly. Over the past two years, visitation to Haleakalā is, once again, increasing. In 1993 it was about 1.35 million and in 1994 it was more than 1.55 million.

Population.

POPULATION

STATE OF HAWAII AND ISLAND OF MAUI

Year	State	Island of Maui
1910	191,909	28,623
1920	255,912	36,080
1930	368,330	48,756
1940	423,330	46,920
1950	499,794	40,103
1960	632,772	35,717
1970	769,913	38,691
1980	965,000	62,800
1990	1,108,229	95,000

Maui's population is increasing rapidly after several decades of decline when mechanization of agriculture forced residents to move elsewhere in search of jobs. Recent population increases are believed to indicate a long-range trend associated with expanding tourism and Maui's growing popularity for retirement living. Most people live in the isthmus valley between East and West Maui. The valley and adjacent slopes contain Wailuku, Kahului, Makawao, Pukalani, Kula, and several smaller towns. The west coast in the Lahaina/Kā'anapali/Kapalua area and the southwest coast in the Mā'alaea/Kīhei/Wailea area are rapidly developing resorts and

condominiums and will probably experience the major portion of Maui's population increase for the next few years.

It is estimated that more than three quarters of the park's visitation is from off-island sources, with local use predominantly on weekends and holidays. Although local populations will continue to exert a certain influence on the park and its resources, it is expected that the greater percentage of park visitors will continue to come from off-island.

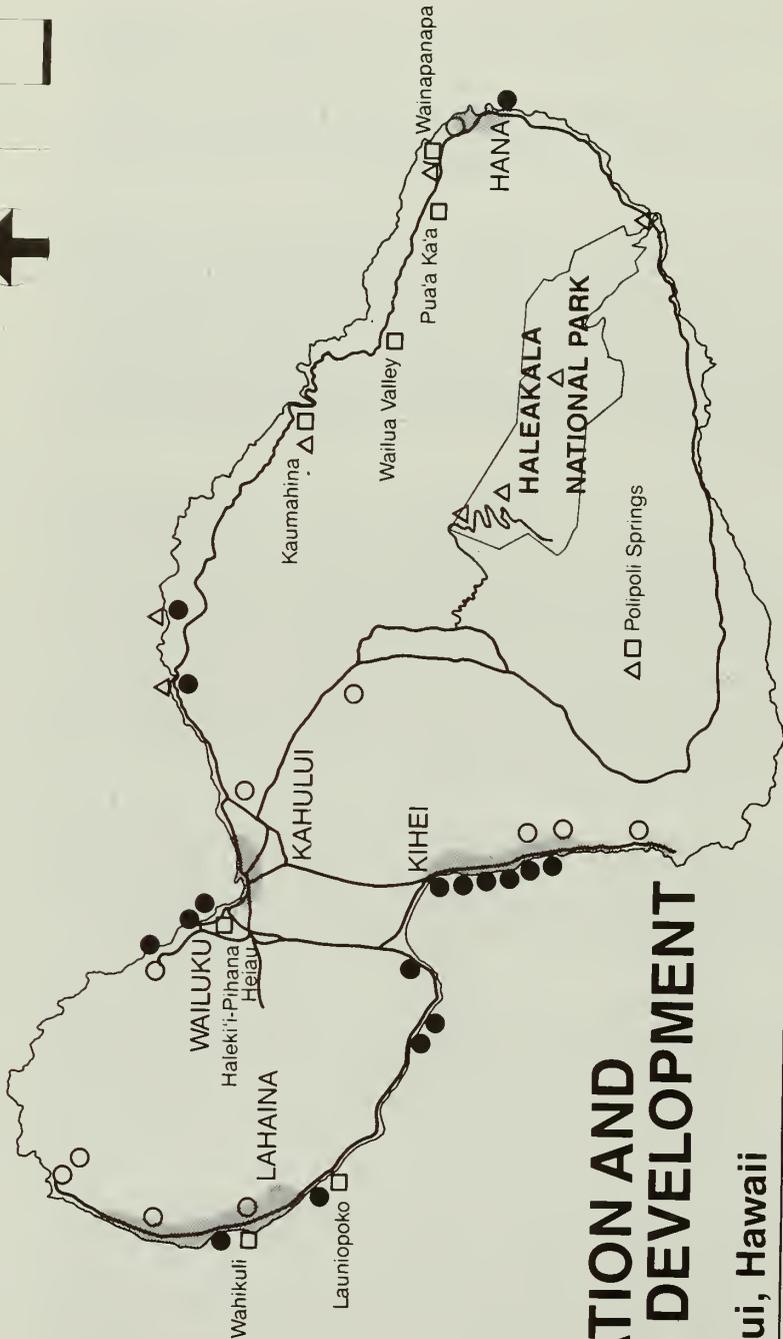
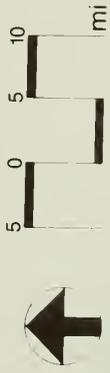
Park and Recreational Facilities. Maui's natural resource potential for outdoor recreation is outstanding; and facilities are rapidly being developed by private enterprise. About 20 percent of the 149-mile shoreline is sandy beach. Activities include skin diving, windsurfing, swimming, deep-sea fishing, boating, hunting, horseback riding, camping, hiking, golf, tennis, photography, sightseeing, and visiting historic sites.

The island is rich in historic features of the Hawaiian culture and the missionary and whaling eras. The historical district of Lahaina has been restored by public and private commissions and foundations to the era when Lahaina was the whaling capitol of the Pacific and a major seat of Hawaiian royalty for many years before that. There are three national historic landmarks on Maui; the district of Lahaina, Lo'alo'a Heiau, and Pi'ilanihale Heiau. The latter, near Hāna, is the largest known *heiau* in the Hawaiian Islands. There are also many sites on the National Register of Historic Places.

There are about a dozen State parks, monuments, recreation areas and waysides, and more than 20 County parks. Most of these parks are along the main belt highway around the perimeter of the island and on the more densely populated isthmus comprising the central valley.

Land Character and Use. Topography and weather are dominant influences in the use and development of Maui. The rugged volcanic masses of East and West Maui intercept moisture-laden northeast trade winds; almost daily, clouds develop and produce rain on the easterly slopes. The 5,788-foot summit of Pu'ukukui, the West Maui mountain, receives more than 400 inches of rainfall a year. The higher summit of Haleakalā on East Maui is above the trade wind inversion, but the lower north and east slopes are drenched. Cloudiness and rainfall are much diminished on the leeward slopes. The vegetation follows the contrast in rainfall so that there is nearly impenetrable jungle on the windward side of the mountains and arid land types on the leeward side. Between the extremes are transitional zones.

Lahaina, Kā'anapali, and Kapalua on West Maui's dry and sheltered leecoast, have become the island's principal resort areas with major hotel complexes providing a variety of recreation opportunities



RECREATION AND RESORT DEVELOPMENT

Island of Maui, Hawaii

- State Park/Recreation Area
- County Park
- Golf Course
- ▭ Resort Area
- △ Campground

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oriented mainly to off-island visitors. There are a few hotel units in the Kahului area. This older developed area is the island's commercial and trade center with relatively limited recreation potential, resulting in part from the wetter climate and more exposed coast. More recently, construction of tourist accommodations has occurred extensively in the Kīhei coastal area between Mā'alaea Bay and La Perouse Bay. Nearly all of these are within one to two and one-half hour's drive from the West Crater Rim of Haleakalā.

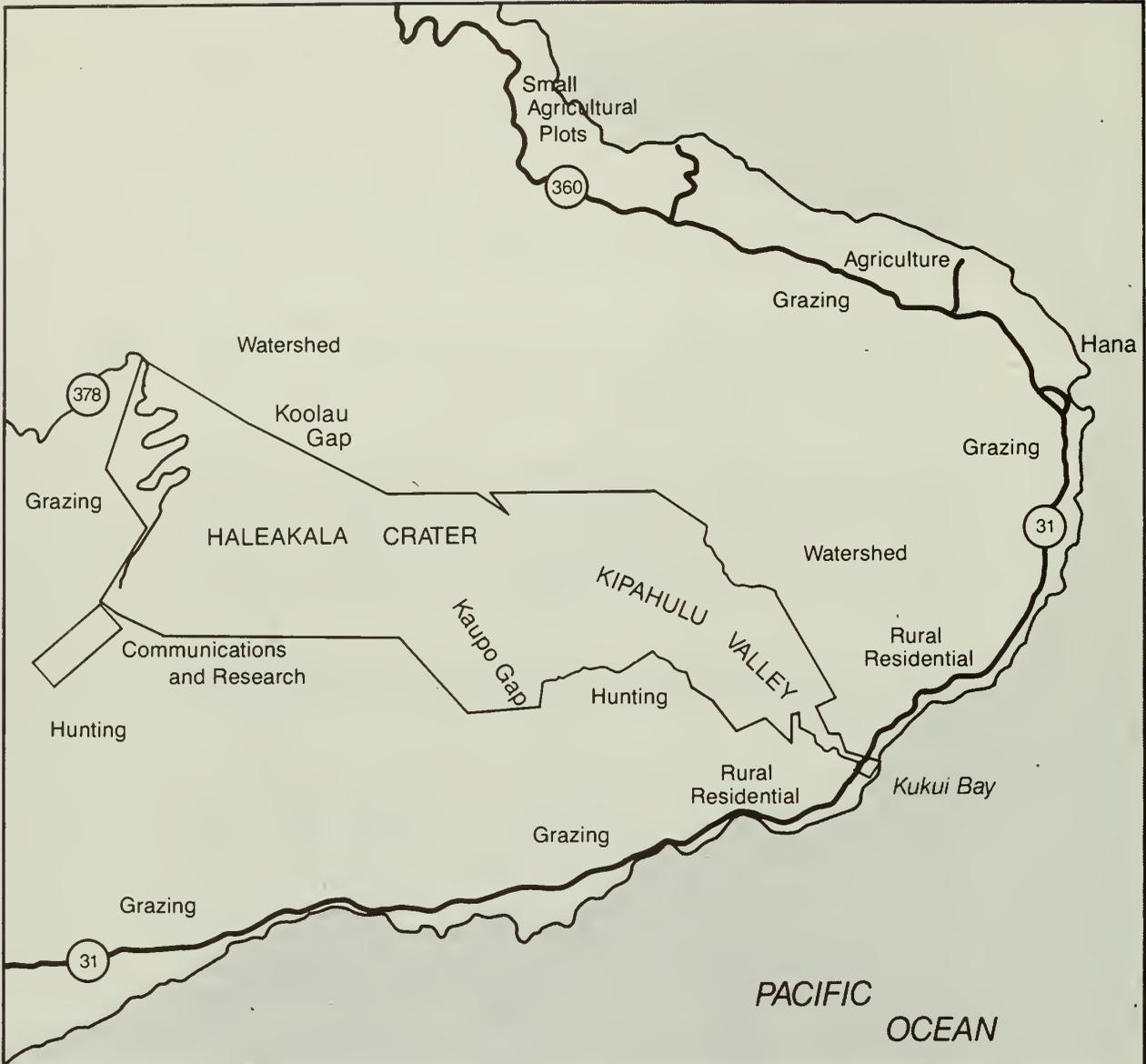
The exception is the small town of Hāna on East Maui. This is a quiet Hawaiian village within a 30-minute drive of Kīpahulu. There are five lodging facilities totaling approximately 100 units. The atmosphere here is subdued and relaxed.

Lands immediately surrounding Haleakalā National Park are mainly in open space, lightly used, and mostly State-owned forest reserves. Ranches border much of Haleakalā National Park's western boundary. These are large holdings over which cattle graze. Physical development — roads, buildings, and water catchment projects — is minimal.

Except for the coastal strip at Kīpahulu, other lands abutting the park are mostly rain forest. Dominant use is watershed conservation; public use is restricted.

The majority of the land along the south boundary is adjoined by the Kahikinui State Forest Reserve and the Kīpahulu State Forest Reserve. This is a rugged, roadless area whose terrain and semi-arid climate preclude use, except for hunting and hiking. The two exceptions to this undeveloped condition are the land adjacent to the southwest corner of the park at the summit of Haleakalā Volcano and land at the northern tip of the park at Pu'u Nianiau. At the summit area several installations exist extending over about 180 acres of land. Astronomical studies, missile tracking, satellite and other communications comprise the work of these installations. The area is called Haleakalā Observatories, where domes and other structures are visible from several points along the west rim of Haleakalā Crater and from many points outside the park. At Pu'u Nianiau, several cable television and radio antennas have been installed.

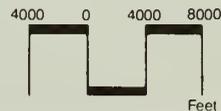
Portions of the park's north and northeast side border the Hāna Forest and Water Reserve and the Hānawī Natural Area Reserve. This is a rugged land of ridges, mountainous spurs and jungle-clad valleys. The State of Hawai'i has established the area as a watershed district, and public use of the land is very limited except for some pig hunting in lower areas. The Nature Conservancy via conservation easement from Haleakalā Ranch acquired a large parcel of land adjacent to the park's northern boundary. Called the Waikamoi Preserve, it is managed by the Conservancy to protect native biota. In 1993 Haleakalā National Park signed a cooperative agreement with major



SURROUNDING LAND USE

Haleakala National Park, Maui

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landowners/managers on the north side to cooperate in the protection of this area's water supply and native ecosystem. Lands belonging to the East Maui Irrigation Company are included in the agreement.

Both experimental forest planting and water development have been continuing for many years along the lower fringes of the State forest between Haiku and Ke'anae. Water collection systems exist on the lands above Hāna and along the coastal road on the north side of Haleakalā from Hāna to Kahului. There has also been some interest in developing water in the Nāhiku area, which lies between Hāna and Ke'anae. There are currently no substantial water collection systems in the Kīpahulu vicinity. However, a well has been drilled in the Kīpahulu coastal area. The well has the potential to be a very good water source but is currently undeveloped.

There is some feral goat hunting on the more open lands around the park, particularly along the south side in the area of the relatively accessible Kaupō Gap and near Ko'olau Gap on the north. Feral pigs are hunted in the wetter areas on the northwest and north sides of the park and in the lower Kīpahulu area. Hunters gain access to the upper Ko'olau Gap by way of the park's Halemau'u Trail.

Haleakalā National Park

Haleakalā Crater is a product of awesome volcanic eruptions and massive erosion, which have created a raw landscape. When viewed through breaks in the clouds, it is reminiscent of the primordial earth. Streaks of red, yellow, gray, and black trace the courses of ancient lava flows. Volcanic rocks of endless variety slowly weather and erode as natural forces reduce them to minute particles destined to be swept away by swiftly flowing, intermittent streams.

Several valleys that radiate from Haleakalā possess unusual geologic, biotic, and scenic qualities. The major ones are Kīpahulu, Kaupō, Manawainui, Waiho'i, and Ke'anae. Except for Manawainui and Ke'anae, these valleys lie on the wet sides of Haleakalā Crater. Kīpahulu and the upper ends of Kaupō and Ke'anae are within the park.

Climate. East Maui lies within the northeasterly trade wind belt. The winds normally blow at velocities from 5 to 15 miles per hour or more, with an annual frequency of 70 percent. The trade winds are most persistent from March to November but are interrupted by Kona or southwesterly winds in the winter, usually for only a few days at a time. Light Kona winds commonly bring clear weather, as they prevent formation of low-level clouds so characteristic of the moisture-laden northeast trade winds. Although heavy winds over 50 mph sometimes accompany Kona storms, real hurricanes rarely occur in Hawai'i. Winds in excess of 100 mph have been recorded at the crater summit at 10,000 feet. Haleakalā Volcano is large and high enough to intercept the northeast trade winds from East Maui's west

and south coasts, where there are gentle southwesterly and easterly winds.

As one might expect, the contrast in elevation within Haleakalā National Park, from sea level to 10,000 feet, implies a wide range of weather conditions. The crater rim area, located at the higher elevations, is subject to greater seasonal variations, with periods of cold winds and snow occurring from December to February. Frost seldom occurs below 6,000 feet but is common at higher elevations in the winter. Snow may fall along the West Crater Rim one or more times a season but usually melts in a few hours or days.

The Kīpahulu Valley and coastal section the park is subject to the moderating influence of the ocean and has a mild and even climate throughout most of the year, with a temperature range of 55 to 85°F. Relative humidity is frequently high in this coastal area.

Precipitation varies greatly throughout the park according to elevation and exposure. Starting in the coastal area, which generally receives 60 to 100 inches annually, the rainfall increases on the windward slopes, where up to 400 inches a year are thought to occur. At some windward Maui stations, rain falls 320 days a year in contrast to stations in the rain shadow of Haleakalā, where rain falls an average of only 16 days a year. In Kūhiwa Valley, between Ke'anae and Kīpahulu, 523 inches were recorded in 1937.

Maximum rainfall occurs at moderate elevations of about 3,000 to 5,000 feet, where the moisture-laden trade winds are pushed up and cooled. Less precipitation occurs at the higher elevations. At park headquarters (7,000 feet), about 50 inches of precipitation occurs. On the Haleakalā summit, precipitation averages around 35 inches. Drier parts of the crater receive from 10 to 15 inches. At Kīpahulu on the coast, maximum annual rainfall has reached 187 inches, with a minimum of 25 inches. The greatest precipitation is in the winter months, and it is believed that fog drip adds considerable moisture at mid-elevations.

Special Conditions: Fog is a common occurrence; and on many days, it is heavy along some portion of the crater and crater rim, obscuring views for many hours at a time.

Lightning storms generally precede arrival of low pressure systems and occur at infrequent intervals. During periods of heavy rain, the gulches become raging torrents. The Hāna Road, particularly the Kīpahulu-Kaupō section, is sometimes closed as bridges and culverts wash out. In addition, gulches, where no drainage structure exists, periodically fill with rocks and debris preventing vehicular crossing. Sheet erosion occurs as loose material moves rapidly down steep slopes. Torrential downpours that cause such erosional problems, while not uncommon, generally last for relatively short periods.

In the Kīpahulu coastal area, park development must give consideration to high humidity, which causes mildew, and to salt spray, which increases the problems of rust.

Tsunamis (tidal waves) have occurred along the East Maui coast, causing considerable damage. While the Kīpahulu coastline within the park is generally above the tsunami line, there are a few access points to the water, such as the mouth of 'Ohe'o Gulch, which a tsunami could overrun.

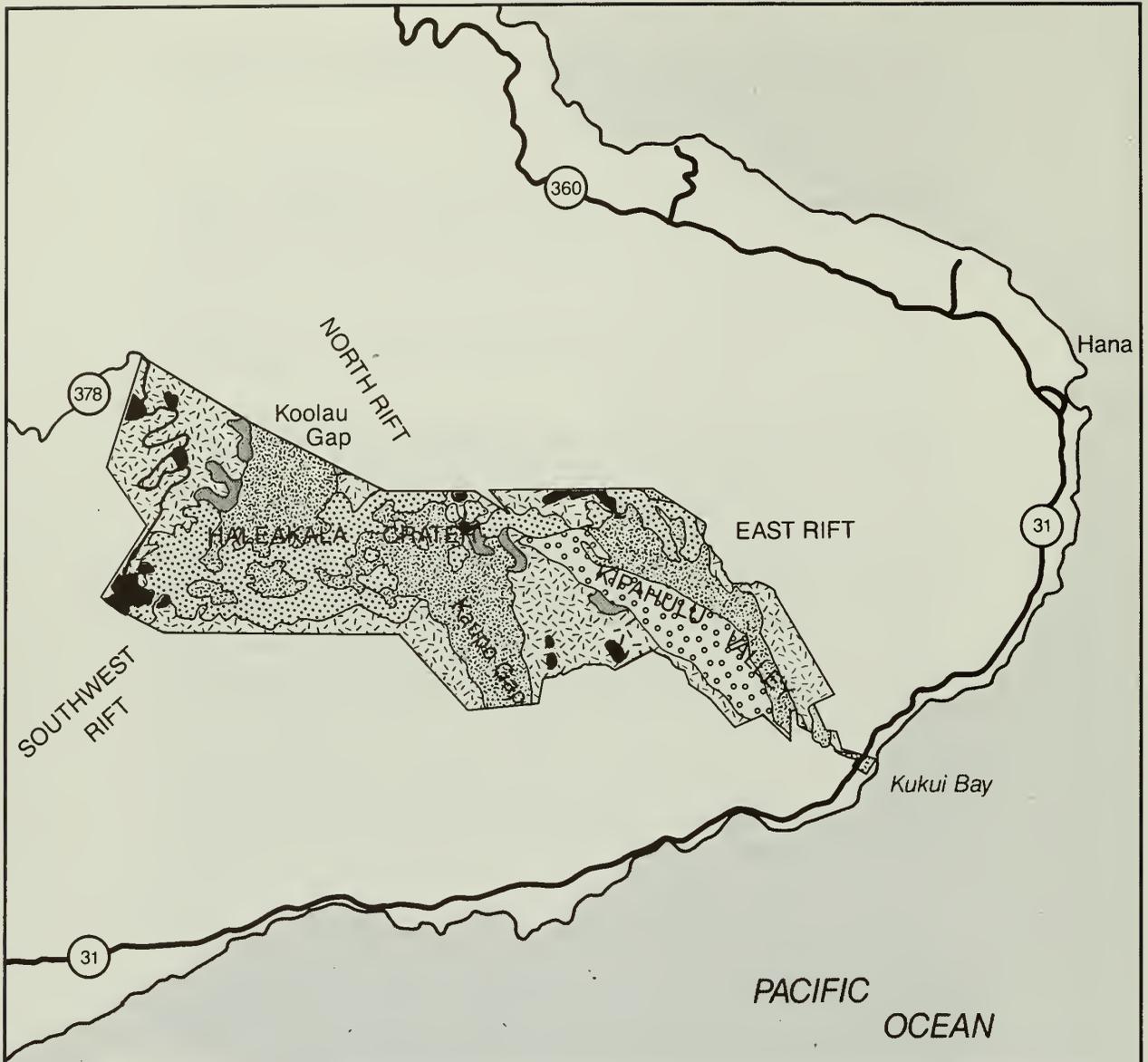
Geology. Geologically, Haleakalā can be divided into two principal parts, the crater and the valleys.

The Crater. Haleakalā was formed and shaped by three periods of volcanic activity. In the earliest period, approximately one million years ago, a symmetrical shield similar to Mauna Loa was built of *pāhoehoe* and 'a'ā lava 8,500 feet above present sea level. During the next cycle, eruptions were more explosive in nature. Bulky cinder cones and extensive ash beds were formed at this time. Like Mauna Kea today, Haleakalā was capped by a craterless mound of cinders, 2,500 feet high and studded with many lesser cones. This summit was about a mile east of the present Red Hill summit (10,023 feet) and about 2,000 feet higher than it is today.

As eruptions declined, running water cut deeply into the sides of the mountain and excavated four great valleys — Ke'anae, Kaupō, Kīpahulu, and Waiho'i. Most of the eastern summit ridge was worn away; Kaupō and Ke'anae valleys met near the summit and fused into a great depression.



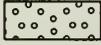
The original lava flows forming the shield of Haleakalā's volcano have been almost totally buried. Much of the spectacular crater scenery viewed by visitors today was formed by centuries of stream erosion during a dormant period followed by explosive type eruptions creating cinder cones.



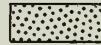
GEOLOGY

Haleakala National Park, Maui

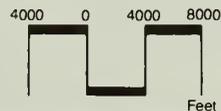
Volcanic Rocks

-  Lava Flow of 1750?
-  Hana Volcanic Series
-  Kipahulu Member
-  Cinder Cones

Erosional Unconformity

-  Kula Volcanic Series
Pleistocene
-  Honolua Volcanic Series
Pleistocene

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Volcanism again quickened at Haleakalā, covering the floor of the depression, and pushing great lava flows through Ko'olau and Kaupō gaps to the sea. Large flows and cones mask the divide that delimited the two great valleys. Cinders, ash, volcanic bombs, and spatter were blown from the vents forming multicolored symmetrical cones as much as 600 feet high. Additional flows poured into Kīpahulu and Waiho'i valleys.

Thus was created a water-carved depression seven and one-half miles long, two and one-half miles wide, and up to 5,000 feet deep, partially filled by lava. It bears a superficial resemblance to a true volcanic caldera. A Carbon-14 dating taken from the ridge at the east end of Haleakalā indicated an eruption there 9,000 years ago. Hundreds of years have past since the last volcanic activity occurred within the crater. About 1790, however, two minor flows at lower elevations, outside the park, reached the sea and altered the coastline. Earthquake records indicate that internal adjustments are still taking place in the earth's crust — Haleakalā could erupt again. The park maintains a U. S. Geological Survey seismograph that monitors the seismic activity of the volcano.

Haleakalā, in comparison to the volcanoes on the island of Hawai'i, is representative of a more mature Hawaiian volcano. It has entered the "rejuvenated phase," where the extrusion of lava is followed by a long erosion interval. There follows subsequent activity and then an erosional phase, represented by the island of Kauai. Haleakalā possesses a most unusual geological history and beauty that gives it a worthy place among national parks.

The Valleys: Deep canyons were eroded on the wet slopes of Haleakalā between eruption periods. Some canyons were filled with lava, which displaced streams laterally. Others only partly filled and were soon re-excavated by their streams and cut deeper. The period culminated with the excavation of the great canyons of Kīpahulu, Ke'anae, Kaupō, and Waiho'i.

Kīpahulu Valley, a most interesting and unusual canyon, extends six miles from the Palikū Ridge at the crater rim (7,500 feet elevation) to the ocean. The valley floor between Palikū Ridge and Palikea, a prominent hill in the lower valley, divides into two approximately equal benches, the eastern bench being lower by 400 to 800 feet. The valley width varies from one to one and one-half miles between nearly vertical walls to 2,000 feet high.

Wai'ānapanapa and Wai'ele'ele are small bodies of fresh water, lying below and immediately east of Kalapawili Ridge above Palikū at about 7,000 feet elevation. Due to the porous lava formation of the island, fresh water lakes are very rare, and these two are among the rarest natural phenomena in the State.

The lower section of Kīpahulu Valley opens into gently rolling land previously used for pasture. Palikea Stream, which drains the lower

valley bench, cuts into the grasslands with a series of spectacular cascades and pools. Its lowest section, called 'Ohe'o, is an attractive series of cascades. Some falls are perpetually active with others nearly dry when rainfall decreases in the upper valley. The entire shoreline in the Kīpahulu vicinity is black lava constantly lashed by breakers. This coastline is the edge of the lava flows that poured out of Haleakalā and down Kīpahulu Valley during the later eruption period.



The Palikea stream, seen here at high water, originates in the upper Kīpahulu Valley and flows down through the 'Ohe'o gulch in a series of spectacular falls and cascades. The stream is home to three rare species of *o'opu* fish.

Kaupō Gap, the broad southeastern opening to the crater, is a distinct valley in its middle and upper reaches, but less distinct as it stretches toward the ocean where it flares out into a fan-shaped series of lava flows.

Soils. The widely ranging climate in Haleakalā National Park has given rise to a variety of soil types, depending primarily on the amount of precipitation and drainage.

In the crater, where annual precipitation ranges from less than 30 to 200 inches, relatively unweathered, bedded cinders, pumice, and ash are associated with cinder cones. Much of the inner crater is covered with volcanic stones and boulders covering basalt and andesite lava

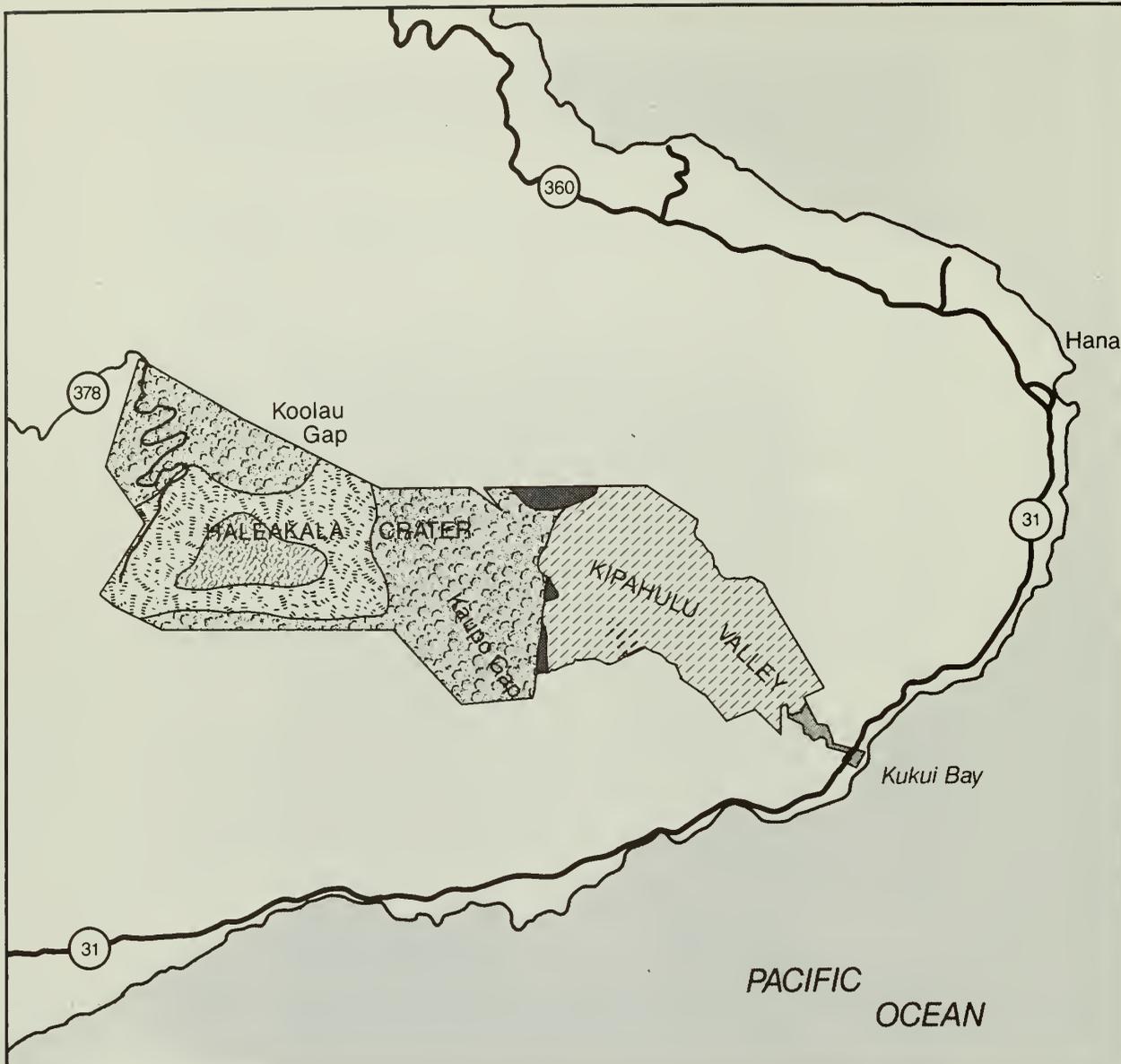
flows. In places, young a'a lava can be found with a thin covering of volcanic ash or it may be directly exposed as clinkery, hard, glossy, sharp masses creating rough terrain difficult to traverse. Rock rubble slides are a common occurrence on steep slopes within the crater.

The west and south flanks of the summit from 8,000 to 10,000 feet consist mostly of sparsely vegetated rough, irregular a'a lava with little or no developed soil. The topography is very steep, broken by intermittent drainage channels. On the east flanks of the crater, in Kīpahulu Valley where annual rainfall ranges from 150 to 300 inches, volcanic ash, cinders, and lava have weathered to form well-developed, sometimes deep, silty clay soils. Similar silty clay soils, developed over fragmental a'a lava, are found along the Kīpahulu seacoast up to an elevation of 1,200 feet. These soils are normally two to four feet deep, with a strongly acid surface layer.

Flora. Haleakalā, with an elevational range from sea level to 10,000 feet, a range in mean annual precipitation from less than 40 inches to more than 400 inches, and diverse conditions of topography and soils, has a tremendous variety of habitats. Alpine deserts, subalpine shrubland, dry forests, subalpine grassland, bogs, rain forests, and coastal strand vegetation all occur within a distance of a few miles.

The park vascular flora includes about 650 species of which 370 are native. Of the native species, about 90 percent are endemic to the Hawaiian Islands and 25 percent are endemic to Maui. Adaption over millions of years in isolation from mainland plants has resulted in many bizarre and beautiful forms, such as the silversword group and endemic lobeliads — which have little resemblance to relatives found outside Hawai'i.

Introduced feral goats and pigs (and, in the past, domestic cattle) have had a devastating impact on Haleakalā's vegetation. Invasion by alien plant species plays an ever-increasing role in preventing seedling establishment of many native species. Long-term survival of many species depends on the success of long-term efforts to control feral animals and the worst of the alien plant invaders. A 1980 U. S. Fish and Wildlife Service review of plant species included over two dozen species found in Haleakalā which were believed to be appropriate for listing in endangered or threatened status within the framework of the Endangered Species Act of 1973. Extensive taxonomic review, revision, and field investigations have occurred since. A further preliminary analysis of the Haleakalā flora by National Park Service researchers in 1988 reveals that at least six vascular plant species originally found in the park are extinct and seven others have been extirpated with the park. An additional 115 species (see Appendix) are sufficiently rare and vulnerable to warrant serious concern for local or total extinction within the next century. Continual active management of alien species may save many, if not most, of these endemic species. Others are on the brink of collapse and may not survive even with the most enlightened management.

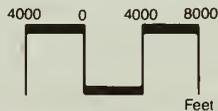


PARK VEGETATION

Haleakala National Park, Maui

- | | | | |
|---|------------------|---|--|
|  | Rainforest |  | Pasture |
|  | Shrub Land |  | Sparse Vegetation |
|  | Native Grassland |  | Sparse Vegetation with Scattered Silversword |

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Currently listed as threatened or endangered under the Endangered Species Act are:

Haleakalā Silversword	<i>Argyroxiphium sandwicense macrocephalum</i>
Ko'oko'olau	<i>Bidens micrantan</i>
Nohoanu	<i>Geranium multiflorum</i>
Red-flowered Geranium	<i>Geranium arboreum</i>

Kīpahulu Valley Vegetation: One of the richest botanical regions in Hawai'i lies on the northern and east slopes of Haleakalā. Within this rain forest belt, the dense vegetation of Kīpahulu Valley reflects the heavy rainfall, particularly from 2,500 to 6,500 feet.

Botanical exploration of this valley was quite limited until August 1967, when the Kīpahulu Valley Expedition of The Nature Conservancy explored the valley throughout its length and made extensive plant collections.

Basic information on the composition and distribution of Kīpahulu Valley vegetation was compiled by the expedition and well described in the expedition report:

The vegetation cover is quite diverse as a result of prevailing ecological factors and human activities. From sea level to approximately 1,200 feet the native forest cover was removed for agricultural uses and until recently was used for grazing. Many non-native trees and shrubs grow in scattered to closed colonies throughout the alien grasslands.

From 1,200 feet to about 2,200 feet, mixed forest of native and non-native trees and understory plants dominate. While several guava and eucalyptus are found in the lower limits, the original dominant component, *Acacia koa*, still characterizes the historic community.

Beginning at 2,300 feet and extending to approximately 3,400 feet, an open to closed *koa* forest with some 'ōhi'a (*Metrosideros* sp.) and *olapa* (*Cheirodendron trigynum*) trees make up the vegetation cover. Except for pig disturbed areas, this forest seems to have escaped man-made changes and has practically the same species composition as before western man appeared.

As elevation increases, the *koa* forest eventually gives way to 'ōhi'a forest, just above 3,500 feet. Above 4,100 feet, *koa* disappears from the 'ōhi'a forest, and *olapa* becomes an association dominant with 'ōhi'a. This union of native trees and lower story vegetation has not been affected directly by man. Few people have penetrated the area.

At 4,500 feet the 'ōhi'a forest becomes somewhat scrubby and closed on marshy to mucky soil. Many large trees are dead, and in some places, many are lying on the ground. There is little disturbance from pigs.

A somewhat abrupt change is manifest at 5,400 feet where the scrubby 'ōhi'a forest becomes a large-crowned, vigorously growing 'ōhi'a forest on steep slopes.

Above 6,600 feet, low globose 'ōhi'a becomes quite scattered in a thick, heathland-like ground cover which consists of several native woody and herbaceous vascular plants. Feral goats which inhabit the high ridges above 6,600 feet have caused deeply eroded gullies to form on the ridge tops.

At 7,350 feet, on the valleyhead rim, there is an abrupt transition from heathland with low globose 'ōhi'a to a native grassland. This native bunch grass (*Deschampsia nubigena*) covers an extensive area from the valleyhead over a broad table-like expanse which connects to Haleakalā Crater's Kaupō Valley and adjacent ridges. Although pigs and goats are active in the area, the grassland still retains its original dominance and composition.

Evaluation statements of two of the expedition scientists reflect the importance of the vegetation in Kīpahulu Valley:

Dr. Charles Lamoureux (botany): "...we have recorded about 220 species of higher plants in the valley. Of these, only ten percent (23 species) are species introduced to Hawai'i by man."

"...the wide variety of plant communities available in a relatively short distance which could be preserved in Kīpahulu would offer unparalleled research opportunities. Within three miles one can find communities ranging from a tropical rain forest to a subalpine zone with frequent frosts. Elsewhere in Hawai'i today it would be nearly impossible to find this many undisturbed communities in such close proximity. Since most of the Hawaiian species of plants are endemic, these communities are like no others, and Kīpahulu in this sense offers an opportunity not available elsewhere on this planet."

Robert DeWreede (plant ecology): "...it is my opinion that Kīpahulu Valley, from a botanical and ecological standpoint is a site that must be preserved. It offers an area where disturbance by exotic plants and animals is still minimal, hence allowing the studying, viewing, and enjoyment of an area preserved such as it was when the Hawaiian people ruled the coastal areas."

Kīpahulu Valley plants currently listed as threatened or endangered under the Endangered Species Act are:

Nohoanu

Red-flowered Geranium

'Ōhāwai

Geranium multiflorum

Geranium arboreum

Clermontia oblongifolia

In May 1993, the U. S. Fish and Wildlife Service published in the Federal Register a proposal to list two species of endemic Hawaiian plants in the genus *Melicope*, *M. balloui* and *M. ovalis*, as endangered. Both of these plants are found in the Kīpahulu Valley. There are two known populations of *M. balloui*, one on the northern slopes of Haleakalā near Pu'u o Kakae on privately-owned land and the other in the Kīpahulu Valley on federally-owned land within Haleakalā National Park. The two populations comprise an estimated total of no more than ten individuals. There is only one known extant population of *M. ovalis* on federal lands in the Kīpahulu Valley of Haleakalā National Park.

Hāna Rain Forest and Associated Vegetation: Lying along the northwest rim of Kīpahulu Valley, there is limited climatic data for this area. Sporadic rainfall records suggest that annual precipitation exceeds 400 inches between 5,000 and 6,000 feet elevation. The area has continual low-lying cloud cover, with less clear weather than anywhere else on East Maui. Under the sponsorship of the National Science Foundation and the University of Hawai'i, the area was studied by the 1973 Hāna Rain Forest Project. It has been concluded that it is probably one of the most pristine native rain forests in the State.

The entire area contains little alien vegetation and relatively little (but increasing) pig damage. Rare and endangered birds, such as the crested honeycreeper, are common here. The rain forest is associated with a lake, bogs, and native *Deschampsia* grasslands and associated bogs.

Estimates on the amount of rainfall during the dry summer of 1973 indicated an average daily rainfall of 1.5 inches per day at the 5,100-foot elevation. It is believed that the area is clear less than 15 days a year, has an average humidity of nearly 100 percent, and a maximum rainfall exceeding 36 inches per day.

Fauna. The native fauna within the park is limited to birds, the Hawaiian hoary bat, insects, and a few aquatic creatures present in the lower streams of Kīpahulu. Except for the endangered native bat, there are no native mammals, amphibians, or reptiles. The following animals currently found in Haleakalā National Park have listed as endangered under the Endangered Species Act. Critical habitat has not yet been established for any of these species.

Kīpahulu Area

Maui Akepa (honeycreeper)	<i>Loxops coccinea ochracea</i>
Crested Honeycreeper (<i>ākohekohe</i>)	<i>Palmeria dolei</i>
Maui Nukupuu (honeycreeper)	<i>Hemignathus ludicus affinis</i>
Maui Parrotbill (honeycreeper)	<i>Pseudonestor xanthophrys</i>

Crater Area

Hawaiian Dark-rumped Petrel	<i>Pterodroma phaeopygia sandwicensis</i>
Hawaiian Hoary Bat	<i>Lasiurus cinereus semotus</i>
Hawaiian Goose (<i>nēnē</i>)	<i>Branta sandwicensis</i>

The Hawaiian hoary bat, the one native mammal, is on the endangered list. The fresh water gobiid fish, *Lentipes concolor* ('o'opu 'alamo'o), considered to be rare and possibly endangered and already extinct on other parts of Maui, has been discovered in the park.

The early Polynesians brought small pigs, dogs, and, unintentionally, rats to Hawai'i. Caucasian explorers and settlers populated the island with goats, pigs, cattle, horses, mules, sheep, cats, dogs, birds, and, unintentionally, mice and rats. Mongooses were imported in 1883 to control rats, which were significantly damaging plantations of sugar cane. Most of these animals are present within the park and constitute a threat to native plants and animals.

Crater Fauna: Sheep and cattle no longer graze in the crater; but a small number of horses are used by visitors, by hunters, and by park personnel. They contribute to the spread of exotic plants within the crater. Feral goats have drastically altered segments of the native flora as well as impeded natural ecological processes. In the past, goats numbered in the thousands; but with the completion of fencing around the crater, the crater area is now virtually goat-free resulting in a dramatic increase in native vegetation.

The feral pig whose foraging was extensive and damaging has been excluded from the crater by fencing and systematic control.

Mongooses have been found in the park up to 10,000 feet, but are more common at lower elevations. Research has shown the mongoose to be a serious threat to native birds, particularly *nēnē* and dark-rumped petrel.

Rats and feral cats are also destructive to bird life. Cats are seen occasionally on the outer slope near park headquarters and within the crater. Because of their threat to nesting birds, these animals are the target of a perpetual live-trapping program.

Feral dogs, which are occasionally found on the outer slopes and within the crater, are also destructive to animal life, particularly birds. They are known raiders of petrel burrows, pose a threat to nesting *nēnē* and other native birds, and have even been found at high elevations of the park.

Feral rabbits were illegally released into the Hosmer Grove area but have been eliminated through aggressive control measures. If a breeding population is established, rabbits would do irreparable damage to park vegetation.

The variety of birds in the crater is surprising, considering the paucity of vegetation. They include the indigenous white-tailed tropic bird and golden plover and the endemic Maui creeper, *nēnē*, *pueo*, *'amakihi*, *'apapane*, and *i'iwi*. The migratory golden plover is the most commonly seen bird, except during the summer, when they are nesting in Alaska. Introduced birds are also found here.

Nēnē were well-established on Maui but then extirpated prior to the influence of Europeans. About 500 *nēnē* were released within the crater between 1962 and 1977. The current population is about 150 birds.



Nēnē, the native Hawaiian goose, is an endangered species found in Haleakalā National Park. Though numbering in the thousands at the turn of the century, by 1951 the population had dropped to an estimated 30 birds. Approximately 500 are estimated to exist in the world.

The dark-rumped petrel, a medium-sized wandering oceanic bird, nests in high, cold areas of cinder and rock. Formerly found on all major Hawaiian Islands, this endangered species had become quite rare by 1900. Because of nocturnal habits and remote nesting areas, its presence on Maui remained unknown until about 1954.

It is now believed that the western summit of Haleakalā Volcano, between 9,000 and 10,000-foot elevation, supports the last major nesting site of this species. As such, this area can be classified as being essential habitat for the petrel. Haleakalā National Park apparently supports at least 80 percent of the known world population, or about 1,500 birds. Over 600 nesting burrows are known to be active near the summit.

The major concentration of burrows is immediately below the rim near the House of the Sun Visitor Center, in the vicinity of White Hill, and along the rim toward Kalahaku. The existing West Crater Rim Road crosses the west periphery of the nesting area. Burrows are

known to be quite near the existing road: one is 10 feet from the road above the Kalahaku curve and three others are 75 to 100 feet from the road. There are several burrows just below the crater rim at House of the Sun.

Surveys conducted since the mid-1960's indicate that the nesting birds begin arriving early in February with egg laying in late April to early May. The last birds are fledged by the end of October.

The birds are nocturnal and seem to be attracted to or confused by bright lights. Several have been found dead alongside the road and are presumed to have been hit by cars whose bright lights attracted and blinded them. Since the birds nest on the ground in burrows, they are subject to predation by mongooses, rats, and cats; and the burrows themselves are subject to collapse, a process accelerated by trampling of goats and digging of pigs.

Introduced birds account for a sizeable portion of the avifauna and are more frequently seen than native species. The most common are chukar, ring-necked pheasant, skylark, white-eye, and house finch. No major problems are known to be related to the presence of these birds; however, studies are needed to determine the effect of introduced birds on the native biota, specifically plant dispersal as a result of seeds eaten and transported, as well as the spread of avian parasites and diseases and competition with native species.

Valley Fauna: Kīpahulu Valley is one of the outstanding areas of the Hawaiian Islands for native birds. The opportunities for research in this unspoiled area are legion. This was the conclusion of the 1967 Kīpahulu Valley Expedition, which found four rare birds, one previously considered extinct.

Native Hawaiian honeycreepers are prevalent throughout Kīpahulu Valley in the native forest sections. At the lower forest edge of 2,800 feet, they are low in numbers; but they increase at higher elevations. 'Apapane and 'amakīhi are the most numerous, with smaller numbers of Maui creeper and *i'iwi*.

It was in the high elevation zone of the valley from 5,000 to 7,350 feet that the expedition observed the endangered crested honeycreeper, the rare Maui creeper, the Maui parrotbill, and the Maui *nukupū'u*, this last species previously thought to be extinct.

Since the presence of rare and endangered birds in Kīpahulu is presumed to be due in large measure to its relatively pristine state, any significant change in that environment would, in all likelihood, quickly lead to the extinction of the *nukupū'u* and the Maui parrotbill. The relatively wide distribution of the crested honeycreeper may render it secure from extinction, at least in the immediate future.

The Hawaiian Islands harbor a group of over 600 species of vinegar flies (*drosophila*) that are extremely useful in genetic and evolutionary studies. Kīpahulu Valley contains over 60 species. The Kīpahulu Valley Expedition found at least six new species, including probably the largest *drosophila* in the world, with a wing-spread of 22 millimeters. The 3,100-foot level is one of the best *drosophila* collecting spots in the islands. The largely undisturbed forest of giant *koa* trees shelters native plants which in turn support the *drosophila* population. This area is a biotic resource of tremendous value. The unique opportunity to understand the evolutionary process through genetic study of Hawaiian *drosophila* and other groups cannot be overemphasized.

Pig populations have apparently invaded Kīpahulu Valley only in recent years. They undoubtedly have altered the status and distribution of the endemic biological elements. Widely recognized as posing a severe threat to the native ecosystems, pigs have been reduced significantly. Boundary and internal fences have been installed to exclude pigs from Kīpahulu Valley. Strawberry guava, which is associated with pig activity, is spreading up the valley and is a major threat to native vegetation.

Mongoose are common in the lower elevations, in fields, remnant woodlands, and around human habitation, where they pose a serious threat to the few remaining species of native ground-nesting birds. They are present in the middle and upper valley.

Marine and Freshwater Biota. This area contains a diverse fauna of native Hawaiian organisms. Common reef fishes include the squirrel fish, butterfly fish, moorish idol, surgeon fish, trigger fish, and eel. 'Ōpihi, a shellfish found in the surf-washed lava cliffs, is an important Hawaiian delicacy. Offshore, humpback whales often entertain visitors during the winter and spring months. Sea turtles and porpoise can occasionally be seen.

Native freshwater fauna, such as 'o'opu (small gobiid fish), 'ōpae (a small shrimp), and hihiwai (a fresh water *pipipi*) are found in the Palikea Stream. 'Ōpae are also found in the upper tributaries. Also present in the streams of the park is the endemic prawn, *Macrobrachium grandimanus*. In late 1975, a rare species of native freshwater gobiid fish was discovered in Pīpīwai Stream. They are also present in the Pua'alu'u Stream, adjacent to the Kīpahulu section of the park. In addition, a recently introduced Tahitian prawn, can sometimes be seen under rocks and in many of the deeper pools. It is important that the natural water flow of the streams of the Kīpahulu Valley be maintained. Moreover, the adjacent coastal waters are an important resource for the conservation of stream fauna; several freshwater species reproduce in the ocean.

Archeology and History. Haleakalā National Park contains numerous and significant Hawaiian archeological sites and features.

There are also historic features in the park dating back to missionary times.



Kamanawa Point in the foreground and Makaakini Point in the background form a portion of the rugged, undeveloped Kaupō coast being proposed as an addition to Haleakalā National Park.

Crater District: Although only limited archeological investigations have been conducted within the Crater District by the Bishop Museum in 1920 and 1962, numerous sites have been recorded attesting to prehistoric and historic use of the area by Hawaiians and other groups. These sites include numerous stone terraces, platforms, shelters, and a paved trail. Although the function of many of the structures is unknown, at least one was a *heiau* (Keahumanono on the top of Haleakalā Peak) and undoubtedly some of the others were also utilized for religious and/or ceremonial purposes. Others, such as the shelters and the paved trail, reflect the use of the crater by travelers.

There is also evidence of quarrying and stone working activities in this district. Although there is one radiocarbon date (A.D. 800) from a site in the crater indicating early use of the crater by the Hawaiians, additional archeological studies are necessary if we are to understand and interpret how the Hawaiians used the crater in prehistoric and early historic times.

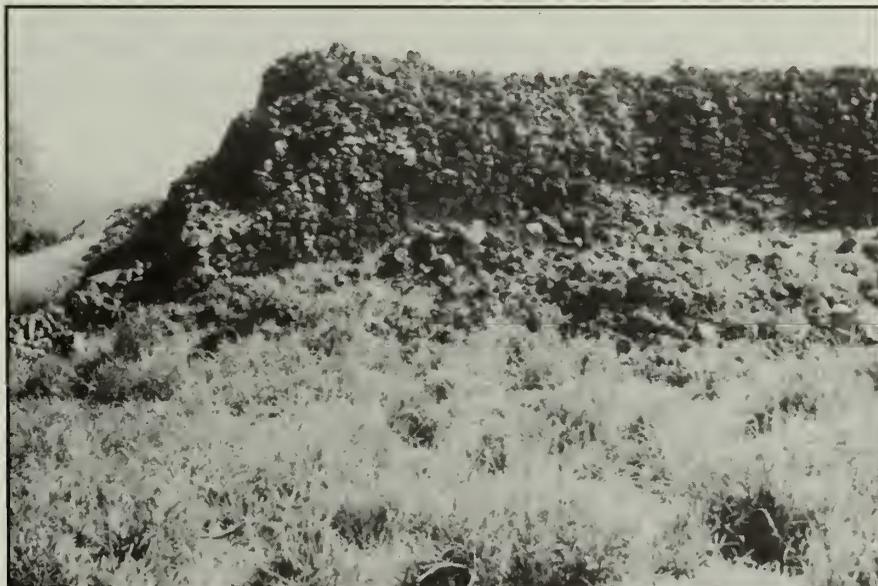
Some indication of the importance of the crater to the Hawaiians is reflected in recorded place names and oral history. Pōhaku Pālaha, which is a prominent peak above Palikū Cabin, was the apex of the ancient districts of East Maui. The Bottomless Pit and Na Piko Haua were considered desirable places in which to place umbilical cords of babies. The name Haleakalā means House of the Sun, and it is said the early Hawaiians, seeing the sun rise from behind the mountain, thought it was coming from inside the crater.

Historical records of Haleakalā begin in 1823 with the missionaries, and in 1841 the U. S. Exploring Expedition, under the command of Wilkes, conducted scientific investigations in the crater. In addition to visitors, historic use of the crater included hunting and cattle grazing. In 1974 the entire crater was put on the National Register of Historic Places as the Crater Historic District.

Kīpahulu District: The investigations by the Bishop Museum in 1962 also included portions of the Kīpahulu District. Although most of the significant sites recorded by those investigations were outside the boundaries of Haleakalā National Park, there is ample evidence of prehistoric and historic use within the park. A National Park Service survey of 208 acres in the Kīpahulu area in 1975 recorded 26 archeological sites and 14 historic sites. The 759 archeological features that made up these sites were principally stone mounds, stone walls, and earthen terraces.

These remains reflect the food base of the local population, which was agriculture, supplemented by protein from the sea. The principal crop was taro until the sugar plantation period, which lasted from about 1880 to 1923. With the decline of sugar, the land was converted to pineapple for a brief time and then to pasture. Land clearing for sugar and pineapple production damaged or destroyed many archeological features in the coastal areas of the district.

Two large and important *heiau* are located in areas being proposed as addition to Haleakalā. One, Kanekauila, is in the vicinity of Kīpahulu, on a hill overlooking an ancient coastal village near Kīpahulu. The other, Lo'alo'a is located in the Kaupō area and has been designated a national historic landmark.



Lo'alo'a Heiau, a national historic landmark, is one of the most significant Hawaiian cultural features to be found along the Kaupō coastal area. It is located just to the northeast of the small village of Kaupō.

In 1975 much of the lower portion of Kīpahulu was determined eligible for inclusion in the National Register of Historic Places as the Kīpahulu Historic District.

Status of Cultural Resources Inventory and Survey: Although the Crater and Kīpahulu Historic Districts encompass all lands within Haleakalā National Park except for Kīpahulu Valley, the cultural resources inventory of the park is far from complete. No systematic, intensive archeological survey has ever been conducted in the Crater District, and only 208 acres of the Kīpahulu District have been surveyed in such a manner. Archeological surveys and reports pertaining to the park are listed below:

1. Emory, Kenneth P.

1921 *An Archaeological Survey of Haleakalā. Occasional Papers of the Bernice Pauahi Museum VII (II).*

2. Soehren, Lloyd J.

1963 *An Archaeological Survey of Portions of East Maui, Hawaii. Ms. on file, Pacific Area Office, Honolulu.*

3. Rosendahl, Paul H.

1975 *Archaeological Reconnaissance Surveys of the Haleakalā Highway Road Realignment Corridor and the Proposed Water System Route, Haleakalā National Park, Maui. Ms. on file, Pacific Area Office, Honolulu.*

4. Rosendahl, Paul H.

1976 *Phase I - Archeological Base Map and Preliminary Cultural Resource Inventory, Kīpahulu Historic District, Kīpahulu District - Haleakalā National Park, Hāna, Maui, Hawaii.*

5. Rosendahl, Margaret L. K.

1978 *Preliminary Overview of Archaeological Resources at Haleakalā National Park, Island of Maui. Ms. on file, Pacific Area Office, Honolulu.*

Historic Structures: The park's List of Classified Structures (LCS) has been proposed for updating by a National Park Service cultural resource team. Existing resources on the park's list were surveyed to update information on their current condition. A number of buildings and structures not previously on the list were inventoried and will be considered for listing, pending determination of significance by the State Historic Preservation Office. Other entries judged by the team to be inappropriate were removed from the list. Additional

information is needed on existing buildings in the maintenance and headquarter areas in order to accurately assess their historic significance.

Existing and proposed LCS entries are listed below:

Crater District

House of the Sun Visitor Center*
Cattle Walls
Palikū Patrol Cabin
Palikū Cabin
Palikū Water Tanks
Palikū Foot Bridge
Hōlua Cabin
Hōlua Water Tank
Kapalaoa Cabin
Kapalaoa Water System
Hosmer Picnic Shelter
Hosmer Nature Trail Foot Bridges
Sliding Sands Trail
Halemau'u Trail
100,000 Gallon Water Tank
McGee Springs Water Tank
CCC Culverts
Headquarters Bridge on Park Road
Residence H-12
Residence H-4
Headquarters Water System
Heiau at Crater Rim

Kīpahulu District:

Kaua/Kanalulu Tombs*
'Ohe'o Gulch Bridge*
Bridge Supports for Early 'Ohe'o Gulch Bridge
Poonika Homestead Stone Walls*
Poonika Homestead Animal Pens
Poonika Secondary Homesite Foundation
Poonika Secondary Homesite Stone Walls
Poonika Secondary Homesite Tomb
Upper 'Ohe'o Gulch Dam
Lower 'Ohe'o Gulch Dam
'Ohe'o Sugar Cane Flume Pylons*
Annie Smith House*
Annie Smith Wagon Road
Annie Smith Taro Patch Walls
Kapahu Taro Terraces*

* now on list

The Annie Smith Cabin and its associated features (the rock wall, taro fields, wagon road, graves) will be evaluated for potential reuse. The 100,000-gallon water tank will be rehabilitated and used as an integral

part of a water collection and distribution system. The CCC facilities in the Crater District will continue to be preserved and used in their original capacity. These resources include the crater cabins and their associated water tanks; the footbridge at Palikū; the Sliding Sands and the Halemau'u trails. The House of the Sun Visitor Center and the rest room will be rehabilitated. The character of the CCC work on the park road, including the bridge and the original culverts, will be maintained even though road maintenance and safety may require changes.

Interpretive Programs and Activities

The following national park system themes outlined in two NPS publications, Natural History in the National Park System and on the National Registry of Natural Landmarks and History and Prehistory in the National Park System and the National Historic Landmark Program, 1987, are related to Haleakalā National Park:

- Hawaiian Islands, Maui Islands Group, Natural Region
 - Mountain systems and the works of volcanism theme
 - Sculpture of the land theme
 - Tropical ecosystems theme

Cultural Developments: Indigenous American Populations

The Earliest Inhabitants

- The early peopling of the Pacific

Prehistoric Archeology

- Shelter, technology, socioeconomic facets, etc.

Ethnohistory of Indigenous American Populations

- Native cultural adaptations at contact

- Native adaptations to Polynesian environments

- Establishing Intercultural Relations

- Varieties of Early Conflict, Conquest, or Accommodation

- Native Contributions to the Development of the Nation's

Culture

- Becoming Native American

- Myth of the Vanishing Native

The following exhibits, publications, programs, and activities are consistent with these themes:

Exhibits

A variety of exhibits with both natural and cultural themes exist in the park at the following locations: Kīpahulu Ranger Station, Park Headquarters Information Center, Haleakalā Visitor Center, and wayside exhibits along frontcountry trails in both the Crater and Kīpahulu districts. New exhibits are being planned for the Kīpahulu Ranger Station. These will focus on cultural interpretation and lightly focus on most of the above topics.

Publications

The park brochure provides basic and general orientation to the natural and cultural aspects of Haleakalā. A wide variety of publications, as well as slides and posters, are provided by the cooperating association. These are available at headquarters, House of the Sun Visitor Center, and at Kīpahulu.

Programs and Activities

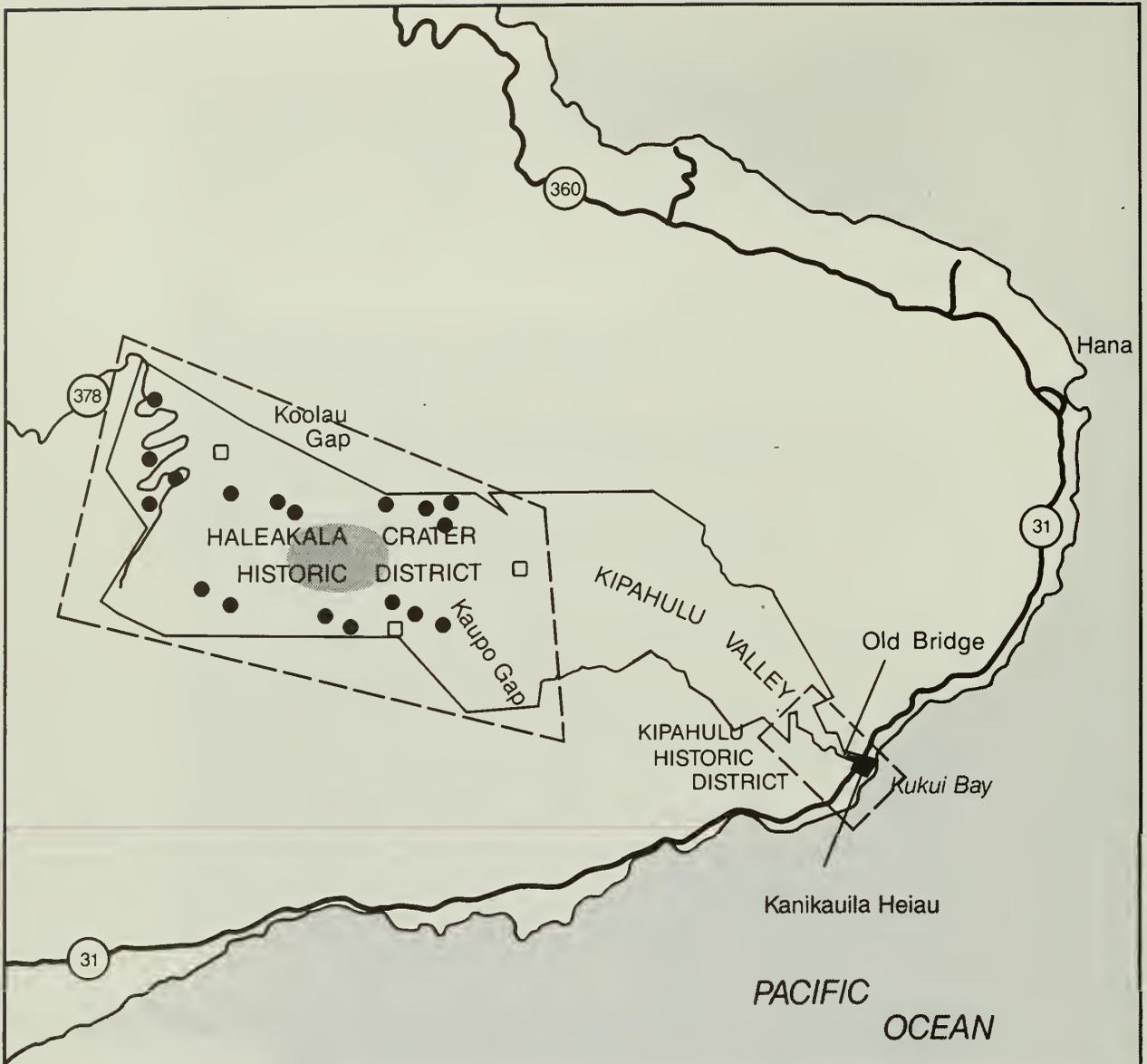
The Kīpahulu District focuses on cultural interpretive themes. Here, more than a dozen traditional Hawaiian structures are being constructed to be used for thematic interpretation of the Hawaiian culture. Cultural demonstrations and 15-minute cultural talks are presented daily. Hikes focusing on the Hawaiian culture are scheduled regularly throughout the year.

The Crater District's programs include regularly scheduled 15-minute cultural talks at the summit building. Guided hikes into the crater cover both natural and cultural themes.

Water Resources and Water Quality. Water for the headquarters and government housing areas and Hosmer Grove is collected, filtered, and stored from a water catchment system. Water quality is tested twice a month and meets the standards set by the Environmental Protection Agency for safe drinking water. State standards for water quality are currently being formulated, based essentially on Federal regulations. Potable water for the summit visitor center is hauled up from the headquarters system and placed in tanks. Water for the rest room toilets at the summit is collected off the nearby paved parking area, stored in two below ground tanks, and then pumped to a storage tank above the rest rooms. This water does not meet Environmental Protection Agency standards.

Water for the three crater cabins is collected from springs and roof catchments and stored near the cabins. Water quality at these locations is also tested twice a month. It does not meet Federal standards and must be boiled, filtered, or treated.

There is no water system in the Kīpahulu area. Visitors are cautioned not to drink directly from any of the streams. The water resources in the Kīpahulu vicinity are known to be huge in volume because of high rainfall in the upper valley and are presumed to be of high quality, at least at elevations above the former pasture lands (about 1,200 feet). Palikea is the only permanent stream in the park. Pīpīwai Stream (the constant water source) and Palikea Stream, which varies greatly depending on rainfall in the upper Kīpahulu Valley, join about one mile from the coast. A well has been drilled in the area with potential for future use by park visitors.

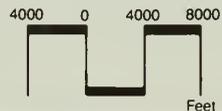


CULTURAL RESOURCES

Haleakala National Park, Maui

- | | | | |
|---|---|---|---|
|  | Intensive Archeological Survey Area with Numerous Sites |  | Park Boundary |
|  | Zone of Concentrated Sites |  | Historic District Boundary |
|  | Archeological Sites | | Declared Eligible for National Register |
|  | Cabins | | |

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The Kaupō Ranch maintains a small dam and pipeline to draw off water for cattle and residential use from Panileihulu Stream within the park at an elevation of 5,200 feet above sea level. County of Maui, Kaupō Ranch and Haleakalā National Park have registered the use of this water with the State of Hawai'i.

The Nationwide Rivers Inventory identified Palikea Stream, including Pīpīwai and 'Ohe'o Gulch as having potential for inclusion in the National Wild and Scenic Rivers System. Subsequently a Draft Hawai'i River Assessment (August 1990) included the above streams and also Kaukau'ai Stream, partially within Haleakalā National Park, as candidate special streams which have high natural, cultural and recreational values. Recommendations for management of these streams include (1) protection of resource values, (2) initiation of planning efforts for monitoring, watershed management, aquatic research, historic resources, and (3) wild and scenic rivers nomination.

Current and proposed future management of park stream resources would be compatible with preservation objectives contained in Public Law 90-542, the Wild and Scenic Rivers Act.

In the coastal area, occasional use of herbicides on exotic shrubs and the presence of cattle along the stream create the potential for water pollution. Palikea Stream has been tested for herbicides with a negative result. Periodic tests will continue. Other tests for water purity have been made and are expected to determine the type and extent of bacteria present. Such tests will help identify the water quality with regard to its suitability for water contact activities or drinking water.

Air Quality. The Clean Air Act (42 U.S.C. 7401 *et seq.*), was enacted to protect and enhance the nation's air quality. The primary Federal responsibility is to provide technical and financial assistance to state and local governments, who have the responsibility to develop and execute air pollution prevention and control programs.

Section 118 of the Act indicates that all Federal facilities must comply with all Federal, State, interstate, and local requirements in the same manner and to the same extent as any non-governmental entity.

Among the stated purposes of the Act is to "Preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value..."

As part of this preservation effort, the Clean Air Act created three classifications of varying degrees on restriction of allowable air quality deterioration. Under the terms of this classification, Haleakalā National Park was designated Class I. Under this designation, the maximum allowable increases (increments) of fine particulate matter

(less than 10 microns), sulfur dioxide, and nitrogen dioxide have been established as follows:

Pollutant	Maximum allowable increase (micrograms per cubic meter)
Fine particulate matter:	
Annual geometric mean	4
Twenty-four hour maximum .	8
Sulfur dioxide:	
Annual arithmetic mean	2
Twenty-four hour maximum .	5
Three-hour maximum	25
Nitrogen dioxide:	
Annual arithmetic mean	2.5

The air quality at Haleakalā is considered excellent. Air quality is a particularly important element of the visitor experience along the west crater rim where Haleakalā's striking panorama can be viewed at the visitor center and at several overlooks. Volcanic smog (called "vog") originating from active volcanoes on the island of Hawai'i occasionally impact scenic views, but this is very rare. When not obscured by clouds or occasional vog, visitors at lower Kīpahulu may view Kīpahulu Valley and the surrounding mountains and cliffs. From the west crater rim view points smoke plumes from sugar cane burning in central Maui are visible on clear days.

The scenic views outside the park, two of which are identified below, are part of the park experience and worthy of protection. These views can be seen from the Red Hill Observatory, White Hill, Kalahaku Overlook, and Leleiwi Overlook. The park manager will participate in regulatory decisions (e.g., air quality permits, plans, rules) and work cooperatively with State and private interests to resolve air quality-related resource conflicts and ensure that identified vistas (and any future vistas similarly identified) are adequately protected.

SCENIC VISTAS

<u>Observation Point</u>	<u>Key Features (general viewing direction)</u>
Pu'u 'Ula'ula or Red Hill Observatory (10,023 feet elevation)	Ko'olau Gap (N), Hāna Mountain and Haleakalā crater (E), island of Hawai'i (SE), south slope and 'Alenuihāhā Channel (S), southwest rift zone (SW), Lanai (W), central Maui, west Maui Mountains and Molokai (NW), Pacific Ocean (all directions)

Kalahaku Overlook

Ko'olau Gap (N), windward slopes (N-NW), Hāna Mountain and Haleakalā crater (E), Mauna Loa and Mauna Kea (SE), Lanai (W), central Maui, west Maui Mountains and Molokai (NW), Pacific Ocean (SW to NE)

Haleakalā is part of the NPS air quality monitoring network. Visibility (particulate) monitoring has begun and presently consists of an automatic camera and a particulate deposition collector. Gaseous pollutant monitoring includes sulfur dioxide and ozone. Meteorological monitoring is conducted in conjunction with the air quality monitoring and includes wind speed and direction, temperature, dew point, solar radiation, and precipitation.

Waste Disposal. Solid waste generated in the West Crater Rim area is hauled to the county landfill at Makawao once a week. We do not believe this facility meets Federal regulations. Wastes from the Kīpahulu area are hauled to the community landfill outside the park in Hāna where they are compacted and buried. This facility also does not meet Federal regulations and will be filled to capacity in the near future.



The spectacular beauty of Haleakalā Crater and the story of its origin are one of the park's primary interpretive themes.

Wastewater treatment on the West Crater Rim is by individual septic tanks and leach fields. Chemical toilet wastes are treated in the same system. Pit toilets serve the crater cabins and the two primitive campgrounds. Chemical and composting toilets have been installed in the Kīpahulu area. Wastes are pumped, stored, then hauled out to the Maui municipal sewer plant. Chemical toilets serve the campground at Hosmer Grove.

The park will be undertaking the development of a solid waste management plan to address disposal procedures, minimization of waste and improving coordination with local government.

Visitor Use. Visitor use of Haleakalā National Park is year-round, approximately 95 percent day use. Travel is relatively uniform throughout the year, although there is a summer season when visitation climbs. Park visitation for 1992 totaled about 1,125,000. This includes about 807,000 to the West Crater Rim and about 318,000 to the Kīpahulu District. In 1984 local Maui residents accounted for about 15 percent of the total visitation. The remaining 85 percent were from off-island.

Most of the off-island visitors come to the park in rental cars (about 83 percent). The other 17 percent see the park in organized tours using 15-passenger limousines and 50-passenger buses.

The average length of stay on the West Crater Rim is one and one-half to two hours. Visits to the park occur from sunrise to sunset. Major concentrations, however, are between 9:30 a.m. and noon. Average daily visitation is about 2,200 persons.

The Kīpahulu vicinity receives visitation with a daily average of about 900. This use is concentrated almost entirely between the hours of 10 a.m. and 4 p.m. in an area of less than 200 acres.

Use Trends: Since 1965 visitation to Haleakalā has increased to about 13.5 times what it was in 1965, as indicated below:

Haleakalā Visitor Use Trends from 1965

1965 - 90,139	1975 - 533,600	1985 - 1,218,176
1966 - 95,548	1976 - 646,499	1986 - 1,304,330
1967 - 102,683	1977 - 651,138	1987 - 1,359,886
1968 - 132,700	1978 - 739,746	1988 - 1,344,218
1969 - 146,844	1979 - 686,457	1989 - 1,396,520
1970 - 197,391	1980 - 577,059	1990 - 1,260,601
1971 - 254,701	1981 - 644,661	1991 - 1,261,378
1972 - 305,489	1982 - 795,663	1992 - 1,121,325
1973 - 373,361	1983 - 889,425	1993 - 1,346,521
1974 - 373,361	1984 - 1,026,562	1994 - 1,556,417

Recreational visits to the West Crater Rim are shown below:

<u>1980</u>	<u>1984</u>	<u>1986</u>	<u>1987</u>	<u>1989</u>	<u>1992</u>	<u>1993</u>
338,826	625,476	819,734	864,159	964,626	807,196	801,622

Overnight use at the Hosmer Campground is shown below:

<u>1980</u>	<u>1984</u>	<u>1986</u>	<u>1987</u>	<u>1989</u>	<u>1992</u>	<u>1993</u>
1,924	3,500	3,166	3,653	4,099	3,967	5,285

Use of the Kīpahulu area, both day use and overnight, is shown below:

	<u>Total Visits</u>	<u>Camping</u>		<u>Total Visits</u>	<u>Camping</u>
1970	42,726	1,387	1987	469,731	9,389
1976	254,327	13,067	1989	403,134	8,898
1980	229,569	8,026	1992	318,260	10,947
1984	378,348	8,728	1993	515,811	13,015

Future use levels are difficult to predict. The state road to Hāna and the Kīpahulu vicinity is low-standard but being improved every year. The alternate route around the southern side of east Maui, through Kaupō has been improved significantly in recent years. New bridges have been constructed and many of the unpaved rutted sections have been paved. Increasing numbers of visitors choose to return to central Maui this way. Most of the commercial group van tours are going this route regularly. It is anticipated in a few years that the return from Kīpahulu through Kaupō exceed those returning via Hāna.



Visitor use of Haleakalā Crater has increased substantially over the past several decades. Crater facilities are limited to three cabins and two primitive campgrounds.

Visitor Activities and Facilities: Sightseeing by automobile, bus, and limousine is the most popular activity and is enjoyed by virtually all visitors. The drive to the summit and the view into Haleakalā Crater from its west rim is considered to be one of the outstanding experiences in Hawai'i. There are four major viewpoints on the West

Crater Rim, reached via the main park road which winds 11 miles up and along the rim to 10,000 feet elevation.

Shelters with orientation panels and exhibits are located at Leleiwi, Kalahaku, House of the Sun, and Red Hill at the summit.

A staffed visitor center, the House of the Sun, is located on the crater rim near the summit. This is the primary visitor contact point. There is also a staffed information lobby at park headquarters, ten miles below the summit.

There is a small campground and popular self-guiding nature trail at Hosmer Grove near the park entrance. Camping use continues to be relatively light here. Visitors also picnic at the Grove, mainly during the summer. Overnight use has averaged approximately 4,000 per year over the past five years. Picnicking use has been considerably greater, but no accurate statistics are available. In the winter, following a snowstorm, large numbers of Maui residents flock to the summit to see and play in the snow, an unusual occurrence at this latitude.

Visitors to the Kīpahulu section of the park travel a narrow coastal road for three to four hours from the Kahului area, with their principal destination being Hāna and the Kīpahulu area. Both day and overnight use at this location has continued to increase. In 1984 peak overnight use at the Kīpahulu campground was estimated to be about 50/day, while the peak level for picnickers was estimated at about 90/day. By 1988, estimated peak overnight use at the campground had decreased to 20/day; on the other hand, picnicking use had climbed to about 150/day. Future visitor use trends are difficult to predict. There are some similarities with the overall visitor trend to Maui, but this does not always hold true. At Kīpahulu the number of users varies tremendously depending upon the weather and stream flow variability.

Backcountry use is an especially important part of park use. The crater floor is accessible only by hiking or horseback and provides a wilderness experience. Majestic views; plant life found nowhere else; interesting geologic features; and the vast natural depression itself allows for a rich, varied, and unique outdoor experience. The crater and its western slopes have 33 miles of hiking and riding trails as well as three cabins and two primitive campgrounds for overnight use. Cabins are available through a reservation system, and campsites are used on a first-come first-served basis. The frequent inclement weather and lack of natural shelter and fuel within the crater creates a heavy demand for cabin use.

There is moderate horseback use in the crater by individual visitors, several permittees, and the National Park Service.

Legal Background. Congress, by the Act of August 1, 1916 (39 Stat. 432), established the Haleakalā Crater on the Island of Maui as a section of Hawai'i National Park. The Act states:

That the tracts of land on the Island of Hawai'i and on the Island of Maui, in the Territory of Hawai'i, hereinafter described, shall be perpetually dedicated and set apart as a public park or pleasure ground for the benefit and enjoyment of the people of the United States, to be known as Hawai'i National Park.

The originally authorized acreage on Maui totaled 21,150 acres. The Act of February 12, 1927 (44 Stat. 1087), reduced this acreage to 17,130 acres, having been preceded by a decision that new park boundaries should be drawn along the natural line of the crater rim.

Exclusive jurisdiction was assumed by the United States for the park by Act of Congress (46 Stat. 227), approved April 19, 1930; amended (52 Stat. 1164), approved June 25, 1938; amended (62 Stat. 196), approved April 21, 1948; and amended (73 Stat. 411), approved March 18, 1959, which authorized the United States to continue to have exclusive jurisdiction over lands upon admission of the State of Hawai'i into the Union and over any lands thereafter included in the park.

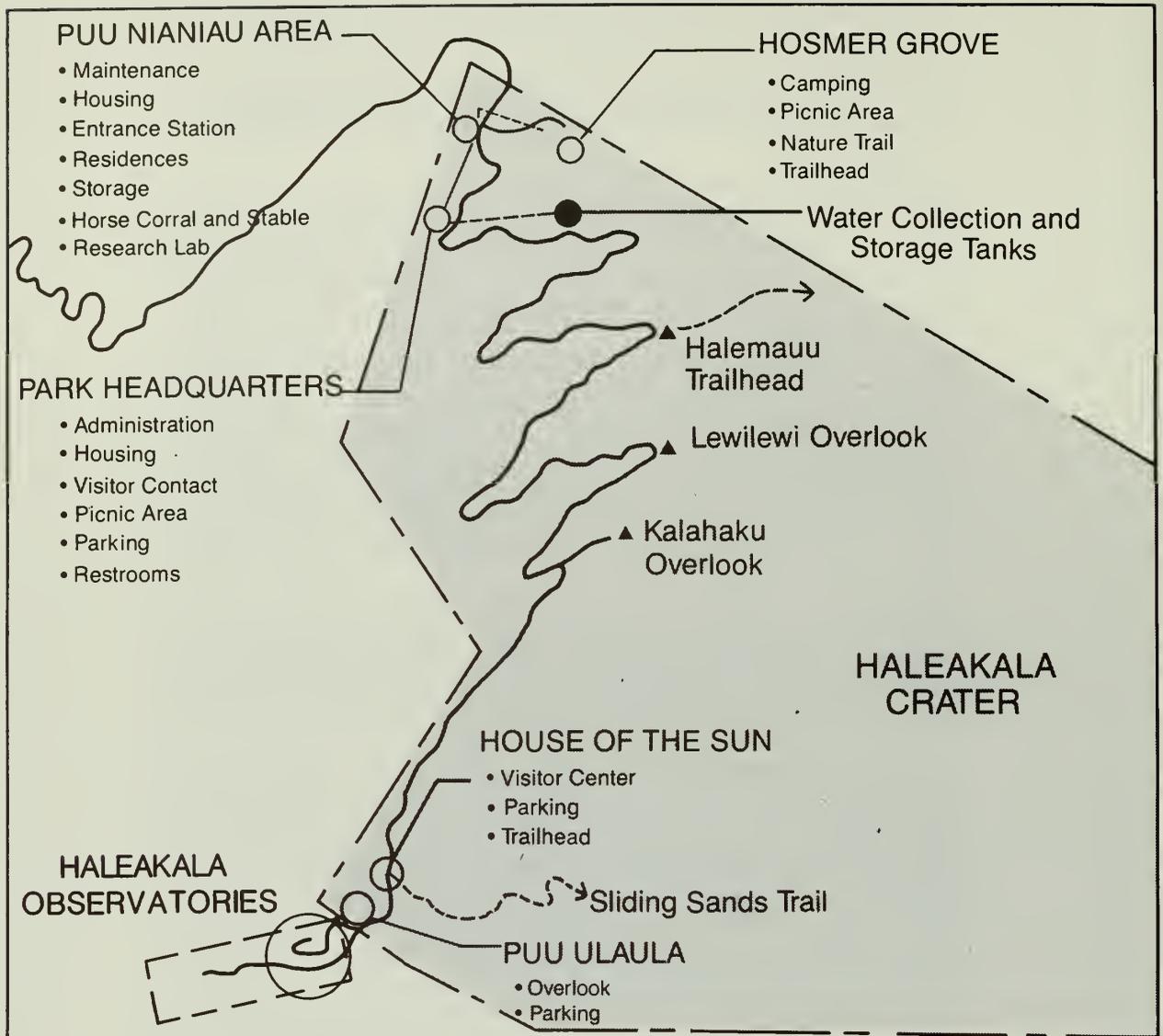
The park was created from territorial and private lands donated to the United States. The Act of February 27, 1920 (41 Stat. 452) authorized the Governor of the Territory to acquire privately owned lands and rights-of-way within the boundaries of the park.

The June 20, 1938 Act (52 Stat. 781), which dealt mainly with the Island of Hawai'i section of Hawai'i National Park, also covered the Haleakalā section. The Act provided that any lands adjacent to or contiguous to the park, which, according to the discretion of the Secretary of the Interior, were necessary for the proper rounding out of the park's boundaries, could be added to the park provided that the United States not purchase them with moneys or by land exchange. The lands could be acquired only by public or private donation. Moreover, they could be considered within the park only when title was vested in the United States.

In 1951, under the provisions of the 1938 Act, by Secretarial Order, the acquisition of about 9,000 acres of land in public and private ownership within the Kīpahulu Forest Reserve in the upper Kīpahulu Valley and Kuiki was authorized.

By Congressional action on September 13, 1960 (74 Stat. 881), Haleakalā, previously a detached portion of Hawai'i National Park on the Island of Hawai'i, was established as a separate unit of the national park system to be known as Haleakalā National Park.

In 1969 the Secretary of the Interior, by authority of the 1938 Act, once again authorized additions to the park. These lands, in the lower Kīpahulu Valley, would allow the park to be extended down to the ocean.



EXISTING FACILITIES

Haleakala National Park, Maui



PARK BOUNDARY



TRAILS



DEVELOPED AREA



WATER TANKS AND LINES



2000 0 2000 4000



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During that same year, The Nature Conservancy (TNC) donated more than 3,700 acres of lands within the 1951 extension to the National Park Service. The Conservancy placed a restriction on their transferring deeds, requiring that the National Park Service not construct development of any type above the 3,100-foot elevation in the Kīpahulu valley.

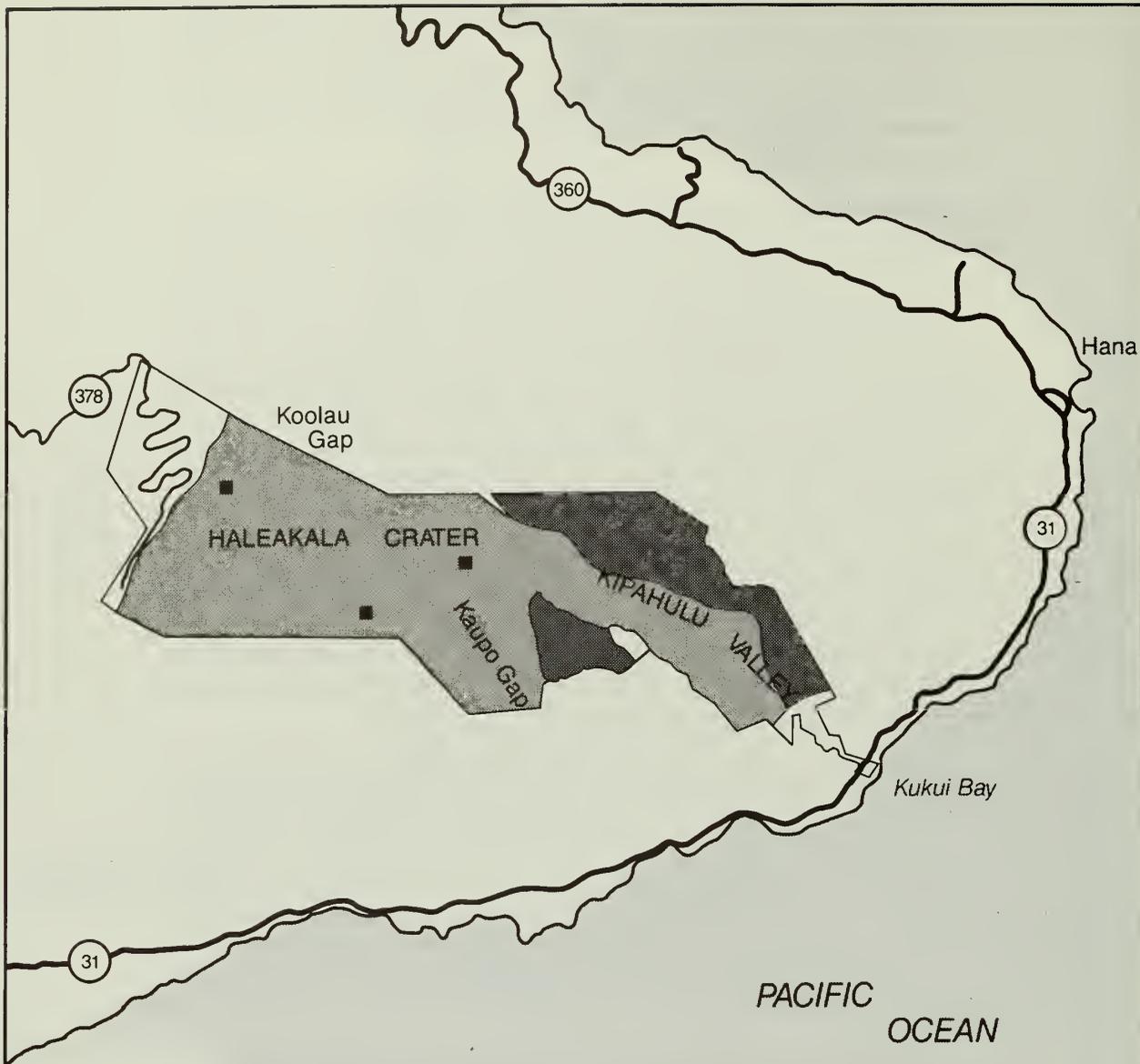
In 1974 the State of Hawai'i by quitclaim deed donated more than 6,000 acres of their lands within the 1951 and 1969 extensions to the National Park Service. Donation of State lands to the park provided that water rights be reserved and that there would be no development that would be detrimental to the scenic aspects of the area. There is also a patent restriction which states that the land be granted to the Federal Government, "...provided, however, that if any part or the whole of the lands conveyed shall be abandoned or shall cease to be used for national park purposes for two (2) consecutive years, such part or the whole of said lands shall automatically revert to the Patentor and resume the status of public lands of the State of Hawai'i."

In 1984 the National Park Service agreed to permit the State to assign its reserved water rights in the form of pipeline and access easements to the two village associations which the easements service. The transfer of the easement rights was an assignment by the State of its reserved rights-of-way over the existing pipelines and not a conveyance or grant of easements over Federal lands.

In 1969 and 1970, TNC donated lands within the 1969 extension to the National Park Service. Unlike the lands within the 1951 extension, TNC was able to convey only a single tract in fee simple because of unclear title in the others. However, in 1969, a one percent undivided interest was conveyed to NPS by TNC on several tracts. In the more than 20 years since the Conservancy has been working to ascertain the state of title on their remaining Kīpahulu lands. Where they have been able to document clear title, those lands have been and will be transferred to the park.

In 1976, the 1960 Act establishing Haleakalā was amended (90 Stat. 2732). The amendment authorized the Secretary of the Interior to purchase lands in the lower Kīpahulu Valley. The area within which the Secretary could purchase included the addition proposed in 1969, plus lands on both sides of that addition. The 1976 amendment did not change the boundaries of the park.

The 1976 amendment also authorized an appropriation of up to \$920,000. These funds were to be used by the National Park Service to purchase the remaining interest in seven tracts of lands in the lower Kīpahulu Valley in which TNC had previously acquired an interest. Title searches had revealed that these tracts had clouded title. In order for the National Park Service to legally accept the donation of TNC interest in these tracts any remaining unknown interest first had to be ascertained. Once determined, the appropriation was to be used to purchase that interest.



HALEAKALA WILDERNESS AREA

Haleakala National Park, Maui



Wilderness



Non-Wilderness
Enclaves



Potential Wilderness Addition

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4000 0 4000 8000



Feet

Also in 1976, 19,270 acres of Haleakalā National Park were designated Wilderness by Act of Congress (90 Stat. 2692), in accordance with the Wilderness Act of 1964. The areas designated encompassed the crater and the central portion of the upper Kīpahulu Valley. Three small enclaves in the crater were excluded due to the presence of public use cabins there.

Approximately 5,000 acres of State of Hawai'i lands in the upper Kīpahulu Valley were classified as "potential wilderness additions," meaning they could subsequently be designated without Congressional approval pending their transfer to the park and the cessation of any inappropriate uses there. These State lands have since been deeded to the park and are presently being managed as defacto wilderness. A legal review of deed restrictions and encumbrances is needed to ensure that any inappropriate uses have been eliminated before formal designation takes place.

Public Law 100-91 authorizes a three-year study beginning May 1987 to determine the appropriate minimum altitude for aircraft over national park system units. This law made it illegal for any fixed wing aircraft or helicopter flying under visual flight rules to fly at an altitude below 9,500 feet over the surface of any of the following areas in Haleakalā National Park: Haleakalā Crater, Crater Cabins, the Scientific Research Reserve, Halemau'u Trail, Kaupō Gap, or any designated tourist viewpoint. The study was completed in 1992. Haleakalā National Park has publicly recommended that flights over the crater and Kīpahulu Valley be prohibited.

Status of the Kīpahulu Lands. The National Park Service found itself unable to carry out the purchase of the seven tracts mentioned earlier. This was based on a U. S. Department of Justice ruling that the National Park Service could not accept an unknown interest in lands. A condemnation action was subsequently filed by the National Park Service on the seven tracts as the means of defining title.

These condemnation proceedings were undertaken for the sole purpose of determining the residual ownership on those seven tracts in the lower Kīpahulu Valley. Based on the preliminary title insurance policies on the seven tracts, it appeared that the main problem was lack of probate records to establish ownership through inheritance, although there were also many breaks in the chains of title. Once title was cleared, the legal obstacles which had heretofore prevented the National Park Service from accepting TNC interest in these tracts would be removed. The \$920,000 appropriation could then be used to purchase the non-TNC interests in the seven tracts and the National Park Service could then accept the donation of TNC's interest in the tracts.

The condemnation action apparently caught the local community by surprise and it suddenly and unexpectedly became a controversial issue. National Park Service and TNC's motives were misunderstood and both organizations subsequently were accused of trying to take these lands without fair compensation. As a result, condemnation

proceedings were dropped by the National Park Service in 1980. The dropping of the condemnation action by the National Park Service, it was felt, would allow local residents time to find alternative ways to accommodate resource management, visitor use, the responsibilities of the National Park Service, and the perpetuation of the existing way of life at Kīpahulu.

At about the same time the condemnation proceedings were dropped, a report, "Community Alternative Plan for Kīpahulu Valley," was released by the Kīpahulu Planning Project Steering Committee. This committee was composed of individuals selected primarily by the community of Hāna. The purpose of the plan was to develop recommendations for the future long-term ownership and management of the lower Kīpahulu Valley which would have the support of the East Maui community. The development of the report was sponsored and funded by TNC.

The plan recommended the establishment of a Hawaiian Community Land Trust to own and manage lands in the lower Kīpahulu Valley. The plan was finalized and recommendations were presented to TNC; however, none of these recommendations have been implemented.

The National Park Service, at the time of the plan's release, saw no problem with a trust assuming land management responsibilities in portions of the lower Kīpahulu Valley, but indicated that a detailed agreement would first have to be worked out between the two parties.

In 1980 TNC funded the development of a detailed baseline biological study of the lower Kīpahulu Valley. The study, completed in 1981, was conducted by the National Park Service Cooperative Studies Unit at the University of Hawai'i (Department of Botany). Recommendations contained in the study called for the implementation of land management practices for the lower valley as a biological preserve to protect both the pristine upper valley and those few rare native species and habitats remaining in the lower valley.

Based on the recommendations contained in the University of Hawai'i study, TNC prepared its own Kīpahulu Valley Project Five-Year Plan. Finalized in December 1981, the plan's purpose was to guide the Conservancy towards the accomplishment of its goals for the Kīpahulu Valley. These goals were:

- Preservation of the natural biological diversity of the Kīpahulu Valley.
- Preservation of the Kīpahulu Valley's "sense of Hawaiian place," including its aesthetic beauty, rural atmosphere, and archeological and historic attributes.

TNC's plan divided the Kīpahulu Valley into seven zones, each prioritized according to the significance of the biological values they contain. The plan spells out objectives and strategies for

accomplishing objectives for each zone to guide the future management and ownership of the entire Kīpahulu Valley (from the coast to the rim of Haleakalā Crater).

In TNC's plan, the zone afforded the highest priority was the upper Kīpahulu Valley, from the 2,000-foot elevation up to the crater rim "containing an extraordinary remnant native forest ecosystem..." Next in biological importance was the "upper valley buffer" zone, from the Kaukau'ai Gulch on the west to east of the Pua'alu'u Stream watershed; the lower elevational limit varies from approximately the 1,400-foot elevation down to 600 feet. The main value of this zone is to act as a buffer for the upper valley. Third in biological importance was the Pua'alu'u Stream itself. This zone contains habitat for a gobiid fish species which is a candidate for endangered status, an extremely rare damsel fly and other endemic insects. The most serious threat here is any diversion of water from the stream.

An important conclusion reached in the plan was that the valley needs to be managed as a single biological unit, regardless of ownership. The plan recognized that implementation of its recommendations would require the support of the local community, the County, the State, the National Park Service, and the landowners.

Thus, despite good efforts by the local community and TNC to develop a comprehensive plan for the protection and management of Kīpahulu, provide for public use, and maintain the existing way of life there, the land situation here remained largely unresolved. Too, those Kīpahulu landowners who preferred to sell their interests were unable to do so. As noted, TNC has continued their efforts to clear title on their Kīpahulu lands and additional lands with clear title have been transferred to the National Park Service. But they have not been able to find a way, short of litigation or extraordinarily costly title reports, to secure title evidence meeting Federal requirements on all their lands. TNC never intended to own lands at Kīpahulu on a long-term basis and would like to transfer its remaining interests there to the National Park Service.

During 1985 preparation of a land protection plan was undertaken for Haleakalā National Park. The development of this plan gave the National Park Service the opportunity to clearly and publicly state its intentions with regard to land acquisition at Haleakalā. A major goal of this planning effort was to identify those lands in the Kīpahulu area which needed to be in Federal ownership in order for national park management objectives to be realized. Criteria used to make this determination consisted of the following: lands that are being used by visitors; lands needed for capital improvements; lands required for the protection and preservation of significant endemic biological resources; and lands to protect archeological and/or historic sites and features. Based on the criteria, out of about 1,385 acres proposed as additions to the park by the 1951 and 1969 Secretarial Orders and the 1976 Amendment, the land protection plan recommended that about 796 acres of Kīpahulu lands needed to be acquired for resource protection and the provision of visitor safety and services. All of

these lands were in private ownership except for a single tract owned by the State of Hawai'i. The park's land protection plan, following public review, was approved in 1987.

The approved plan was utilized as the basis for seeking land acquisition monies. The National Park Service budget for FY87 and FY88 contained \$1,000,000 and \$500,000, respectively, for land acquisition at Haleakalā. Department of the Interior Solicitors concluded (December 3, 1987) that it was the intent of Congress that the land acquisition appropriation was for all lands identified in the land protection plan, not just the lands at Kīpahulu. The National Park Service is proceeding with the implementation of the plan.

ENVIRONMENTAL CONSEQUENCES

The Proposal

The actions called for in the proposal are generally designed to protect and manage park resources in such a way that impact on the park's unique features will be minimized and the perception of visitors and local residents on the quality and use of the resources will be improved. This will be accomplished through addition of new lands and the upgrading of facilities in areas where use patterns have already been established. Only in the Kīpahulu area will there be new facilities proposed and these are quite minimal. The proposals at Kīpahulu will serve to improve the quality of visitor services that already exist.

Proposed management and administrative actions are also an extension of the existing operation and will serve as a more sophisticated means of protecting resources and providing needed visitor services. Preserving biological diversity is a major consideration that pervades all impacts analyzed. Conformance with endangered species laws and protection of native Hawaiian ecosystems is considered prerequisite to preserving thousands of individual species for most of which there is very little biological information available. The following is a discussion of individual elements of the park and regional environment and the impact of the proposal on that environment.

Impact on Vegetation

The effect of the proposal on this segment of the environment may be classified into four general sources: the addition of new lands, proposed new development, proposed management programs, and the effect of increased visitor use. The effect of the proposals on rare and endangered plant species is to a large extent unknown at this time.

Addition of New Park Land. The proposed additions will have little impact overall on park vegetation.

The proposed addition in the lower Kīpahulu Valley are composed of vegetation where alien plants dominate. Hawaiians, prior to European contact, carried out subsistence agricultural activities over much of this area. In the latter part of the last century, this area was used for growing sugar cane, followed by pineapple for a short period of time, and finally for cattle grazing. Today, the area is mostly former pasture, composed primarily of introduced pangola and rattail grasses interspersed with alien trees and shrubs.

The proposed West Crater Rim addition will effect the immediately adjacent park land by providing a buffer between the sparse native plant communities within the park and the grazing land outside. Since it is part of the original silversword habitat, the West Crater Rim

provides a greater opportunity for this important species to re-establish itself within its former range. It also is nesting habitat for the dark-rumped petrel.

The proposed Hosmer Grove addition will include more of the grove (a planting of alien trees with some historic significance) within the park. There will be no known impact on park vegetation resulting from this action. Other than *Geranium arboreum*, there are no rare and endangered plants known to exist in the proposed addition.

The 229 acres proposed for addition on the west side of the lower Kīpahulu Valley involve land covered with a mixture of native and alien vegetation. Native plant species predominate in the higher elevations and on the western side along the Koukou'ai Stream. Along the stream is a closed canopy *koa* forest with a mixed understory. Although no major change in direct land management is proposed, the completion of a logical physical unit which this addition provides will help ensure the continuation of the native vegetation in the valley above.

The proposed Kaupō Ranch addition encompasses a more than 6,000-acre area that was originally covered mostly by native dryland forest. Much of this plant community has been grossly disturbed by goats, pigs, cattle, and horses. However, there still are remnants of the native dryland forest found throughout the area. In addition, scattered sandalwood trees occur as low as the 3,000-foot elevation. Though few in number, the remaining trees are impressive — up to 25 feet high, making them some of the tallest sandalwood trees left in Hawai'i. There are thousands of *wiliwili* found within this area. This native has been able to hold its own in competition with the alien *kiawe*, guava, and *ekoa* trees now growing there. The dwarf *naupaka*, officially listed as an endangered species by the U. S. Fish and Wildlife Service, occurs near the coast and is being threatened by browsing domestic cattle.

Proposed Development. On the West Crater Rim, proposed development and use will cause some minor disturbance to vegetation because of the reorganization of interpretive facilities at the summit.

The entire summit area is environmentally sensitive. However, the expanded interpretive structure at House of the Sun near Haleakalā's summit will have only minimal impact on the vegetation since the only acreage disturbed will be that for the building itself (about one-fourth acre). Removal of the summit overlook structures and replacement with a lower profile facility will essentially have no impact on the vegetation in this nearly barren area.

The reconstruction of the water system at headquarters has been completed. New construction has disturbed about two acres, including a new catchment system (56,500 square feet), new storage tanks, and a new access road. All new water lines have been laid under the road and, thus, will not have any additional impact on vegetation.

The use on the West Crater Rim is proposed to remain as it now exists, and impacts result mainly from the improvement of existing facilities.

The House of the Sun visitor center interpretive facility is proposed for expansion. Design of the facility and structuring of public use will help mitigate potential danger to the nearby nesting area of the dark-rumped petrel. This will be accomplished primarily by providing a larger self-contained indoor facility for viewing and interpretation. This will, in turn, keep more visitors indoors during their visit to the summit, keep them further removed from nesting areas, reduce potential disturbance to nearby burrows, and lessen the amount of rat-attracting garbage.

Improvement of the water system on the West Crater Rim included specific measures to minimize environmental impact. Specifically, the new rain catchment structure and water storage tanks have been located near the road to minimize need for vehicular access and is at a site determined to be least visible to visitors from points along the Crater Rim road. The catchment structure itself has several special features designed to minimize visual intrusion and disturbance to the ground: it is suspended above the ground and supported by vertical supports; its color harmonizes with the surrounding landscape; native plants have been placed around the edge to break up the geometric shape; lava boulders have been placed on the upper surface to further minimize visibility; and the structure has been terraced to further minimize its formal shape.

All water lines have been located along and under the road, thereby almost entirely mitigating any impact on vegetation. Three feeder lines link up Hosmer Grove campground, the research center, and the park housing area.

Much of the development proposed at Kīpahulu is in the design state at this time. Entrance roads to the parking area, trails, picnic areas, campgrounds, and utilities will be entirely on previously grazed or impacted areas with no native vegetation. The total acreage disturbed by proposed construction and additional uses will be about 10 acres.

Previous planning for Kīpahulu analyzed the land and proposed uses that will provide for visitor use while still minimizing adverse impacts, such as danger to endemic plant communities and rare bird species, the spread of alien plants, conflict of uses along the coast, danger to archeological sites, and intangible social and cultural impacts. Mitigating measures include the following:

- Provide vehicular access only to the existing coastal road and land *makai* (seaward) in order to provide a buffer zone that will help protect the fragile biota of Kīpahulu Valley.

- Provide some walk-in campsites, predominantly for use by local residents for night fishing, in order to minimize conflict with off-island camping use.

Where possible, place facilities in areas already disturbed by agricultural use in order to minimize impact on historic and cultural sites.

Separate administrative facilities from visitor facilities in order to avoid unnecessary concentration and congestion.

If visitation to the existing park and use of lands proposed for addition increased, there will be additional physical impact on the land. These effects will be mitigated through methods such as design and location of new facilities, improvement of some existing facilities, and redirection of visitor impact.

The overall impact on vegetation resulting from proposed development will involve no more than a total of about 20 acres, all of which are covered by alien plants. This impact is not considered to be significant. About five acres on the West Crater Rim will experience more or less permanent impact.

Management Programs. Individual elements of the proposed management program have some specific general effects on park endemic ecosystems. One is the designation of the upper Kīpahulu Valley and some native grassland as a research natural area and the prohibition of use by visitors. Through this action and those discussed below, the fragile native plant communities within the 8,000-acre research natural area will have their greatest chance for preservation. Furthermore, these plant communities may contain individual species that would qualify for inclusion on the list of endangered and threatened plants.

Proposed alien animal and plant control, management of visitor use, and the application of research based recommendations will improve native plant habitat. Some specific measures that will accomplish this are listed below.

Remove certain aggressive alien plants by direct physical means in certain areas.

Collect seeds and propagate endemic plants to be replanted in their original habitat.

Research to determine control methods for feral pigs, mongooses, and other such introduced animals that threaten park flora and fauna.

Conduct interpretive and information programs to inform visitors of the adverse impacts of alien plants on native species.

Moreover, continual monitoring and research may provide new data to improve management techniques, thereby having the impact of further ensuring the continued existence of native plant and animal communities and individual endemic species throughout the park.

Management proposals for the Kīpahulu coast are not designed to materially change current conditions. Thus, their impact will be minimal and the open pastoral character of the area will be retained. The continued selective use of herbicides is expected to have impact only on specific exotic shrubs around the edges of open areas and not on general plant groupings.

Management of upper Kīpahulu Valley as a research natural area mitigates potential damage to endemic plants and animals by excluding public use. Potential damage to resources as a result of research will be minimized through the requirement that all research projects meet strict standards and be authorized in writing by the Superintendent. The number of projects will be limited, and the type and amount of access into the valley will be regulated. More careful control of backcountry use and structuring of use at Kīpahulu will minimize potential damage to Kīpahulu resources resulting from unauthorized entry.

Management proposals for the Kaupō area, if it were to be added to the park, would be similar to the Kīpahulu coastal area since much of the Kaupō area's vegetation has been grossly disturbed by decades of ranching. Wherever possible, however, resource management would include measures for alien plant removal, control of feral ungulates, and other introduced animals, and the propagation of native and endemic plants. These would all be long-term and beneficial effects.

Visitor Use. Impact from this source will be in specific areas where use is most concentrated and will manifest itself in trampling of vegetation and possible removal of individual native plants. Most of the concentrated use will be in areas, such as Kīpahulu, where the dominant alien plants are much more able to withstand such use. Only along upper elevations at the West Crater Rim is there a combination of concentrated use and a scattering of fragile plants, which will produce a potential adverse impact. In addition, concentrated backcountry use in the vicinity of Palikū, Hōlua, and Kapalaoa will be a potential for localized destruction of vegetative cover.

There is a potential for adverse impact on the fragile plant communities in Kīpahulu Valley as a result of unauthorized entry by visitors who could introduce alien grasses and other plants by inadvertently carrying seeds on shoes and clothing. Possible points of entry are either from the Kīpahulu coastal area or from the crater near Palikū.

Conclusion. The overall impact of the proposal on vegetation is considered to be positive, as it assists in preservation of fragile native plants and plant communities — resources that would continue to be damaged or might be destroyed were the proposal not implemented. Adverse impact will be mainly a result of increased visitor use. This would be manifested by the trampling of plants, including rare native species in and around developed areas, along trails, and camping areas in the backcountry, and on the summit of Haleakalā. Small amounts of native vegetation around the pools in the 'Ohe'o Gulch could also

be adversely affected in a similar way. There also could be unauthorized entry into upper Kīpahulu Valley. All of the 20 acres of land to be used for development has already been disturbed and is covered by alien plant species. These effects are not considered to be major.

Impact on Wildlife

Impact on two elements of wildlife will be discussed here — the native or endemic populations and the alien or feral populations.

As a result of the fencing and direct reduction programs, feral goat populations will continue to be eliminated when any enter the park through a break in the fence; and as the means are found through research, there should be a reduction in the population of other alien species, such as mongooses and rats. These population reductions will, in turn, have a decided positive impact on endangered plants and animals, with emphasis on bird species, such as the dark-rumped petrel which nests near the House of the Sun and the *nēnē*, which is now present in and around the crater.

There will also be a positive impact on the rare and endangered honeycreepers found in Kīpahulu Valley as a result of the proposal for non-use of that area (except for approved research). This positive impact on the endemic birds is the result of preserving native plant communities in their critical habitat.

There is a potential adverse impact on the petrel nesting areas near the House of the Sun as a result of the concentration of visitors in that area. This could manifest itself in specific ways.

1. Petrels could become confused by or attracted to bright lights at night.
2. People making noise may disrupt or disturb nesting birds.
3. Mongoose and rats may be attracted to trash left by humans and may then raid burrows as an additional source of food.

There are an estimated 2,000 petrels in the Maui populations, but not all are breeding pairs. About 600 (latest estimate) burrows are known to be active. There is the potential that the construction connected with expanding the visitor center at House of the Sun may disturb burrows in the immediate vicinity. This would be an adverse effect. Results of research indicates that there is little interaction between the night flying petrel and visitors to the summit. The major threat to petrels is the presence of mongooses and feral cats in the breeding colony.

Unauthorized visitor use of Kīpahulu Valley and even research in that area may have some adverse impact on native bird populations. It should be recognized that any entry into Kīpahulu may constitute a

threat to the endemic plant communities and therefore to the rare and endangered birds.

The proposed development in the Kīpahulu area will not have a harmful effect on the flora and fauna of the streams and coastal waters.

The majority of these measures will follow the requirements of the Endangered Species Act. To satisfy these requirements, park management will be involved in specific actions as follows:

Participate in recovery teams to recommend establishment of essential habitat for individual species and manage the habitat in accordance with the identified regulations when the area is within the park.

Conduct research which may identify new species that should be added to the recommended threatened and endangered listing.

Assist in enforcement of appropriate rules and regulations of the Endangered Species Act.

Alter management programs and redesign or relocate visitor use areas where those programs constitute a threat to individual species or their critical habitat.

Institute additional inventory work, monitoring, and basic research studies on park resources in order to expand knowledge of both individual species and the park's varied ecosystems.

Improve management techniques that will identify specific elements of the environment and implement appropriate new measures that will protect individual species and control competing alien biota.

Conclusion. With continuing increases in visitation, the danger to Haleakalā's wildlife remains. There are several ways in which this could occur:

Disturbance of *nēnē* in their habitat.

Potential disturbance of the petrel burrows near the House of the Sun Visitor Center through continuing visitation.

Disturbance of rare and endangered bird habitat of Kīpahulu Valley, the Hāna rain forest, Kalapawili Ridge, and Kuiki by unauthorized use.

Unauthorized collection of plants, insects, mollusks, etc.

Potential increase of rodent concentration through inadvertent littering, especially at the summit of Haleakalā and in the crater cabin areas.

Accidental introduction of alien insects and plant seed, which can be carried in by visitors or in construction materials.

Even though research in the Kīpahulu Valley will be carefully controlled by park administration, there is always a danger of further introduction of alien plants by feral pigs and visitor activities. This is because any human contact with the valley's environment carries with it the possibility of inadvertently bringing in new species of plants and insects carried on shoes, clothing, or equipment, thus constituting potential unavoidable impact on the valley's ecosystem.

The overall impact on wildlife, however, is still considered to be positive, as native species will have a greater chance for survival, due primarily to four actions: establishment of non-use policy for Kīpahulu Valley, reduction of competing introduced species, preservation of native habitat as previously described and continuing research to find better methods of control and preservation. Adverse impacts are associated either with research operations or with construction and visitor use in and around petrel nesting areas. These are considered minor.

Impact on Soils

Effects are almost entirely connected with construction of new facilities, which will disturb a total of not more than 20 acres of soil cover. This is considered to be a minimal impact and includes compaction of soils in concentrated visitor use areas and direct soil disturbance during development of new facilities, including temporary disturbance related to boundary fence construction.

Impact on Air Quality

Air quality in the park is excellent at the present time. And, even with the addition of up to 500 cars and about 20 buses per day to the West Crater Rim and a comparable number to the Kīpahulu vicinity, it is not anticipated that pollution will be raised to a point exceeding Federal and State standards for air quality.

Impact on Water Quality

Any anticipated use of the water resource in the Kīpahulu area is not expected to be affected by the proposal for development and use. Previous tests on water quality in Palikea Stream do not indicate any measurable effect resulting from the existing grazing, use of herbicides, presence of feral pigs, or sanitary facilities. There is, however, a potential adverse impact resulting from continuation of these practices. This could affect water quality for swimming and preservation of freshwater biota. Total impact on water quality is, however, considered to be minimal and not expected to increase pollution to exceed State and Federal standards. A self-contained, composting system has been installed in the Kīpahulu coastal area for the disposal of human waste.

Management of Pīpīwai, Palikea and Kaukau'ai streams under the proposal will not affect future potential designation and protection under the Wild and Scenic Rivers Act.

Impact on Cultural Resources

Impact on historic sites and other cultural resources emanate essentially from four sources — increasing visitor use, development of new facilities, management programs, such as research or preservation of historic settings, and the addition of new lands to the park. The first two sources vary in their impact depending on the area of the park and on the amount and type of use expected.

West Crater Rim. New development proposed here is minimal and involves disturbance of land in only a few isolated sites. Expansion of the interpretive facility at the House of the Sun involve impacted land not known to contain any cultural values. The total impact of the proposal on West Crater Rim cultural sites is negligible and associated with increased visitor use. There is the potential for physical damage to new sites that may be discovered during detailed planning and construction.

Haleakalā Crater. No new development is proposed within the Crater. There may be some increase in use of this backcountry area by hikers and campers, which could result in danger to a limited number of archeological remains, particularly any sites near public use areas. Damage would manifest itself in unauthorized removal of artifacts and inadvertent physical disturbance to structural remains. However, the overall effect is expected to be very minor, because sites are in widely scattered locations and there are very few visual remains obvious to the itinerant visitor.

Kīpahulu Area. There will be a positive intangible cultural impact on native Hawaiians as a result of the proposed management practices involving preservation, stabilization, and interpretation. With a greater understanding of early Hawaiian lifestyles, Hawaiians may gain a greater pride in their cultural heritage. Adverse cultural effects may result when ruins stabilization or interpretive programs touch those intangible but very sensitive cultural values in a manner that may be offensive to native Hawaiians. Examples of this potential adverse impact may be disturbance of burials or insensitive interpretation (unintentional) of various aspects of the culture.

Potential adverse impact from use and development is greatest in the Kīpahulu area. Archeological and historic sites are concentrated in this coastal area; and interpretive programs will draw the visitor's attention to these resources, including *heiau*, taro terraces, and associated remains. Visitor use and development will also continue to be most concentrated in the vicinity of these sites, creating the potential for physical damage to sites and removal of historic objects. Conversely, the improvement of facilities and a more structured use pattern will channel visitation away from unexcavated archeological

sites. The total adverse impact on sites in the Kīpahulu area is expected to be minor.

Parkwide Research and Ruins Preservation. The impact of the archeological research proposals will be almost entirely positive. Archeological studies will identify any additional resources needing protection, will assist in interpretation, and will help ensure future management. Visitor use will have a minimum adverse impact on these irreplaceable sites. Probably the only negative impact will result from future research and stabilization projects that alter or remove materials from the sites and make future research more difficult. The overall impact of research and ruins preservation, however, is considered positive.

Measures to Mitigate Effects on Historic and Archeological Resources. All actions proposed in this plan will comply with the procedures of the Advisory Council on Historic Preservation (36 CFR Part 800) and National Park Service Management Policies and Guidelines.

Professional archeological surveys, studies, evaluations, and recommendations will be obtained prior to any historic stabilization, restoration, or excavation within the national park. Specific plans will be prepared; and the State Historic Preservation Officer will be consulted for the professional determination of effect, determination of adverse or no adverse effect, and avoidance and mitigation of any adverse effect. On-site monitoring will be conducted by the Pacific Area Archeologist.

Upon acquisition of the proposed additions to the park, the National Park Service will postpone management decisions until inventories, studies, and evaluations are completed in accordance with Section 110 of the National Historic Preservation Act, as amended. Where significant cultural resources are identified, the National Register forms will be revised to reflect the additional resources.

Prior to the construction of proposed developments, all project areas will be surveyed for archeological and historical remains by appropriate professionals. Detailed archeological inspection will include those locations proposed for picnic areas, parking, trails, roads, utilities, boundary fencing, interpretive and administrative facilities, or any other project involving ground disturbance. Where possible, the location of development will be moved or reoriented to preserve archeological materials. As a last resort, and only after review, the site will be salvaged.

The State Historic Preservation Officer and the Advisory Council on Historic Preservation would be afforded the opportunity to comment on all future projects for which data are not presently available. This may be necessary due to the conceptual nature of the general management plan and will include all projects that affect historic resources.

Conclusion. New facilities and associated increased use will have some unavoidable adverse effects on cultural resources. Much of this will come from the physical presence of visitors in the vicinity of specific sites and the attendant danger of damage to structures or removal of artifacts. On-site management by the National Park Service to control visitor use would lessen these adverse effects.

Some excavation and salvage work may also be necessary. Consequently, there will be a residual loss of some historic resources since they would no longer be in place and available for further study. Research activities on other sites within the park will have the same potential. The total impact of actions proposed in the general management plan on cultural resources are, in general, positive. Adverse impacts are considered minimal, being associated with construction of new or replacement facilities and continuing visitor use.

Impact on Visitor Use

The general impact of the proposal on visitor use will be to provide the increased number of visitors with a better park experience within Haleakalā National Park without expanding their zone of impact. This includes viewing and hiking into Haleakalā Crater, swimming in the freshwater pools in the 'Ohe'o Gulch, visiting remnants of ancient Hawaiian lifestyle and land use, and hiking to the edge of and viewing one of the best examples of native Hawaiian rain forest.

Opportunities for camping will be expanded at Kīpahulu. Although this use exists now, it is on a very informal basis and will need at least minimal facilities. The result of the proposed action will be to refine and more adequately identify camping areas, thereby localizing impacts from this use. This same impact will occur in the crater backcountry, where there will continue to be provisions for cabin use as well as tent camping.

Adverse impact on visitor use involves safety control and prohibition of certain uses. Continued closure of Kīpahulu Valley to visitor use means that there will be no opportunity for visitors to experience its unique biota first hand.

Increased camping, hiking, and picnicking at Kīpahulu may conflict with local fishing use, which has traditionally been enjoyed in an atmosphere of serenity. Finally, there will be a continual safety problem for swimmers in the 'Ohe'o Gulch pools due to the presence of submerged rocks and the danger of flash floods after heavy rainfall in the upper elevations. This is to be mitigated by the proposed construction of two foot bridges at the confluence of the Pīpīwai and Palikeya streams to provide safe passage for visitors during high water.

If the Kaupō Ranch area were to be added to the park, there will be a positive impact on visitor use. The existing trail could be more easily marked, maintained, rerouted for scenic and environmental reasons, and any necessary interpretation would be provided.

Confusion about trail location, conflict with private landowners, and potential trail hazards would be minimized.

Measures to mitigate the effects of visitor use on natural and cultural resources involve two major devices — location and design of facilities and interpretive and informational programs.

Facilities and areas of heavy visitor use will, when possible, be located away from fragile resources, both cultural and natural. Where visitor proximity to fragile resources is unavoidable, sensitive design of the facility and more direct control of use will be the most effective mitigating measure.

To mitigate the potential adverse effects of herbicide use of lands in lower Kīpahulu, there will be continued and increased monitoring of water, sediments, detritus and animal tissue to ensure that aquatic and marine life are not adversely affected and that the stream pools are safe for swimming.

The interpretive and informational programs will be designed, in part, as mitigating measures to minimize adverse impacts resulting from use. Specific measures and their effects are as follows:

Information on the fragile quality of the dark-rumped petrel nesting areas near House of the Sun Visitor Center to protect that unique and fragile resource.

Information on hazards to swimmers and hikers in the lower Kīpahulu area to minimize accidents.

Information on the fragile nature and importance of natural ecosystems and ecological features.

Information on the fragile nature and the importance of cultural remains to minimize "artifact hunting" and inadvertent damage by visitors.

Special emphasis on interpreting off-site the fragile environment of upper Kīpahulu Valley to act as a substitute for an on-the-ground visit to that area. This would minimize unauthorized visits.

Conclusion. The impact on visitation is considered to be generally positive, as it expands opportunities for use, improves the quality of the individual park experience, promotes greater understanding of natural resources and Hawaiian culture, and allows for unique recreational activities. In addition, there would be an improvement in visitor safety in areas such as the Kaupō Gap trail if the ranch area were added to the park. There are some adverse impacts. It must be recognized that improvement of facilities or addition of new development may stimulate more visitation, even though improvements are perceived only as providing for current use levels. In addition, there will continue to be a safety problem in the lower Kīpahulu area, particularly for swimmers in the streams.

Impact on Management

Two dominant impacts are apparent. As a result of the addition of new facilities, possible increases in visitation may occur and the cost of management will rise. Proposed facilities, however, will simplify and facilitate the management of resources and increase public safety. Except for Kaupō Ranch, the lands proposed for addition to the park will have negligible impact on management and administrative costs.

In the West Crater Rim and in the Crater, little change in management will be necessary, as visitation patterns will remain much as they are now.

Only the expanded interpretive structures at House of the Sun will increase management cost.

Although the proposed facilities for the Kīpahulu coastal area are limited and low-key, they will require additional personnel and funds for maintenance.

If backcountry use increases, there will be a parallel increase in visitor management problems relating to protection of archeological sites from disturbance, protection of plant species, such as the silversword, and the increasing danger of unauthorized use of Kīpahulu Valley by hikers entering that area from the east end of the crater.

General impact on management manifests itself as an increase in cost for maintenance of new facilities, for more complex management of resources and visitor use, and as a need for additional personnel. However, the proposals will improve overall operating efficiency and management of resources.

Impact on Land Use and Development

Lands Proposed for Addition to the Park. The current uses of the lands proposed for addition to the park are grazing and hunting. If the Kaupō Ranch were added to the park, grazing uses of the area and techniques for animal control would be examined in light of its historical theme and wildland fire control. There could be some decrease in the economic benefits associated with cattle raising on Kaupō Ranch lands. There is, however, some question about the long-term economic viability of cattle ranching in the area. Access to Kīpahulu Forest Reserve by hunters would become more liberal but controlled by the National Park Service. The West Rim addition is at an elevation which precludes plant cover; consequently, it is not suitable for grazing. There is, however, some limited hunting use. The Hosmer Grove addition is not grazed, but is part of a domestic watershed and is used by a few ranch hunters.

Conclusion. The impact on existing use of lands proposed for acquisition is minimal, since it has no effect on existing watershed use and involves land either of marginal value for grazing or where

grazing is a declining use or a very small part of a large grazing area already accessible to the public.

Cumulative Impacts

East Maui's Social Structure. This is an intangible impact involving the current lifestyle of a relatively small population, probably about 1,500 persons. The impact is the result of an influx of about 450,000 visitors per year. The destination of these visitors is Hāna and the coastal area of Kīpahulu, but the impact of this visitation touches several other small communities along the road — Ke'anae, Wailua, and Kaupō — from the major resort areas of West Maui. The scattered residential areas along the road around East Maui reflect a quiet rural atmosphere, with the absence of subdivision and the other usual formal developments connected with urban living. This environment permits an increasingly rare lifestyle in Hawai'i and one which requires considerable dependence on nearby resources for food gathering. This represents an important form of family activity for local East Maui residents.

Visitors to the area have the potential for creating an adverse impact on the local residents since their lifestyles are disrupted. Although there may be economic benefits that accrue, the social impact is considered to be almost entirely adverse, particularly in these rural coastal areas of East Maui. The adverse effect, however, may be inevitable and almost entirely independent of the proposal. Moreover, the National Park Service has no means to control the number of visitors who come to Kīpahulu via the State road. Visitors now come to Kīpahulu because of its popularity, its beauty, and its status as a national park. This pattern will almost certainly continue. The only proposal which may cause an additional increase in visitation is the continuation and formalization of overnight camping at Kīpahulu and the establishment of camping facilities in the Kaupō area should the ranch ever be added to the park. Only two other public campgrounds exist in rural East Maui.

Measures designed to mitigate the effects of the proposal on the existing and potential use patterns on land surrounding the park and on the current lifestyle of the residents of East Maui include consultation and cooperative planning with the State and with Maui County and increased public involvement.

The State of Hawai'i and County of Maui have exhibited an increasing interest in more effective planning controls for East Maui. Increased coordination among all levels of government to determine appropriate types of land use, type and capacity of facilities, and clarification of administrative and jurisdictional responsibilities will have the greatest potential for minimizing adverse sociological effects and impact on land use. Some specific items to be coordinated are as follows:

Determination of standards and capacities for any improvement of East Maui access roads.

A clear delineation of State, County, and Federal responsibility for the provision of recreation facilities and setting of capacities.

A more detailed examination of water needs for any future development in the Kīpahulu/Kaupō area and how it will affect public use, resource use, and rare and endangered biota in the Kīpahulu area.

Maintaining contact with private citizen groups and individuals will minimize the adverse impact on local lifestyles. Specific issues include the following:

Discussion of capacities and types of use appropriate to all areas in the park, as perceived by a wide range of local residents.

Specific discussions with native Hawaiian groups to assist in minimizing adverse impact on cultural values.

Specific discussion of design and location of any new facilities at Kīpahulu to minimize conflict between local citizens and visitors and between users and preservation of resources.

Lands Adjacent to the Park. The water resources on former State lands in the Kīpahulu Valley are reserved for use outside the park. While this is not an impact directly associated with the proposal, it is unavoidably intertwined with management of the park's resources. Precisely how or where the water resources will be used has not been determined, but it is expected to be mainly for agricultural purposes. Thus, as a result of the agreement with the State, opportunities for any expanded agricultural or other use on lands in the vicinity of Kīpahulu and Kaupō can be realized. Utilization of this resource will require water intake structures plus water lines or ditches crossing park land below the 1,200-foot elevation on land containing only isolated native plants. The extent of these structures is not known at this time, but is expected to involve not more than about ten acres. This type of development is, however, in potential conflict with visitor use and perpetuation of aquatic flora and fauna in this area.

Except for Haleakalā Observatories, there are no large development complexes in the immediate surroundings that could affect or be directly affected by park resources or activities. Construction of additional facilities in Haleakalā Observatories, near the summit of the West Crater Rim, could adversely affect views from within the park; but there will be no appreciable impact on Haleakalā Observatories as a result of the proposal.

The actual impact of the proposal on land use surrounding the park is considered minor. Projects such as upgrading of approach roads would occur independently of the general management plan proposals. Construction of a small number of new overnight accommodations in Hāna, however, may be stimulated by improvements in the Kīpahulu vicinity. However, expansion would probably occur independent of actions proposed in the plan. Finally, it must be recognized that most

anticipated changes in land use, road standards, and land management on East Maui would not be in direct response to the proposals in this plan nor are they measurably affected by it. Nearly all land bordering the park is undeveloped and used for grazing, ecosystem conservation (State natural area reserves and TNC's Waikamoi Reserve), limited hunting, and/or watershed protection. None of the proposals will have any identifiable adverse impact on these uses.

The Economy of Maui. Two economic effects are expected as a result of the proposal — impact on the county tax base and stimulation of the tourist economy of the Hāna area.

As a result of the proposed additions to the park and the authorization to expend funds to purchase the private interests in lands, there would be a very small loss in land tax revenues to Maui County each year. This loss represents an insignificant portion of the estimated yearly income which accrues to the county.

There are limited food and overnight facilities in the Hāna area. As park facilities are constructed and if use increases at Kīpahulu, there may be a greater demand for food service and overnight facilities. Thus, the economy of Hāna will depend to a greater degree on tourism, with the resultant economic benefits.

The general impact on the economy of the Island of Maui, even with the items discussed above, is considered to be very minor. The proposed additions to the park and the new facilities are not in themselves expected to stimulate any increase in visitation to the island nor to the park.

The proposed minimal development at Kīpahulu will have some adverse impact on the current quiet lifestyle on East Maui, but this is very difficult to quantify. The serene, relaxed atmosphere here has, of course, already been affected by the auto and bus traffic on the approach roads, and there is greater pressure for use of recreation resources now utilized on an informal basis by local citizens.

There is no way to mitigate the adverse impact on the county tax base even though it represents an insignificant portion of the revenues from land taxes. Finally, there is a small potential economic loss to the current private landowners because alternative uses of the land cannot be realized. This impact is expected to be minimal, however, since all private land proposed for addition is classified Conservation or Agriculture.

Relationship between Short-Term Uses and the Maintenance and Enhancement of Long-Term Productivity

Only a small percentage of the lands now included in Haleakalā National Park, or proposed for addition, have historically been utilized directly for production of food or raw materials; Haleakalā Crater and the West Crater Rim contain no known consumable resources such as minerals or commercial timber, nor is the land considered suitable for

agriculture. Kīpahulu Valley and adjacent lands contain no known mineral resources or potential for agriculture. There are, however, stands of *koa* which heretofore have not been assessed for their timber resource value. It is likely that ancient Hawaiians utilized some of this timber resource at the lower elevations, but there has been no known removal of *koa* or other marketable products from Kīpahulu within the last century. Limited hunting of goats and pigs in the crater and pigs in the lower Kīpahulu area are the only major potential short-term uses of these lands.

Only the coastal lands of Kīpahulu have a tradition of consumptive land uses. Here the ancient Hawaiians raised taro, bananas, breadfruit, and other food products. These uses gave way to sugar production, a short-lived try at growing pineapples, and then to cattle grazing.

There are some long-term ramifications for use of water. The major water source lies in Kīpahulu Valley. However, the State has reserved water rights on those coastal lands in the vicinity of the Kīpahulu section of the park which were formerly owned by them. Controls on how the water is collected and distributed will minimize the long-term effects that any development would have on the park's scenic and biotic resources.

Long-term productivity of East Maui lands will not be diminished by the proposal. Known potential for long-term land productivity can in fact be realized in part as a result of the proposals. Protection and preservation of biotic communities in Kīpahulu Valley will not only perpetuate unique ecosystems, but help to protect that area's water resource. Use of certain areas for development and visitor enjoyment will continue to affect the immediate environment but will also provide social benefits for local residents and visitors for a long period of time.

Irreversible and Irretrievable Commitments of Resources Involved in the Proposal

Implementation of the proposal would result in few irrevocable uses of resources. Rather than destruction of biotic or cultural resources, the proposal would, in fact, assist in ensuring their preservation. Lands proposed for acquisition contained no development.

The proposal calls for few new facilities and those few will be in areas where consideration was given to known endangered species of plants or animals and to archeological and historic resources. Therefore, no significant loss of natural or cultural resources is anticipated. It should be recognized, however, that even with design considerations and proposed mitigation, the face of the land in developed areas would undergo some changes.

No Action Alternative

Impacts related to this alternative describe the environmental consequences connected with continuing the present course of park operations.

Impact on Vegetation, Wildlife, and Soils. The impacts on vegetation with regard to the proposed additions would be the same as those described in the proposal, except for the more than 6,000-acre Kaupō Ranch addition. Under the no-action alternative, these lands would not be included as proposed additions. Consequently, no resource management efforts would be undertaken here for alien plant removal, or control of feral ungulates and other introduced animals. There would be no propagation of native and endemic plants to extend the dryland forest habitat to its original extent. Threatened and endangered plant species such as the dwarf *naupaka* would continue to be threatened by browsing cattle.

Under this alternative, there would be no impacts on vegetation due to the expansion of existing facilities. The 20-acre disturbed area containing alien plants where these facilities are to be located would remain in its present condition. Similarly, no soils would be effected by facility development under this alternative.

The no-action alternative would provide for less opportunity to implement management policies for the Kīpahulu Valley to reduce the competing introduced species and preserve native habitat as called for under the proposal. Also, research efforts to find better methods of control and preservation would have less chance of being carried out under this alternative.

Impact on Air Quality. Same as the proposal.

Impact on Water Quality. Same as the proposal, except that the current Kaupō Ranch and vicinity water supply, the source of which is in the park could be exploited for residential or commercial development diminishing streamflow in the park and Kīpahulu Forest Reserve.

Impact on Cultural Resources. Opportunities to implement management practices involving preservation, stabilization, and interpretation of cultural resources would be less under this alternative. In the Kīpahulu area there would be no improvements in facilities and no implementation of more structured use patterns to channel visitors away from archeological sites and features. Two major *heiau* and hundreds of undisturbed archeological sites located within the proposed Kaupō Ranch addition would be without federal protection and vulnerable to damage from development or adverse land use practices.

Impacts on Visitor Use. Without the improvements in facilities as called for in the proposal, there would be little chance to improve

visitor services under this alternative. There would also be no improvements in visitor safety in the Kaupō area under this alternative. The question of long-term visitor access into Haleakalā Crater would remain unresolved because about four miles of the Halemau'u Trail could remain in private ownership.

Impact on Management. With increasing visitation and aging, inadequate facilities, management will find it to be increasingly difficult to maintain visitor services to NPS standards. Inadequate office, administrative, and visitor use facilities may lead to a situation of low morale among park employees. These are all adverse effects.

Impacts on Land Use and Development. Under this alternative, there would be no major differences in land use and development on lands adjacent to the park as compared with the proposal. The most significant difference would be that the recreational opportunities of camping, hiking, nature study, cultural resource appreciation, and other typical national park activities would not be available in the Kaupō Ranch area. The Kaupō Ranch area would be subject to future residential and/or commercial development.

Cumulative Impacts. Implementation of the no-action alternative would not insignificantly affect the East Maui social structure and economy — either positively or adversely. The Hāna and Kīpahulu areas will continue to be major visitor attractions.

Minimum Requirements Alternative

Impacts related to this alternative on vegetation, wildlife, soils, air and water quality, cultural resources, management, land use and development, social structure and the economy would be identical to the proposal, except for those impacts associated with the acquisition of Kaupō Ranch property. Impacts on Kaupō Ranch property would be the same as those described under the no-action alternative.

CONSULTATION AND COORDINATION

Consultation and Coordination During Development of the Proposal and in the Preparation of Environmental Documentation

Plan proposals for the future management of Haleakalā have been under consideration and preparation for more than a decade. During that period, Federal agencies, State governmental bodies, local agencies, and individuals were contacted and gave advice on the proposals as they were developed. The following is a list indicating the sources contacted and their general contribution to the planning effort.

Department of the Interior

Bureau of Outdoor Recreation (later Heritage Conservation and Recreation Service and now merged with the National Park Service): A general review of proposals, particularly those involving boundary changes, was conducted early in the study.

U. S. Fish and Wildlife Service: Information was provided on endangered species and their critical habitat, specifically concerning impact on the petrel nesting areas that could result from proposed construction and future visitors' use.

State of Hawai'i

Office of Governor and Lieutenant Governor: A general review of the entire proposal and impact on State programs was conducted.

Department of Land and Natural Resources: Reviewed general management plan discussion of specific State programs as they apply to or are affected by Federal programs. Examples include the following:

Use and capacities of the Kīpahulu area as they relate to current recreation and trail system planning for Maui.

Information was obtained regarding resources and current uses of lands in the Kahukinui area adjacent to the park's south boundary near the southwest rift zone.

Proposed trail access, crossing private ranch lands, from Kaupō Gap to Route 31, was renewed. This relates to specific proposals being prepared by the State for public access in this area.

The effect of the alternative for the Manawainui addition to the park as it relates to potential hunting use and to forestry management of that area.

County of Maui

The effect of proposals on County plans for park and recreation, access patterns, and general land use. Particularly important was the effect of increasing visitation on land use in and around Hāna and on access roads around East Maui.

Bishop Museum

Information on previous studies of archeological resources was provided.

Coordination in the Review of the Draft Environmental Documentation

In 1979, a draft master plan and environmental documentation were distributed to the public for review by other Federal agencies, the State of Hawai'i, Maui County, along with interested organizations and individuals. Two public meetings were held to receive advice and opinion from interested organizations and individuals. One meeting was held in Kahului, Maui and a second in Honolulu. During these meetings, there was concern that camping at Hosmer Grove may have an impact upon County watershed lands. If camping was found to be a problem, it was felt that mitigating actions, such as relocating the campground or providing self-contained waste system, should be investigated. Other comments at the meeting related to concerns about the impact of increasing visitation in the Kīpahulu area on resources and on the rural lifestyle of East Maui. Moreover, strong feelings were expressed about any major development, such as roads and trails, which would further increase visitor use and traffic on existing roads.

There were a total of 46 written responses received on the draft general management plan and environmental documentation: 5 from Federal agencies, 6 from agencies of the State of Hawai'i, 2 from the University of Hawai'i, 1 from Maui County, 4 from organizations, and 28 from private individuals. One of the letters was signed by 34 private individuals; hence, there were a total of 79 signatures received. All written responses to the draft general management plan were reviewed and the comments they contained carefully considered. Based on the comments, changes, corrections, and additions were made to the draft.

Consultation and Coordination for the Updated Draft Environmental Impact Statement

On July 2, 1990, a Notice of Intent to prepare an environmental impact statement on the proposal and alternatives to be set forth in the

General Management Plan for Haleakalā National Park appeared in the Federal Register. This was done because the draft GMP/EIS previously circulated was not finalized. The current action is to update the documents for public review and comment. Requests were made to the public for scoping comments on the update. Based on the July 2 Federal Register notice, six letters were received — five requested copies of the updated documents when available, and one contained comments regarding recovery of the dark-rumped petrel and a survey to ascertain the status of the park's other endangered seabirds.

In September 1993, under the 1990 Programmatic Agreement for Section 106 compliance, copies of the preliminary review draft general management plan/environmental impact statement were sent under cover letter to the Hawai'i State Historic Preservation Officer and the Advisory Council on Historic Preservation for their review and comment. The letter indicated that the Park Service, after considering the effect of the undertaking, felt that an effect will occur and that the effect will not be adverse.

In November 1993, the State Historic Preservation Officer responded by letter indicating that this draft appeared to be a slightly modified version the draft sent to that office in 1991 which was reviewed, and that their comments on the 1991 draft appeared to have been incorporated in this document. The November letter noted the inclusion of the Kaupō Ranch as a difference between this draft and the 1991 version and agreed that an inventory of historic sites would be a first step to the cultural resource management for this area.

The Advisory Council on Historic Preservation responded in December 1993, indicating that their letter evidenced that the requirements of Section 106 of the Historic Preservation Act and the Council's regulations had been met for this project.

Comments on the Draft General Management Plan/Environmental Impact Statement

A Notice of Availability of the Draft Environmental Impact Statement for the proposed General Management Plan for Haleakalā National Park appeared in the Federal Register of May 23, 1994. Prior to public review, a copy of this draft also was sent to the Advisory Council on Historic Preservation asking for their review and comment.

To allow the National Park Service to receive public comment on the proposed plan, more than 200 copies were mailed to elected officials, government agencies, organizations, and individuals. The public review period ran through July 30, 1994, a period of 68 days. During the review period, public meetings were held by the National Park Service on the proposed plan. These meetings were held in the Maui communities of Kahului on June 14, Pukalani on June 21, and Hāna on June 30. These meetings were attended by a total of 30 individuals, most of these were in attendance at the Hāna meeting. A

total of eleven individuals gave oral testimony. Fifteen letters of comment were received on the draft general management plan/environmental impact statement.

Oral and written comment received on the draft general management plan included the following broad topics:

- proposed additions to Haleakalā National Park;
- helicopter and fixed-wing aircraft overflights of the national park;
- the practice of traditional Hawaiian cultural activities within the national park; and
- the development of water resources in the Kīpahulu area of Haleakalā.

During the public review period, none of the comments received expressed any opposition to the proposed plan as described in the draft. Many commenters expressed a preference for the proposal over either the no action or minimum requirements alternatives. There was general support for the proposed additions of land to Haleakalā. Comment letters were also received asking that the National Park Service consider adding other lands not included in the proposal to Haleakalā National Park. All commenters said that the National Park Service should acquire lands only on a willing seller basis.

Comments on commercial aircraft overflights of the national park were uniformly negative. Commenters felt that noise from commercial helicopters was disruptive to visitors and adversely affecting native forest birds. Most felt that the number of overflights of the crater had lessened in recent months. A few felt that this had caused helicopter overflights to be pushed onto backcountry lands adjacent to the national park where they were adversely impacting cultural and natural resources there and making it more difficult for Hawaiians to gather, hunt, fish, or practice their religion in these areas.

Several commenters felt that Hawaiians, particularly those residing in Kīpahulu and Hāna, should have better access to Haleakalā's cultural resources and that there should be active participation by Hawaiians, not only in using these resources but in preserving them. Interest was expressed in the National Park Service again starting up the living farm area at Kīpahulu.

Some commenters felt that the development of water resources for the Kīpahulu area of the national park should be done for the benefit of the adjacent community and not just the national park.

Other comments included the following: maintain a continuing dialogue with the Kīpahulu and Kaupō communities in managing the resources of that area; a suggestion for giving financial incentives to

commercial bus operators who use "slimline" (narrow axel) buses on the Haleakala crater road (as a way to increase the safety of downhill cyclists); the need for additional bus parking, rest rooms, visitor shelters, and loading/unloading space for bus passengers in the crater summit area; concern by a commercial bus operator over the amount of the entrance fees (the operator felt their fees should be used for improving facilities for bus passengers); providing food and beverage service for visitors at the House of the Sun Visitor Center; and the need for more rangers at the summit during peak visitor hours.

All oral and written comments received have been carefully reviewed. The comments and concerns related to the issues, alternatives, and environmental consequences of Haleakalā's general management plan have been considered in the preparation of the final document.

The following are the National Park Service's written responses to all substantive comments received during the public review period for the draft general management plan/environmental impact statement. The letters of comment and the National Park Service responses are reprinted on the following pages.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

RECEIVED

AUG 3 1994

National Park Service
Haleakala National Park

Donald W. Reeser, Superintendent
Haleakala National Park
P.O. Box 369, Makawao
Maui, HW 96768

Dear Mr. Reeser:

The U.S. Environmental Protection Agency (EPA) has reviewed the **Draft Environmental Impact Statement (DEIS) for the General Management Plan for Haleakala National Park, Maui County, Hawaii**. Our comments on this DEIS are provided pursuant to the National Environmental Policy Act (NEPA) [42 USC 4231 et seq.], Council on Environmental Quality (CEQ) regulations [40 CFR Parts 1500-1508] and Section 309 of the Clean Air Act.

The DEIS analyzes alternatives for future management, development, and use of the park. The proposed action would add adjacent lands to the park which contain significant natural and cultural resources. The proposal also includes needed improvements to visitor facilities. We have rated this DEIS as "LO" -- Lack of Objections. We recommend, however, that the DEIS address a few additional issues.

The FEIS should assess the impacts of activities possibly causing non point source runoff. This potential runoff includes sediment and concrete materials from construction of buildings or parking lots, petroleum products from additional automobile traffic, pesticides from vegetation management and sewage from additional restroom facilities. The FEIS should also identify designated uses of water courses in the project area and specifically, should note the State of Hawaii regulations for protection of inland waters. [See Public Health Regulations, Water Quality Standards, §§11-54.03, 11-54.05].

We appreciate the opportunity to review this DEIS. Please send one copy of the FEIS to this office at the same time it is officially filed with our Washington, D.C. office. If you have any questions, please contact me at (415) 744-1574.

Sincerely,

David Farrel, Chief
Environmental Review Section
Office of Federal Activities

Response to the Environmental Protection Agency

Adverse impacts from runoff caused by either the construction of new facilities or the expansion of existing facilities are considered to be relatively insignificant.

No designated uses of water courses are being proposed. Management objectives consist of maintaining stream flows within the national park to ensure the long-term protection of riparian and freshwater habitats for native flora and fauna.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Pacific Islands Ecoregion
300 Ala Moana Blvd, Room 6307
P.O. Box 50167
Honolulu, Hawaii 96850

RECEIVED

AUG 5 1994

National Park Service
Haleakala National Park

09 AUG 1994

In Reply Refer To: MEM

Mr. Donald Reeser
Haleakala National Park
P. O. Box 369
Makawao, Maui, HI 96768

Re: Draft General Management Plan - Environmental Impact Statement for Haleakala National Park, Maui, Hawaii

Dear Mr. Reeser:

The U.S. Fish and Wildlife Service (Service) has reviewed the February 1994 Draft General Management Plan and Environmental Impact Statement for the future management, development, and use of Haleakala National Park over the next decade. The project sponsor is the National Park Service (NPS). The following comments are provided for your consideration pursuant to the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.; 83 Stat. 852), as amended, the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.; 48 Stat. 401), as amended, the Endangered Species Act of 1973 [16 U.S.C. et seq.; 87 Stat. 884], as amended, and other authorities mandating Service concern for environmental values.

GENERAL COMMENTS

The Service believes that among the alternatives presented in the document, the proposed action would provide the most benefits to fish and wildlife resources. The proposed action would place more habitat for the federally endangered Dark-rumped petrel (*Pterodroma phaeopygia*) and the federally threatened Haleakala silversword (*Argyoxiphium sandwicense macrocephalum*) into protected status. Nuu Pond, which provides important habitat for the federally endangered Hawaiian stilt (*Himantopus mexicanus knudseni*) and Hawaiian coot (*Fulica americana alai*), and Palikea and Oheo streams, which provide important habitat for native Hawaiian freshwater fauna, would also be protected. The Service is willing to work with the NPS to develop specific management strategies for the protection of endangered Hawaiian waterbirds at Nuu Pond.

The Service believes that the proposed action would not result in adverse impacts to federally listed plants since new construction would take place in areas already disturbed and dominated by alien plants. The proposed action would increase the overall protection of fish and wildlife species by instituting improved management and use measures to control alien species and restore native vegetation in certain areas, especially along the Kaupo and Oheo coastal sections.

SPECIFIC COMMENTS

a. *Affected Environment. Haleakala National Park. Fauna. Pg. 42.* In the seventh paragraph, the words "critical habitat" are used (in quotes) to describe habitat for the Dark-rumped petrel found on the western summit of Haleakala. While this area is undoubtedly important for the species, it has not been declared by the Service to be Critical Habitat. The Service recommends using the words "essential habitat" (without quotes) to describe this area in the final document. 1

b. *Environmental Consequences. The Proposal. Impact on Wildlife. Pg. 71.* The words "critical habitat" (without quotes) are used again, and we recommend replacing those words with "essential habitat" (without quotes) in the final document. The acquisition of additional lands will not harm any endangered species. However, we believe that the renovation of the interpretive facility (House of the Sun) at the summit could potentially impact Dark-rumped petrels or their nests and any renovation or construction in the park could potentially impact the Hawaiian goose (*Nesochen sandvicensis*). The Service recommends including this information in this section of the final document. 2

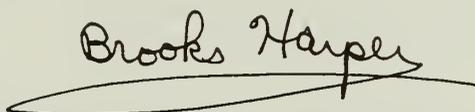
SUMMARY COMMENTS

The Service supports implementation of the proposed action. The Service is willing to work with the NPS to develop special management strategies for the protection of endangered Hawaiian waterbirds at Nuu Pond. To avoid reader confusion, the Service recommends that the term "critical habitat" not be used in the final document when referring to essential or very important habitat areas. The Service recommends that the NPS initiate consultation in accordance with section 7 of the Endangered Species Act, as amended, for any actions that may potentially impact the Dark-rump petrel or the Hawaiian goose. 3 4

Draft General Management Plan - Environmental Impact Statement
Haleakala National Park, Maui, Hawaii

The Service appreciates the opportunity to provide these comments. If you have questions regarding these comments, please contact Fish and Wildlife biologist Michael Molina at 808/541-3441.

Sincerely,

A handwritten signature in cursive script that reads "Brooks Harper". The signature is written in black ink and is positioned above a horizontal line that underlines the name.

Brooks Harper
Field Supervisor
Ecological Services

cc: DOFAW, Hawaii
DAR, Hawaii

Response to U. S. Fish and Wildlife Service

- 1. Pertinent sections of the document have been modified to replace the term "critical habitat" with "essential habitat."**
- 2. Page 78 of the final document includes information on the potential impact construction activities at House of the Sun would have on the dark-rumped petrel and their nests. We do not believe that the Hawaiian goose would be impacted by any construction activities proposed in the park.**
- 3. If the Nu'u pond area were to be added to Haleakalā National Park, the National Park Service would plan to request assistance from the Fish and Wildlife Service for the development of any special management strategies needed to protect the area as habitat for endangered Hawaiian waterbirds.**
- 4. Haleakalā National Park would initiate Section 7 consultation for any actions that may potentially impact the dark-rumped petrel or the Hawaiian goose, or any other threatened or endangered species found in the park.**



United States Department of the Interior

NATIONAL BIOLOGICAL SURVEY

Hawaii Field Station

P.O. Box 44

Hawaii National Park, HI 96718

Phone: (808) 967-7396

FAX: (808) 967-8568

RECEIVED

AUG 24 1994

National Park Service
Haleakala National Park

August 22, 1994

Donald Reeser, Superintendent
Haleakala National Park
P. O. Box 369
Makawao, Maui, HI 96768

Dear Don,

I recently read the Draft General Management Plan Environmental Impact Statement (EIS) for Haleakala National Park. I would like to offer a few comments regarding native forest birds in the park and its vicinity.

Conservation of Maui's forest birds has focused entirely on populations on the windward slope of Haleakala. All of the endangered forest birds live only here, and as a consequence the U. S. Fish and Wildlife Service has identified the area as essential habitat for those species.

However, on Maui there is the potential for expanding the range of native forest birds, because of the availability of extensive, unoccupied areas at high elevation away from mosquitos and avian disease. Consideration should be given to protecting such areas on Haleakala suitable or potentially suitable to native forest birds.

Intensive surveys in the late 1979s (Scott et al., 1986, Forest Bird Communities of the Hawaiian Islands) discovered populations of 'Apapane, 'Amakihi, Maui Creeper, and 'I'iwi along the northwest flank of Haleakala at, broadly, 5,500 to 8,000 ft in the Kula Forest Reserve, an area of native woodland, shrubland and exotic tree plantations (see attached maps).

I haven't visited this part of Maui but understand that these northwestern populations are separated from the northeastern ones by open pastureland with scattered native shrubs. If this area (I'll refer to it as "the corridor") were to regenerate as native shrubland and subalpine woodland, the restored vegetation would provide habitat for native forest birds and would connect the two disjunct bird communities.

Furthermore, the subalpine forest ecotone elsewhere is a favored habitat of endangered Maui Parrotbills. Perhaps with assistance this species could expand its range to the northwest and southwest slopes of Haleakala.

The draft EIS identifies intended acquisition by the National Park Service of the parcel "West Crater Rim" that includes a portion of the corridor. While this is an important step to protecting forest bird habitat, I would recommend that

the Service consider enlarging the parcel, to span the gap between Pu'u Nianiau and Kula forest reserve with a corridor extending downslope to 5,500 ft. An alternative would be to encourage the landowners to restore native vegetation to this area. Several government assistance programs now provide funding for such projects.

Thank you for this opportunity to comment on the EIS. The National Park Service is doing an excellent job promoting the recovery of native forest bird populations on Maui, and the proposals in the EIS show new progress.

Sincerely yours,



Thane K. Pratt, PhD
Wildlife Biologist

CC: Fern Duvall
Bob Hobby
Lloyd Loope
Jim Jacobi
Robert Smith
Chuck Stone

PS: Is there a copy of the draft EIS that you could send me? I borrowed one to read.

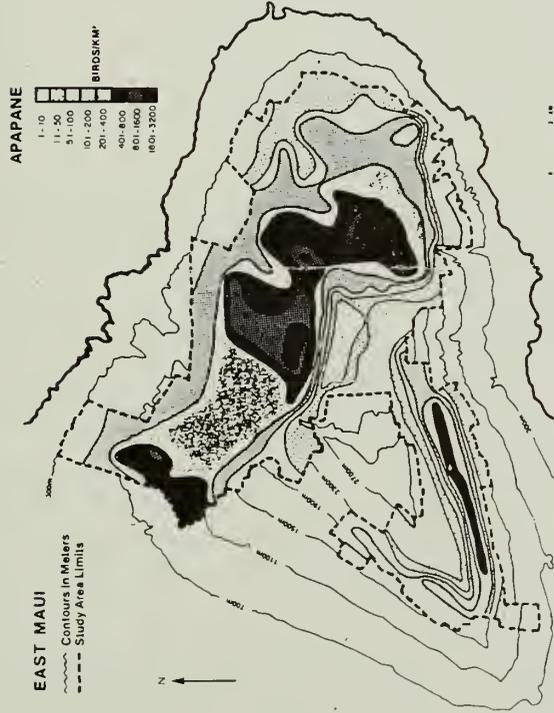


FIGURE 152. Distribution and abundance of the Apapane in the East Maui study area.

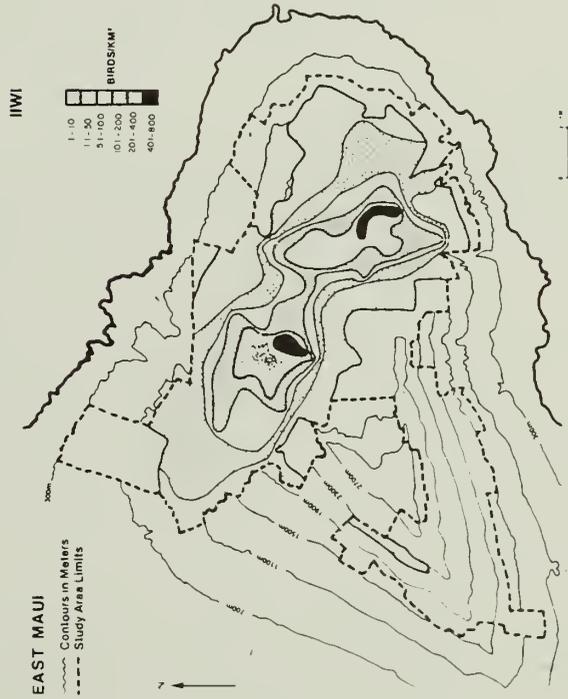


FIGURE 139. Distribution and abundance of the Iwi in the East Maui study area.

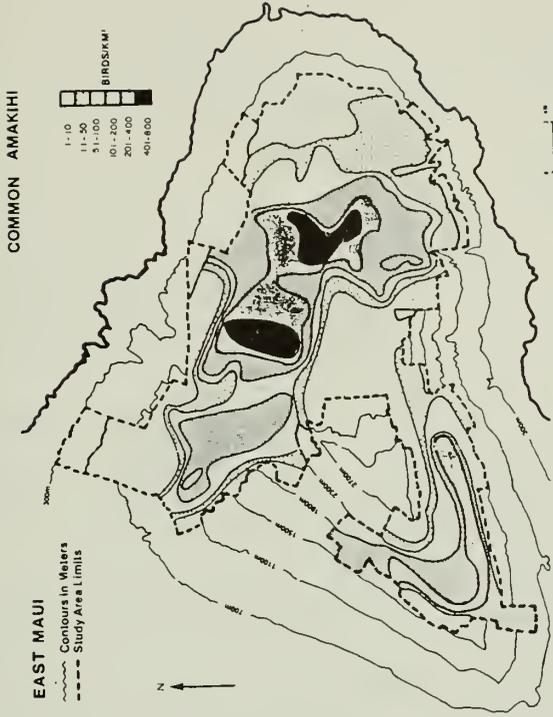


FIGURE 104. Distribution and abundance of the Common Amakihi in the East Maui study area.

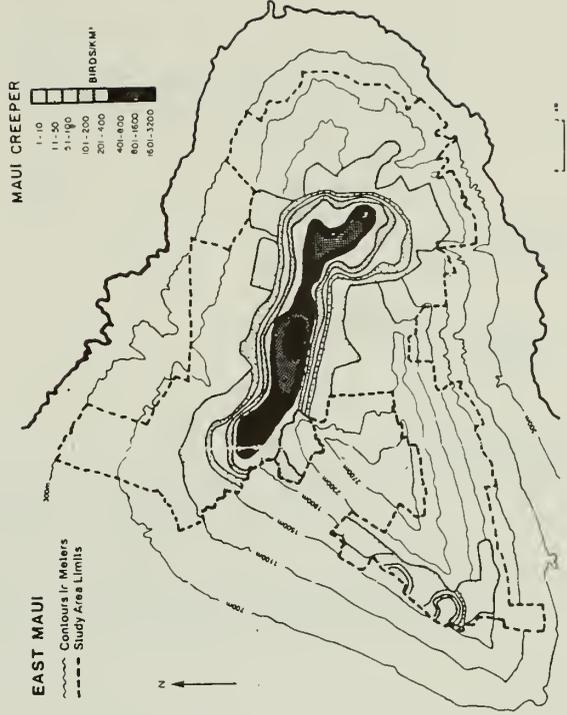


FIGURE 125. Distribution and abundance of the Maui Creeper in the East Maui study area.

Response to National Biological Survey

Comment noted. Haleakalā National Park presently has cooperative arrangements to protect native vegetation with other adjacent landowners. The superintendent would be willing to work with landowners located along the northwest flank of Haleakalā in developing cooperative agreements with provisions for restoring native vegetation.



DEPUTIES
JOHN P. KEPFELER, II
DONA L. HANA'IKE

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809

REF: OCEA:DKP

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

FILE NO.: 94-625/686
DOC. ID.: 4659

AUG 1 1994

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AUG 3 1994

National Park Service
Haleakala National Park

Mr. Donald W. Reeser, Superintendent
Haleakala National Park
P.O. Box 369
Makawao, Maui, Hawaii 96768

Dear Mr. Reeser:

SUBJECT: Draft Environmental Impact Statement (DEIS) and General Management Plan: Haleakala National Park, Makawao, Maui

We have reviewed the subject DEIS and General Management Plan transmitted by your letter dated April 29, 1994, and have the following comments:

Division of Aquatic Resources

The Division of Aquatic Resources (DAR) comments that the proposed acquisition of adjacent lands containing significant natural and cultural resources (along with the proposed needed improvements for visitor services) are not expected to have any significant long term negative impact on the aquatic resource values in this area.

The Haleakala National Park contains two freshwater streams within the Kipahulu Valley, Oheo and Puaaluu Streams. Based on information from the Hawaii Stream Assessment database and DAR's Maui Aquatic Biologist, Palikea and Pipiwai Streams, tributaries of Oheo Stream and Puaaluu Streams should be classified as "outstanding" resources because they contain all the major native freshwater species: two species of endemic mollusks, four endemic and indigenous species of gobioid fishes, the endemic prawn and the endemic freshwater shrimp. As mentioned in the DEIS, the National Rivers Inventory identified Palikea Stream, including Pipiwai and Oheo Gulch, as having potential for incorporation in the National Wild and Scenic Rivers System. Inclusion of the streams within the National Park boundaries would accomplish the Division's goals for preserving these valuable stream resources.

1

The DEIS also mentions occasional use of herbicides on exotic shrubs and the presence of cattle along Oheo Stream in the coastal area. Continued periodic testing of the stream water for herbicides and water purity is supported by DAR. They also feel that the Park Service should implement a biological monitoring program to follow population trends and fluctuations in the native stream fishes and macroinvertebrates to provide a baseline for evaluation of the effectiveness of stream protection within the National Park System.

2

In the DEIS, there is no mention of existing traditional harvesting practices (plants and fauna) on the proposed additions of lands to the National Park. These considerations should be addressed as well as exiting public access before these land additions become part of the Haleakala National Park.

Division of Forestry and Wildlife

The Division of Forestry and Wildlife (DOFAW) comments that the proposed additions involve acquisitions of State lands as well as the private lands mentioned in the plan.

In the Kipahulu area one parcel in the Kipahulu Forest Reserve (TMK: 1-6-01: 9, 89.0 acres) is in the proposed addition. This parcel is occupied mostly by Waiowi, Java Plum, and guava forest and is inhabited by feral pigs and introduced bird species. In the Kaupo area 383.21 acres of State lands in 11 scattered parcels lie within the proposed addition. These are lands under the management of the Maui Land Agent and are mostly pasture lands. Four of these parcels have coastal frontage at Kailio Point and at Kalama and Waiuha Bays.

The acquisition of the above State and Forest Reserve lands would need to be negotiated, and the issues of public access for hunting and fishing addressed in any management plans for these rural areas.

Historic Preservation Division

The Historic Preservation Division (HPD) comments that they had received for review only the first 22 pages of the subject document (sections covering the Introduction and Proposed/Alternative Actions only). Because the full document was not received until a later date, the following are their comments to date:

We have concerns regarding the proposed acquisition areas of Kaupo and Kipahulu. According to the introduction of the document, proposed actions (acquisition) of Kaupo and Kipahulu areas would "...place several Hawaiian heiau in protected status." The proposed Kaupo and Kipahulu acquisitions contain many more historic sites than are present in the upper elevation areas of the Park. These sites (villages, agricultural complexes, burials, trails, as well as heiau) encompass relatively large areas and will require major protection and preservation efforts if these areas are to be opened to the public.

Additional HPD comments will be forwarded when they become available.

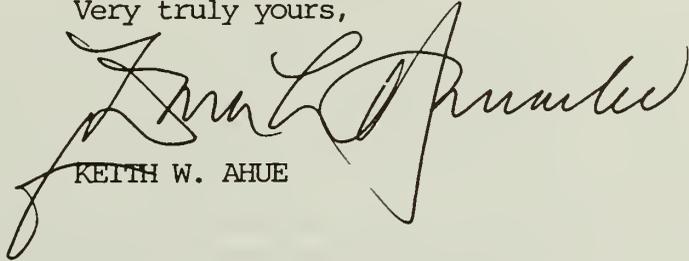
Office of Conservation and Environmental Affairs

The Office of Conservation and Environmental Affairs (OCEA) comments many of the proposed acquisition areas, which are outside the National Parks boundaries, are located within the State's Conservation District and subject to the Conservation District regulations of Title 13, Chapter 2, Hawaii Administrative Rules. Until such lands are acquired by the National Park Service, the Board of Land and Natural Resources shall continue to administer such areas pursuant to these regulations.

We have no other comments to offer at this time. Thank you for the opportunity to comment on this matter.

Please feel free to call Steve Tagawa at our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,



Handwritten signature of Keith W. Ahue in cursive script.

KEITH W. AHUE

cc: Margaret Pepin-Donat

Response to State of Hawai'i Department of Land and Natural Resources

1. Comment noted.
2. We agree that a biological monitoring program is needed to establish a baseline for evaluating the effectiveness of stream protection within Haleakalā. As a necessary first step to establishing such a baseline, the park's resource management plan has identified a project to inventory and monitor the condition of the water resource related biota of the park and requested the funding needed to carry out the work.
3. The collection of certain natural products for use by Hawaiians to practice traditional cultural activities is permitted within Haleakalā National Park subject to conditions of a special use permit issued by the superintendent. This policy would be extended to apply to any new additions of land to Haleakalā.

Visitor accessibility would be one of the criterion used in determining the feasibility of adding lands to Haleakalā. The development of specific kinds of visitor use facilities, including road and trail access, on these lands would take place following their acquisition. Opportunities for public input would be provided during the planning phase of these developments.

4. At this time, the proposed additions to Haleakalā National Park in the Kaupō area consist only of those lands owned in fee simple by the Kaupō Ranch and do not include any lands owned by the State of Hawaii.
5. Comment noted.
6. We agree.

ncil Chair
oro Hokama
ncil Vice-Chair
ennis Y. Nakamura
ncil Members
rmo Apana
ynn Britton
Patrick S. Kawano
Alice L. Lee
Rick Medina
Manuel "Junior" Moniz
Thomas P. Morrow

Ken R. Fukuoka
Director of Council Services



COUNTY COUNCIL
COUNTY OF MAUI
200 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793

May 24, 1994

RECEIVED

MAY 27 1994

Mr. Donald W. Reeser
National Park Service
Haleakala National Park
P.O. Box 369
Makawao, Hi 96768

National Park Service
Haleakala National Park

Dear Mr. Reeser:

Thank you for the draft on the general management plan/environmental impact statement for Haleakala National Park. I commend you for the hard work put forth in meeting your accomplishments. I have no comments to offer at this time.

My door is always open if I can be of any assistance in any way.

Again, thank you.

Sincerely,

Patrick S. Kawano
Councilmember

cht

EAST MAUI IRRIGATION COMPANY, LIMITED

P.O. BOX H, PAIA, MAUI, HAWAII 96779

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JUL 27 1994

July 27, 1994

National Park Service
Haleakala National Park

Mr. Don Reeser
Superintendent
National Park Service
Haleakala National Park
P.O. Box 369
Makawao, HI 96768

Dear Mr. Reeser:

Thank you for this opportunity to respond to the draft general management plan/environmental impact statement for Haleakala National Park.

We note that on page 7, it is proposed that the "acquisition of a less than fee interest" be acquired for 51 acres of land owned by EMI located on the north side of Haleakala Crater. The stated purpose is to enable natural resource management to protect the plants from feral ungulates.

We are unclear as to why the National Park Service (NPS) feels this acquisition is necessary. First of all, NPS and EMI entered into a thirty year "grant of easement" in 1986 for this very property. The easement was essentially an agreement which would enable the construction of a feral animal barrier fence across EMI property to serve this very purpose of protecting the native flora. Additionally, the agreement may be unilaterally extended for ten year periods at the NPS's will, as long as proper notice is provided to EMI.

Secondly, as mentioned on page 28, EMI has entered into a cooperative agreement with the other major landowners in the area (including Haleakala National Park) to work together to protect this area from degradation by feral ungulates -- again, the same purpose as to be accomplished by the proposed acquisition.

Mr. Don Reeser
July 27, 1994
Page 2

We, therefore, question why the acquisition of control over this 51 acre parcel continues to be an issue and goal of the NPS. There are other efforts already undertaken to meet the same protection goals. Accordingly, we oppose your efforts to acquire the subject parcel.

Again, thank you for this opportunity to comment. Please let us know if we can be of assistance to you.

Very truly yours,



Garret Hew
Gen. Supt. Admin. &
Business Management

GH:juh

Response to East Maui Irrigation Company, Limited

We agree. Our management objective to protect native plants and animals from feral ungulates by acquiring a less-than-fee interest on this parcel of land has been achieved. The provisions contained in the 30-year easement agreement between NPS and EMI grants Haleakalā National Park sufficient management authority on this parcel of land to meet our long-term protection goals. The reference to "acquisition of a less than fee interest" in this 51-acre parcel has been removed from the final plan.



Central Maui Soil and Water Conservation District

RECEIVED

JUL 13 1994

July 8, 1994

National Park Service
Haleakala National Park

Donald W. Reeser, Supt.
Haleakala National Park
P. O. Box 369
Makawao, Hi 96768

Dear Sir:

This letter is in response to the Draft General Management Plan/Environmental Impact Statement for Haleakala National Park.

I would like to say that I commend the Haleakala National Park Staff for doing an outstanding job over the last ten years, in light of the huge increase in visitor traffic to the National Park and the numerous environmental issues to confront. Combining forces with the Nature Conservancy has been a benefit to our Hawaii National Parks.

As Chairman of the Central Maui Soil and Water Conservation District and Administrator of the Puu Kukui Preserve, I do support the additions proposed to the National Park. I feel that the Kipahulu addition will add important land to be protected and that the West Crater Rim and Hosmer Grove additions are good housekeeping additions which should have been done a long time ago.

The acquisition of Kaupo Ranch is a wonderful opportunity for the National Park; and while there are many problems related to feral animal control and the control of non-native species, it appears that there are some good examples of dry land forest plants which should be protected. I feel that this may be one of the last opportunities for this kind of acquisition.

Sincerely,

L. D. MacCluer

/sj



RECEIVED

August 9, 1994

AUG 10 1994

Mr. Donald Reeser, Superintendent
Haleakalā National Park
P. O. Box 369
Makawao, HI 96768

National Park Service
Haleakala National Park

Dear Don:

Thank you for giving us the opportunity to review the draft general management plan/environmental impact statement for Haleakalā. I realize I am a bit past the July 30 deadline, but hope it's not too late to pass on a few comments.

Throughout the document, the term "crater" is used. It was my understanding that the park is trying to get away from this terminology. We just spent a great deal of time eliminating it from our children's book *Haleakalā Discovery*. It seems like the park should be making the same effort in its own documents.

1

On page 11, the plan states that it is proposed not to emphasize Kīpahulu as a major destination point, and to provide only limited, informal, and necessary facilities. Don't the development of demonstration programs and the kauhale contradict this proposal? In a similar vein, page 15 mentions not lengthening visitation time — but surely additional things to see will have that effect.

2

Page 12 states that the proposed facilities will not provide for a major increase in visitation, but will handle the existing level. Given the park's past visitation history and considering the amount of time and money spent in getting any facilities remodeled or enlarged, it would seem prudent to at least plan for a modest increase in visitation rather than ending up with facilities that are out of date before they become a reality.

If the Environmental Education Center is part of the draft plan (page 15), can we proceed with planning/construction before the GMP is approved? Are the recently written criteria and scope of work for the planned center in keeping with the "low profile environmental education shelter" mentioned here?

3

We realize it is premature to plan facilities for Kaupō, but some type of visitor contact/information station might be needed to serve visitors entering the park from the west end of the coastal section. If the Kaupō lands become part of the park, there will also need to be plans and funding to deal with the existing structures on the property.

4

On page 23, the discussion regarding the formation of the island chain could perhaps be improved. One reviewer stated that it didn't sound much like plate tectonics. We usually talk about the islands drifting to the northwest, rather than the archipelago forming to the southeast.

5

We may not be up to date regarding birds at Haleakalā, but wondered why the po'ouli was not mentioned on page 43.

6

The publications section of page 49 reads as if we have things available only in two locations. It would more properly be headquarters, HVC, and Kīpahulu.

7

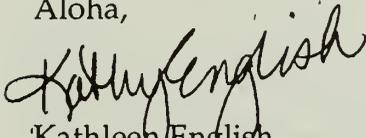
There seem to be some discrepancies regarding visitor counts. On page 54, West Crater Rim visitation is stated as about 807,000 in one place, and as a daily average of 2,400 in another place. Perhaps you are adjusting for days the park is not open, because 2,400 times 365 is more than 807,000. Likewise, the daily average of 1,100 for Kīpahulu comes out to more than 318,000 annually. Further along in the document, on page 79, the annual visitation for the area is stated as 450,000. This seems contradictory on the surface, but the 450,000 may include visitors who do not stop at the park. There might be some way to clarify this.

8

In the discussion on page 79, should something be included about the possible development of more accommodations and/or a golf course in the area? This would certainly impact the community and the park.

Thank you for the opportunity to comment. Please keep us informed as things progress.

Aloha,



Kathleen English
Executive Director

Response to Hawai'i Natural History Association

1. Comment noted.
2. The statement on page 11 of the draft has been removed from the final and the statements on pages 12 and 15 of the draft have been modified in the final version. These appear on pages 19 , 20, and 21 of the final.
3. There are no plans to proceed with construction until the final version of the plan is approved. Moreover, prior to the actual construction of the center, site specific environmental review would take place. We believe the criteria and scope of work for the planned center to be in keeping with the "low profile environmental education center" mentioned in the draft.
4. We agree that it is premature to plan facilities for the Kaupō area.
5. The discussion regarding the formation of the island chain has been modified and additional information included.
6. The *po'ouli* has been sited in the adjacent Hanawi Natural Area Reserve, but not within the national park.
7. This has been corrected in the final version.
8. The visitation numbers on page 54 of the draft have been adjusted and appear on page 62 of the final. The 450,000 annual visitation figure on page 79 of the draft is for both Hāna and Kipahulū.



CHRIS
HART
& PARTNERS

RECEIVED

JUL 27 1994

July 25, 1994

National Park Service
Haleakala National Park

Mr. Donald Reeser, Superintendent
Haleakala National Park
P.O. Box 369
Makawao, Maui, Hawaii 96768

Dear Mr. Reeser:

Re: Comments; Draft General Management Plan/Environmental Impact Statement; Haleakala National Park, Hawai'i - Proposed Addition of 1,478 acre, Ka'apahu Holding Company Property at TMK 1-6-10: 1, Ka'apahu, Kipahulu, Hana, Maui.

On behalf of our Client, Mr. David Dodds, we have reviewed the above referenced "Draft General Management Plan..." and found it to be a very sensitive document with positive recommendations for future additions, management and development of Haleakala National Park. The proposed Kaupo Ranch addition of approximately 6,600 acres has been discussed publicly, and it is our understanding that the current ranch representatives are not interested, at this time, in selling to the National Park Service. We realize the proposed Kaupo Ranch addition would "connect the Kaupo Gap portion of the park with the coast highway" and that the area is "rich in Hawaiian archeology; however, as noted: "much of the area's native vegetation has been grossly disturbed by cattle, horses, goats and pigs."

Therefore, pursuant to our prior letter dated June 29, 1994, we wish to propose as an alternative addition to Haleakala National Park the 1,478 acre, Ka'apahu Holding Company property at TMK 1-6-10: 1, Ka'apahu, Kipahulu, Maui. As mentioned, our firm has been retained as consultants by Mr. Dodds for several land use related matters since 1992. During this period, we have found the Ka'apahu ahupua'a to be particularly scenic with exciting potential as a recreation area including ocean access to the National Park. The parcel is similarly rich in cultural sites with dramatic waterfalls, ocean front fresh water swimming pond and accessible mountain trails through the relatively undisturbed Koa rain forest. Its important to note that Ka'apahu has not been historically used for ranching, and that native flora and fauna remain in substantial evidence.

Referring to the "Proposed Additions" map on Page No. 9 of the Draft General Management Plan, "Ka'apahu Bay" is approximately 2.8 miles east of Kaupo Gap in closer proximity to the existing park land and facilities of Kipahulu Valley. In order to further research the natural and cultural resources of the Ka'apahu

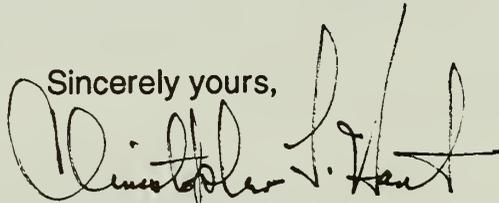
Mr. Don Reeser, Superintendent
Haleakala National Park
Re: Ka'apahu, Kipahulu, Maui
July 25, 1994
Page No. 2

parcel, I call your attention to the two archeological reports by Kimberly D. Kornbacher, International Archaeological Research Institute, Inc., Honolulu, Hawai'i and our firm's Environmental Assessment for the Proposed Subdivision of Conservation District Lands dated January 1993. Said documents were transmitted to you by our enclosed prior letter dated June 29.

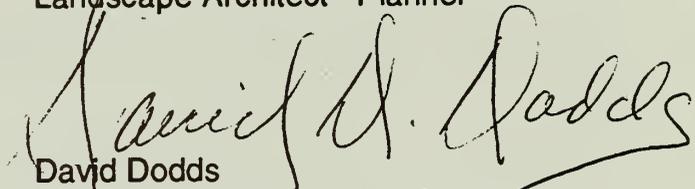
As Consultants to Ka'apahu Holding Company, we have been aware of Mr. Dodds very deep appreciation for the natural and cultural resources and beauty of the land, and he has consistently become more convinced that the resources and beauty of Ka'apahu should be experienced by a broader cross section of residents and visitors to Hawaii from all areas of the United States.

Thank you for your consideration. If further clarification is necessary, please feel free to call.

Sincerely yours,



Christopher L. Hart
Landscape Architect - Planner



David Dodds
Owner, Ka'apahu Holding Company

Enclosure

cc: David Dodds
John Min
Project File

Response to Christopher L. Hart, Landscape Architect-Planner and David Dodds, Owner, Ka'apahu Holding Company

The park superintendent, staff from the resource management division, and the park planner and archeologist from the National Park Service's Pacific Area Office in Honolulu have all conducted inspections of the 1,478-acre Ka'apahu Holding Company property (TMK 1-6-10:1) located contiguous to Haleakalā National Park. Also, the two archeological reports sent us prepared by International Archeological Research Institute, Inc. have been reviewed. These reports contained the results of surveys which recorded the presence of eleven archeological sites containing at least 53 features. Most of these features appear to be of indigenous Hawaiian origin.

A limited botanical survey of the area was undertaken from the 3100-foot elevation down to the coast. At the upper level, the vegetation was representative of a native mesic forest which appeared to be both diverse and relatively intact. At the 1200 to 1300-foot level, a native dryland forest containing two rare tree species was found. The area also contains several waterfalls and five undiverted streams containing Hawaiian freshwater fish and other native aquatic animals and plants.

The stream valleys near the coast were surveyed for the presence of archeological resources and found to contain complexes of earthen terraces with stone retaining walls. These include what appear to be a *heiau*, sets of taro terraces that were irrigated, and house sites. These sites are all easily accessible, in good condition, and have high interpretive value. In addition, portions of the historic "Kings Highway" trail still exist along the slopes above the sea cliffs. This trail was the primary means of travel by Hawaiians in this part of Maui.

Based on the National Park Service's reconnaissance surveys of portions of the area, there seems to be general agreement that this property is highly scenic and contains a wide variety of both natural and cultural resource values. Moreover, these resources remain relatively undisturbed and some appear to be highly significant.

We appreciate your passing on to us the property owner's conviction that the resources and beauty of the Ka'apahu lands should be experienced by a broader cross-section of residents and visitors to Hawai'i. On the approval of Haleakalā's General Management Plan, the Park Superintendent will recommend that the park's approved land protection plan be amended to include the Ka'apahu lands.

May 94

TO: Superintendent Don Reeser,

Thank you for your informative presentation regarding Haleakala National Park. I think that you and your staff are doing a very excellent job of maintaining the park. It is reassuring to see so little change of scene over so long a period. Thank you for your hard work and for welcoming my comments.

- * CABINS: I like your proposal for a flat fee of \$60. I do not think combining groups is a good idea. Who is responsible? The nature of my visits to the crater is often determined by the company I'm in.
- * LITTER: There is really very little litter. It is mostly cigarette butts and toilet paper. I suggest an appeal for help through a small notice in the handout brochure that is passed out at the toll booth. Please use toilet tissue in a plastic bag and carry it out to be disposed of properly (also butts and fruit peels etc) Please.
- * THE HOUSE OF THE SUN: The need for more visitor facilities is apparent. However I feel that the House of the Sun should be treated as an historical site and anything done to it should be of a RESTORATION nature. New restrooms could be built on the NE parking lot corner so as not to interfere with the views. This building could include a covered corridor for displays and to escape

foul weather.

- * ACQUISITION OF LANDS: I like the idea of having the approvals in place in case land becomes available for purchase. It is very exciting that there are so many important places on the South side. I like the idea of having Kaupo Trail swing up to Lower Kawiwi Ridge to catch the views of the newly acquired Maunwaimii Valley.
- * Helicopters: Normally I don't pay much attention to the noise of helicopters as I don't want it to dominate my limited time in the crater. However, let's just take Saturday May 21, 1994. This is not untypical of many Saturdays. From 9:30 AM down Sliding Bands Trail until about noon (2½ hrs) before the bottomless pit, I counted 20 helicopters cruising the South Rim. One was an overflight. The rest didn't merely fly along the rim but went in circles, doubled back and hovered so that in this short span of time there was no quiet time at all. The total for that day was 49; two of which were private planes that flew directly over, South to Northeast. Also they are not flying high enough. On a day that I walked the rim to Mt. Haleakala (forgive me) I actually made eye contact with the pilot and the passengers. Now that's

Too low isn't it? I am not sure of what the solution is, but I am sure there is some impact to the South Rim.

* PATROL: I am not usually at the top of the crater during peak visitor hours but I think a Ranger or two should be present up there at that time. Perhaps you have that happening already.

In closing I would like you to know that I have always been treated courteously by all the Rangers and staff at the Park. Everyone is most helpful and cheerful. Keep up the good work. I appreciate all of you.

Most Sincerely

Joley Rogoff

PO Box 93
Kula HI 96790
878-1818

RECEIVED

MAY 27 1994

National Park Service
Haleakala National Park

Response to Toby Ragoff

The House of the Sun Visitor Center is regarded as an historic property and is on the park's list of classified structures. Thus, the building is part of an evaluated inventory of historic structures possessing architectural significance. Any expansion, repair, or renovation of this building undertaken by the National Park Service would not destroy or damage its distinguishing qualities or character and would avoid the removal or alteration of any of its distinction architectural features.



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SEP 08 1994

National Park Service
Haleakala National Park

September 4 1994

Board of Directors

- Sharon Counts
- Audrey Garcia
- Lori Grace
- Lisa Hamilton
- Arnie Koss
- Leslie Kuloloio
- Anthony Ranken
- Fredrick Sands, MD
- Mark Sheehan

Executive Director

Richard Joseph Lafond Jr.

Maui Tomorrow

P.O. Box 1497

Wailuku, Maui, Hawaii 96793

phone & fax: (808) 877-2462

Donald W. Reeser
Superintendent,
Haleakala National Park
PO Box 369
Makawao, Hawai'i 96768

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SEP 07 1994

National Park Service
Haleakala National Park

Dear Don:

We are very sorry to not have responded in a timely fashion to your request for comments on the Draft General Management Environmental Impact Statement for Haleakala National Park. I can only say that we have been swamped with Maui County planning and developmental urgencies in the midst of a busy election season in which many of us are personally involved.

I am please to say, however, that we support the General Management Plan that you wish to implement, and if there is anything we can do to promote this plan by our work or in cooperation with your efforts, we will do everything within our means.

Specifically, I can imagine discussions with the major landowners and county planning authorities in order to facilitate the objective of land acquisition. This is just one idea. I would take great pleasure in meeting with you often to discuss a cooperative approach to our ecological objectives.

We agree with you that the alternative plans -- no action or the minimum requirements, both compromise the Park's purpose and diminish its responsiveness to public needs in a dynamic society.

I hope that you are still able to use our comments in the best interest of the Park. If there is anything more we can do at this time, please do not hesitate to call.

Mahalo and aloha.

Sincerely,

Richard Joseph Lafond Jr.
Executive Director

30 ROCKEFELLER PLAZA
NEW YORK, N.Y. 10112

ROOM 5600

(212) 649-5600

May 31, 1994

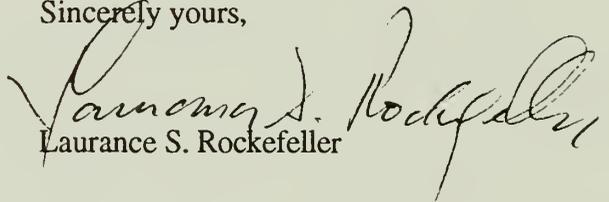
Dear Mr. Reeser:

Thank you for your letter of April 29 and the accompanying Draft General Management Plan/Environmental Impact Statement for Haleakala National Park. I was delighted to receive it as I continue to be well aware of what a scenic and historic treasure this site is.

Other than to say the Plan/DEIS appears to be comprehensive and informative, I have no observations to make at the present time.

Thank you again for sharing it with me.

Sincerely yours,


Laurance S. Rockefeller

Mr. Donald W. Reeser
Suprintendent
Haleakala National Park
P.O. Box 369
Makawao, Maui, Hawaii 96768

RECEIVED

JUN 07 1994

National Park Service
Haleakala National Park

May 10, 1994

RECEIVED

Ronald Keener, Superintendent
Haleakala National Park
P.O. Box 369 Makawao
Maui, Hawaii 96768

147 94
National Park Service
Haleakala National Park

Dear Sir:

Re: Proposed Acquisition of Kaupo
Ranch Lands by Haleakala
National Park - Kaupo, Maui

Gentlemen this is a response to
a news article dated May 3, 1994 (Hon. Ad.)
regarding sale of Kaupo Ranch
lands covering 6,600 acres to
Haleakala National Park.

My property is located mauka
of the renovated Roman Catholic
on Pihoni Highway identified by
Tax Map Key 1-7-03-57/53 comprising
approximately 60,000 acres. Being a
small private land owner in the
Kaupo area we do not wish to
sell our land. My grandfather
(tutu) Kailiaka purchased this
land in the 1900 and we plan
to keep this land in our Ohana.

Whatever arrangements or commitments you may have with Kaupo Ranch, please do not involve us as part of your deal.

Your earliest reply on your scheduled public hearing will be greatly appreciated.

Sincerely,

Benjamin B. Kailibha
BENJAMIN B. KAILIBHA, JR
OWNER

Response to Benjamin B. Kailieha, Jr.

Your property is not included within the area being proposed for acquisition by the National Park Service. The approximately 6,600 acres proposed for acquisition consist only of those lands which are held in fee simple by the owners of the Kaupō Ranch.

RECEIVED

JUN 21 1994

June 21, 1994

Dan Judson
P.O. Box 115
Makawao, HI 96768

National Park Service
Haleakala National Park

Don Reeser, Park Superintendent
Haleakala National Park
P.O. Box 369
Makawao, HI 96768

Dear Mr. Reeser;

I am writing to offer suggestions for improving the quality of a visitors experience to the park. At every other National Park that I have ever been to, a person is allowed the opportunity for a bit of refreshment while they enjoy the view. As long as you are going to make the summit structure larger, why not include some sort of snack bar or restaurant in the renovation?

At the Volcano House on the Big Island, a person can see the caldera while being inside, out of the cold. A cup of coffee or some hot chocolate makes the families want to stay longer instead of hurrying off. Yet this is what I see happening at the Haleakala National Park!!

After driving all the way to the summit, people barely linger in the over-crowded room before fleeing back to the warmth and comfort of their cars. They are barely arrived, when one or more of the people's discomfort makes everybody have to go.

This shouldn't be the way it is. This is Hawaii. Local people love to gather and eat, as do people from all over the world. So let's give all of us a better time at the top by making it be more hospitable for those that take the time to make the trip.

Mahalo nui loa,



Dan Judson

Response to Dan Judson

We believe that providing food and beverage service at the summit would do irreparable damage to park resources. There are several reasons for this. The primary reason is the summit area of Haleakalā comprises almost the entire breeding habitat of the Hawaiian dark-rumped petrel, a species protected under the Federal Endangered Species Act. Providing food service at the summit would mean that scraps would inevitably be left on the ground or even tossed into the crater. This would bring significant increases in the numbers of rats, mongooses, and feral cats to the summit area. All of these animals are predators on dark-rumped petrel eggs and young. Consequently, any action taken by the National Park Service to provide food and beverage service at the summit of Haleakalā would be a violation of the Endangered Species Act as well as other federal laws applicable to the National Park Service in caring for the resources under its stewardship. Another reason is that food and beverage service at the summit would tend to increase the average length of stay by visitors and thereby worsen the parking and traffic congestion problems already present there. Finally, at meetings held on various Haleakalā planning efforts over the years, the public has consistently opted for keeping development in the summit area at a minimum.

David Henderson Brown, M.D.
313 North Market Street
Wailuku, Hawaii 96793
244-7242

May 9, 1994

Dear Mr. Reeser:

Thank you very much for sending me a copy of the Draft General Management Plan/ Environmental Impact Statement of Haleakala National Park of February 1994. I heartily endorse the plan called the Proposal. It is comprehensive and a good long and short term goal. In addition, I have always been in favor of trails on the outside of the crater. The old bridle trail which connects Olinda Road to the Observatory has a good potential for resurrection. This would give access to Little and Big Flea Caves. Since the bridle trail cuts across the park road repeatedly, there is a variable distance that could be hiked. Otherwise, I wish you good luck with the proposal and with the purchase of Kaupo Ranch.

Sincerely yours,

David Brown
David H. Brown, M.D.

RECEIVED

MAY 13 1994

National Park Service
Haleakala National Park

APPENDICES

Appendix 1. List of Flowering Plants, Ferns, and Fern Allies

Rare Flowering Plants

- Agrostis sandwicensis*
Anoectochilus sandwicensis
Argyroxiphium grayanum - endemic to Maui
Argyroxiphium sandwicense macrocephalum - endemic East Maui
Argyroxiphium virescens - endemic to East Maui - presumed extinct
Bidens campylotheca subsp. *pentamera* - endemic to East Maui
Bidens hillebrandiana subsp. *polycephala*
Bidens micrantha subsp. *haleakalae* - endemic to East Maui
Calamagrostis expansa - endemic to East Maui
Carex montis-eeka
Chamaesyce celastroides var. *lorifolia* - endemic to Maui and Lanai
Chenopodium oahuense (var. *discospermum*)
Claoxylon sandwicense
Clermontia grandiflora - endemic to Maui, Molokai, and Lanai
Clermontia oblongifolia
Clermontia peleana - possibly extirpated within Haleakalā
Clermontia samuelii subsp. *samuelii* - endemic to East Maui
Clermontia samuelii subsp. *hanaensis* - endemic to East Maui
Clermontia turberculata - endemic to East Maui
Cyanea aculeatiflora - endemic to East Maui
Cyanea copelandii subsp. *haleakalensis* - endemic to East Maui
Cyanea elliptica - endemic to Maui and Lanai
Cyanea glabra - possibly extirpated within Haleakalā
Cyanea grimesiana - possibly extirpated within Haleakalā
Cyanea hamatiflora subsp. *hamatiflora* - endemic to East Maui
Cyanea horrida - endemic to East Maui
Cyanea kunthiana - endemic to Maui
Cyanea longissima - possibly extirpated within Haleakalā
Cyanea macrostegia - endemic to Maui and Lanai
Cyanea pohaku (*Clermontia haleakalensis*) - endemic to East Maui, extinct
Cyanea solanacea - possibly extirpated within Haleakalā
Cyrtandra grayi - endemic to Maui and Molokai
Cyrtandra paludosa
Cyrtandra platyphylla
Cyrtandra spathulata - endemic to Maui
Dichantherium cynodon
Dubautia dolosa - endemic to East Maui
Dubautia platyphylla - endemic to East Maui
Dubautia reticulata - endemic to East Maui
Dubautia hybrids
Embelia pacifica

Gardenia remyi
Geranium arboreum - endemic to East Maui
Geranium hanaense - endemic to East Maui
Geranium multiflorum - endemic to East Maui
Gnaphalium sandwicense var. *hawaiiense*
Gnaphalium sandwicense var. *sandwicense*
Gunnera petaloidea
Hillebrandia sandwicensis
Joinvillea ascendens
Labordia hedyosmifolia
Labordia hirtella
Labordia venosa - endemic to Maui and Molokai
Lagenifera maviensis
Lepechinia hastata
Liparis hawaiiensis
Lobelia gloria-montis - endemic to Maui and Molokai
Lobelia grayana - endemic to East Maui
Lobelia hillebrandii - endemic to East Maui
Lobelia hypoleuca
Lysimachia hillebrandii
Lysimachia remyi - endemic to Maui and Molokai
Lysimachia sp. #1 (St. John)
Lysimachia sp. #2 (St. John)
Mariscus kunthianus - endemic to Maui
Myoporum sandwicense - barely surviving within Haleakalā, not rare outside
Nestegis sandwicensis - barely surviving within Haleakalā, not rare outside
Nothoctrum latifolium
Nothoctrum longifolium
Panicum pellitum
Panicum tenuifolium - possibly extirpated from Haleakalā
Pelea balloui - endemic to East Maui
Pelea molokaiensis - endemic to Maui and Molokai
Pelea orbicularis - endemic to Maui
Pelea ovalis - endemic to East Maui
Peperomia subpetiolata - endemic to East Maui
Phyllostegia ambigua
Phyllostegia macrophylla
Phytolacca sandwicensis
Pipturus forbesii - endemic to East Maui
Pittosporum confertiflorum
Plantago pachyphylla
Plantago princeps var. *laxifolia*
Plantanthera holochila - extirpated in Haleakalā, very rare elsewhere
Platydesma spathulata
Pleomele auwahiensis - endemic to Maui and Molokai
Pouteria sandwicensis
Pritchardia cf. *arecina*
Psychotria mauiensis? (evaluate)
Ranunculus hawaiiensis - extirpated in Haleakalā, very rare elsewhere

Ranunculus mauiensis - extirpated in Haleakalā, very rare elsewhere
Rubus macraei
Rumex giganteus - almost extirpated at Haleakalā, common Hawai'i
Sanicula sandwicensis
Santalum haleakalae - endemic to East Maui
Schiedea diffusa
Schiedea haleakalensis - endemic to East Maui
Schiedea pubescens
Sicyos cucumerinus
Silene cryptopetala - endemic to East Maui, presumed extinct
Silene degeneri - endemic to East Maui, presumed extinct
Silene struthioloides
Sisyrinchium acre
Solanum incompletum - possibly extirpated in Haleakalā
Stenogyne haliakalae - endemic to East Maui, presumed extinct
Stenogyne kamehamehae - endemic to Maui and Molokai
Stenogyne microphylla
Stenogyne rotundifolia - endemic to East Maui
Stenogyne ruber
Tetramolopium humile subsp. *haleakalae* - endemic to East Maui
Tetramolopium lepidotum subsp. *arbusculum*
Tetraplasandra kavaiensis
Trematolobelia macrostachys
Viola maviensis - endemic to East Maui
Viola chamissoniana
Wikstroemia oahuensis ("W. *haleakalesis*" population)
Zanthoxylum kauaense

Ferns and Fern Allies

Christella boydii
Ctenitis honoluluensis
Dryopteris unidentata var. *unidentata*
Dryopteris unidentata var. *ukulelensis* - endemic to East Maui
Huperzia erubescens
Huperzia haleakalae
Huperzia mannii
Huperzia polytrichoides
Marattia douglasii
Polystichum bonseyi - endemic to Maui
Polystichum haleakalense
Polystichum hillebrandii
Pteris irregularis
Selaginella deflexa

Appendix 2. Pertinent Legislation

Act of 1916

An Act To establish a national park in the Territory of Hawaii, approved August 1, 1916 (39 Stat. 432)

Hawaii National
Park.
Established
on islands of
Hawaii and Maui.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the tracts of land on the island of Hawaii and on the island of Maui, in the Territory of Hawaii, hereinafter described, shall be perpetually dedicated and set apart as a public park or pleasure ground for the benefit and enjoyment of the people of the United States, to be known as Hawaii National Park. Said tracts of land are described as follows:

Description.
On Hawaii.

First. All that tract of land comprising portions of the lands of Kapapala and Keauhou, in the district of Kau, and Kahaualea, Panaunui, and Apua, in the district of Puna, on the island of Hawaii, containing approximately thirty-five thousand eight hundred and sixty-five acres, bounded as follows: Beginning at a point on the west edge of the Keamoku Aa Flow (lava flow of eighteen hundred and twenty-three), from which point the true azimuth and distance to Government survey trigonometrical station Ohaikea is one hundred and sixty-six degrees twenty minutes, six thousand three hundred and fifty feet, and running by true azimuths: (First) Along the west edge of the Keamoku lava flow in a northeasterly and northwesterly direction, the direct azimuth and distance being one hundred and ninety-eight degrees ten minutes, fourteen thousand seven hundred feet; (second) two hundred and fifty-six degrees, eleven thousand four hundred feet, more or less, across the land of Kapapala and Keauhou to a marked point on the Humuula trail; (third) three hundred and twenty-eight degrees fifteen minutes, eight thousand seven hundred and twenty-five feet, across the land of Keauhou to the top of the fault north of the Kau road; (fourth) along the fault in a northeasterly direction, the direction azimuth and distance being two hundred and fifty-one degrees and thirty minutes, four thousand three hundred and thirty feet; (fifth) two hundred and forty-five degrees, six thousand feet, to a point near the southwest boundary of the land of Olaa; (sixth) three hundred and thirty-seven degrees ten minutes, eight thousand six hundred and fifty feet, more or less, to the junction of the Hilo and Keauhou roads; (seventh) three hundred and thirty-three degrees

and twenty minutes, three thousand three hundred feet more or less, to the southwest corner of the land of Keaau; (eighth) three hundred and thirty-two degrees and ten minutes, seven thousand feet, along the land of Kahaualea; (ninth) two hundred and eighty-one degrees, thirty thousand three hundred and seventy-five feet, more or less, across the land of Kahaualea, passing through the north corner of the land of Panaunui, to the north corner of the land of Laeapuki; (tenth) thirty-one degrees thirty minutes, thirteen thousand two hundred feet, more or less, along the land of Laeapuki and across the land of Panaunui; (eleventh) eighty-nine degrees and ten minutes, thirty-two thousand nine hundred feet, more or less, across the land of Panaunui, Apua, and Keauhou to "Palilele-o-Kalihipaa", the boundary point of the Keauhou-Kapapala boundary; (twelfth) fifty-one degrees and thirty minutes, five thousand and five hundred feet, across the land of Kapapala; (thirteenth) one hundred and two degrees and fifty minutes, nineteen thousand one hundred and fifty feet, across the land of Kapapala to a small cone about one thousand five hundred feet southwest of Puu Koaie trigonometrical station; (fourteenth) one hundred and sixty-six degrees twenty minutes, twenty-one thousand feet, across the land of Kapapala to the point of beginning.

Second. All that tract of land comprising portions of the lands of Kapapala and Kahuku, in the district of Kau, island of Hawaii; Keauhou second, in the district of North Kona; and Kaohe, in the district of Hamakua, containing seventeen thousand nine hundred and twenty acres, bounded as follows: Beginning at Pohaku Hanalei of Humuula, a small cone on the brow of Mauna Loa, and at the common boundary points of the lands of Humuula, Kapapala, and Kaohe, from which the true azimuth and distance to Government survey trigonometrical station Omaokoili is one hundred and ninety-five degrees twelve minutes eighteen seconds, seventy-eight thousand two hundred and eighty-six feet, and running by true azimuths: First, two hundred and ninety-eight degrees, five thousand two hundred and forty feet; second, twenty-eight degrees, thirty-six thousand nine hundred and sixty feet; third, one hundred and eighteen degrees, twenty-one thousand one hundred and twenty feet; fourth, two hundred and eight degrees, thirty-six thousand nine hundred and sixty feet; fifth, two hundred and ninety-eight degrees, fifteen thousand eight hundred and eighty feet, to the point of beginning.

Third. A strip of land of sufficient width for a road to connect the two tracts of land on the island of Hawaii above described, the width and location of which strip shall be determined by the Secretary of the Interior.

On Maui.

Fourth. All that tract of land comprising portions of the lands of Honouaula and Kula, in the district of Makawao, and Kipahulu, Kaupo, and Kahikinui, in the district of Hana, on the island of Maui, containing approximately twenty-one thousand one hundred and fifty acres, bounded as follows: Beginning at a point called Kolekole, on the summit near the most western point of the rim of the crater of Haleakala, and running by approximate azimuths and distances: First, hundred and ninety-three degrees forty-five minutes nineteen thousand three hundred and fifty feet along the west slope of the crater of Haleakala to a point called Puu-o-Ili; second, two hundred and sixty-eight degrees twenty-three thousand feet up the western slope and across Koolau Gap to the point where the southwest boundary of Koolau Forest Reserve crosses the east rim of Koolau Gap; third, three hundred and six degrees thirty minutes seventeen thousand one hundred and fifty feet along the southwest boundary of Koolau Forest Reserve to a point called Palalia, on the east rim of the crater of Haleakala; fourth, along the east rim of the crater of Haleakala, the direct azimuth and distance being three hundred and fifty-four degrees fifteen minutes eighteen thousand three hundred feet to a point on the east rim of Kaupo Gap, shown on Hawaiian Government survey maps at an elevation of four thousand two hundred and eight feet; fifth, eighty-eight degrees forty-five minutes three thousand three hundred feet across Kaupo Gap to a point called Kaumikaohu, on the boundary line between the lands of Kipahulu and Kahikinui; sixth, one hundred and two degrees and thirty minutes forty thousand seven hundred and fifty feet along the south slope of the crater of Haleakala to the point of beginning. (U.S.C., title 16, sec. 391.)

Existing land
claims not
affected.

SEC. 2. That nothing herein contained shall affect any valid existing claim, location, or entry under the land laws of the United States, whether for homestead, mineral, right of way, or any other purpose whatsoever, or shall affect the rights of any such claimant, locator, or entryman to the full use and enjoyment of his land. Whenever consistent with the primary purposes of the park the Act of February fifteenth, nineteen hundred and one, applicable to the location of rights of way in

certain national parks and the national forests for irrigation and other purposes, shall be and remain applicable to the lands included within the park. The Secretary of the Interior may, in his discretion and upon such conditions as he may deem wise, grant easements or rights of way for steam, electric, or similar transportation upon or across the park. (U.S.C., title 16, sec. 393.)

SEC. 3. That no lands located within the park boundaries now held in private or municipal ownership shall be affected by or subject to the provisions of this Act. (U.S.C., title 16, sec. 393.)

SEC. 4. That the said park shall be under the executive control of the Secretary of the Interior whose duty it shall be, as soon as practicable, to make and publish such rules and regulations as he may deem necessary or proper for the care and management of the same. Such regulations shall provide for the preservation from injury of all timber, birds, mineral deposits, and natural curiosities or wonders within said park, and their retention in their natural condition as nearly as possible. The Secretary may in his discretion grant leases for terms not exceeding twenty years, at such annual rental as he may determine, of parcels of land in said park of not more than twenty acres in all to any one person, corporation, or company for the erection and maintenance of buildings for the accommodation of visitors; but no such lease shall include any of the objects of curiosity or interest; in said park or exclude the public from free and convenient approach thereto or convey, either expressly or by implication, any exclusive privilege within the park except upon the premises held thereunder and for the time granted therein; and every such lease shall require the lessee to observe and obey each and every provision in any Act of Congress and every rule, order, or regulation of the Secretary of the Interior concerning the use, care, management, or government of the park, or any object or property therein, under penalty of forfeiture of such lease. The Secretary may in his discretion grant to persons or corporations now holding leases of land in the park, upon the surrender thereof, new leases hereunder, upon the terms and stipulations contained in their present leases, with such modifications, restrictions, and reservations as he may prescribe. All of the proceeds of said leases and other revenues that may be derived from any source connected with the park shall be expended under the direction of the Secretary, in the management and

Rights of way.
Vol. 31, p. 790.

Private ownership not affected.

Administration, etc.

Leases for accommodating visitors.
(Superseded by 39 Stat. 535, as amended.)

Proceeds for park uses.

Provisos.
Limit on
expenses.
(Repealed by 43
Stat. 390.

Conveyances of
easements from
private owners.

protection of the same and the construction of roads and paths therein. The Secretary may also, in his discretion, permit the erection and maintenance of buildings in said park for scientific purposes: *Provided*, That no appropriation for the maintenance supervision, and improvement of said park in excess of \$10,000 annually shall be made unless the same shall have first been expressly authorized by law: *And provided further*, That no appropriation shall be made for the improvement or maintenance of said park until proper conveyances shall be made to the United States of such perpetual easements and rights of way over private lands within the exterior boundaries of said park as the Secretary of the Interior shall find necessary to make said park reasonably accessible in all its parts, and said Secretary shall when such easements and rights of way have been conveyed to the United States report the same to Congress. (U.S.C., title 16, sec. 394.)

Act of 1920

An Act To authorize the governor of the Territory of Hawaii to acquire privately owned lands and rights of way within the boundaries of the Hawaii National Park, approved February 27, 1920 (41 Stat. 452)

Hawaii National
Park. Acquiring
additional lands
for, authorized.
Vol. 39, p. 432.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the governor of the Territory of Hawaii is hereby authorized to acquire, at the expense of the Territory of Hawaii, by exchange or otherwise, all privately owned lands lying within the boundaries of the Hawaii National Park as defined by "An Act to establish a national park in the Territory of Hawaii," approved August 1, 1916, and all necessary perpetual easements and rights of way, or roadways, in fee simple, over or to said land or any part thereof.

General
restrictions
not applicable.

Vol. 31, p. 155;
vol. 36, p. 444.

SEC. 2. That the provisions of section 73 of an Act entitled "An Act to provide a government for the Territory of Hawaii," approved April 30, 1900, as amended by an Act approved May 27, 1910, relating to exchanges of public lands, shall not apply in the acquisition, by exchange, of the privately owned lands herein referred to. (U.S.C., title 16, sec. 392.)

An Act To revise the boundary of the Hawaii National Park on the island of Maui in the Territory of Hawaii, approved February 12, 1927 (44 Stat. 1087)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the boundary of the Hawaii National Park on the Island of Maui is hereby changed to read as follows:

" Beginning at a triangle on set stone, said mark being the Government survey triangulation station Puu Nianiau the land of Kalialinui, and running by true azimuths:

"1. Three hundred degrees fifty-seven minutes thirty seconds eleven thousand seven hundred and sixty-nine and three-tenths feet along the remaining portion of the land of Kalialinui to a concrete monument marked Number 1 on spur and on the west edge of Koolau Gap.

"2. Two hundred and ninety-seven degrees forty-seven minutes thirty seconds fourteen thousand six hundred and fifty-two and six-tenths feet along same and across Koolau Gap to a concrete monument marked Number 3, the true azimuth and distance from said monument to Government survey triangulation station Hanakauhi being forty-five degrees fourteen minutes nine hundred and eighty-eight feet.

"3. Two hundred and sixty-nine degrees fifty-seven minutes thirty seconds nine thousand and one and three-tenths feet along same to a concrete monument marked Number 7 on the southwest boundary of the land of Haiku.

"4. Three hundred and six degrees thirty-nine minutes thousand nine hundred and thirteen and four-tenths feet along the southwest boundary of the land of Haiku to a cross on large flat rock called Pohaku Palaha.

"5. Two hundred and seventy-three degrees seven minutes four hundred and forty feet along the Nahiku tract to Government survey triangulation station Pakihi.

"6. Thence following along summit of dividing ridge between Haleakala crater and Kipahulu Valley to an ahu at a place called Pakihi, the direct azimuth and distance being three hundred and fifty degrees four minutes thirty seconds seven thousand four hundred and fourteen and tenths feet.

"7. Thence along Government land and following along rim of the crater and crest of wall of Kaupo Gap to a four inch by four inch redwood post, the direct azimuth and distance being three hundred and fifty-six degrees forty-one minutes ten thousand eight hundred and sixty-seven and nine-tenths feet.

Hawaii National
Park. Boundary
changed on Maui.

Vol. 39, p. 432,
amended.

Description.

"8. Eighty-six degrees one minute thirty seconds six thousand seven hundred and seventy-seven and four-tenths feet along grant 3457, lot 1, to A. V. Marciel, and remaining portion of the land of Nuu (R.P. 8049, L.C.A. 6239 Apana 2 to Kalaimoku), passing over a cross on stone at Kauhaokamoa at three thousand four hundred and forty-one and eight-tenths feet and passing over an iron pipe on the west edge of the Koolau Gap at five thousand eight hundred and seventy-four feet.

"9. One hundred and thirty-eight degrees forty-two minutes thirty seconds nine thousand five hundred and seventy-four and two-tenths feet along the remaining portion of said land of Nuu to a cross on rock, the true azimuth and distance to Government survey triangulation station Haleakala 2 being one hundred and seventy-nine degrees thirteen minutes fifteen seconds nine hundred and forty-three and two tenths feet.

"10. Ninety-one degrees thirty-four minutes forty-five seconds nine thousand nine hundred and sixty and four-tenths feet along same to a concrete monument marked Number 14, the true azimuth and distance from said monument to an arrow on rock called Kumuiliahi, marking the northeast corner of the land of Nakula, being one hundred and sixty-seven degrees twenty-eight minutes nine hundred and twenty-eight and seven-tenths feet.

"11. Ninety degrees twenty-three minutes thirty seconds twelve thousand two hundred and forty-nine and three-tenths feet along the remaining portion of the lands of Nakula and Nahikinui to a concrete monument marked Number 15.

"12. One hundred and seventeen degrees fifty-two minutes thirty seconds five thousand two hundred and nine and two-tenths feet along the remaining portion of the land of Kahikinui to a concrete monument marked Number 16, the true azimuth and distance from said monument to Government survey triangulation station Kolekole, being ninety-eight degrees thirty minutes one thousand five hundred and forty-three and five-tenths feet.

"13. One hundred and twenty-seven degrees thirty-eight minutes two thousand one hundred and seventy-five and six-tenths feet along same and the land of Papaanui to a concrete monument marked Number 17, the true azimuth and distance from said monument to a concrete monument marked Number 25, which marks the south corner of the land of Kealahou 3 and 4 being forty

degrees ten minutes thirty seconds four hundred and sixty-six and two-tenths feet.

"14. Two hundred and thirteen degrees forty-six minutes eight thousand two hundred and forty-one and two-tenths feet along the remaining portions of the lands of Kealahou 3 and 4 and Pulehunui to a concrete monument marked Number 19, the true azimuth and distance from said monument to a 'K' marked on a large lava rock called Kilohana, at the east corner of the lands of Kealahou 3 and 4, being three hundred and twenty-three degrees fifty-three minutes nine hundred and forty-seven and three-tenths feet.

"15. One hundred and forty-three degrees fifty-three minutes six thousand nine hundred and five and three-tenths feet along the land of Pulehunui to a concrete monument marked Number 20.

"16. One hundred and ninety-nine degrees twenty-three minutes ten thousand seven hundred and twenty-six feet along the remaining portion of the land of Kalialinui to the point of beginning, passing over a concrete monument marked Number 22 at a distance of six thousand four hundred thirty-six and seven-tenths feet; including portions of the lands of Kealahou 3 and 4, Pulehunui, Kalialinui, Kaupo, Nuu, Nakula, Kahikinui, and Papaanui, Island of Maui, and containing seventeen thousand one hundred and thirty acres, more or less;"

Additions.

SEC. 2. That the provisions of the Act of February 27, 1920, entitled "An Act to authorize the Governor of the Territory of Hawaii to acquire privately owned lands and rights of way within the boundaries of the Hawaii National Park," are hereby extended over and made applicable to the lands added to the park and included within the boundary established by the preceding section of this Act. (U.S.C., 6th supp., title 16, sec. 392a.)

Acquiring
privately owned
lands, etc.,
within new
boundary,
authorized.
Vol. 41, p. 452.

Act of 1930

An Act To provide for the exercise of sole and exclusive jurisdiction by the United States over the Hawaii National Park in the Territory of Hawaii, and for other purposes, approved April 19, 1930 (46 Stat. 227)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That hereafter sole and exclusive jurisdiction shall be exercised by the United States over the territory which is now or may hereafter be included in the Hawaii National Park in the Territory of Hawaii, saving, however, to the Territory of Hawaii the right to serve civil or criminal process within the limits of the aforesaid park in suits or prosecutions for or on account of rights acquired, obligations incurred, or crimes committed outside of said park, and saving further to the Territory of Hawaii the right to tax persons and corporations, their franchises and property on the lands included in said park. All the laws applicable to places under the sole and exclusive jurisdiction of the United States shall have force and effect in said park. All fugitives from justice taking refuge in said park shall be subject to the same laws as refugees from justice found in the Territory of Hawaii. (U.S.C., 6th supp., title 16, sec. 395.)

SEC. 2. That the District Court of the United States in and for the Territory of Hawaii shall have jurisdiction of all offenses committed within the boundaries of said park. (U.S.C., 6th supp., title 16, sec. 395a.)

SEC. 3. That if any offense shall be committed in the Hawaii National Park, which offense is not prohibited or the punishment for which is not specifically provided for by any law of the United States, the offender shall be subject to the same punishment as the laws of the Territory of Hawaii in force at the time of the commission of the offense may provide for a like offense in said Territory and no subsequent repeal of any such law of the Territory of Hawaii shall affect any prosecution for said offense committed within said park. (U.S.C., 6th supp., title 16, sec. 395b.)

SEC. 4. That all hunting or the killing, wounding, or capturing at any time of any wild bird or animal, except dangerous animals when it is necessary to prevent them from destroying human lives or inflicting personal injury, is prohibited within the limits of said park; nor shall any fish be taken out of the waters of the park in any other way than by hook and line, and then only at such seasons and in such times and manner as may be

Hawaii National Park. Sole jurisdiction over, to be exercised by United States. Rights reserved to the Territory.

Application of Federal laws.

Extradition of criminals.

Jurisdiction of District Court.

Punishment of offenses against Territorial laws.

Hunting, fishing, etc., prohibitions.

directed by the Secretary of the Interior. That the Secretary of the Interior shall make and publish such general rules and regulations as he may deem necessary and proper for the management and care of the park and for the protection of the property therein, especially for the preservation from injury or spoliation of all timber, natural curiosities, or wonderful objects within said park, and for the protection of the animals and birds in the park from capture or destruction, and to prevent their being frightened driven from the park; and he shall make rules and regulations governing the taking of fish from the streams or lakes in the park. Possession within said park of the dead bodies, or any part thereof, of any wild bird or animals shall be prima facie evidence that the person or persons having the same are guilty of violating this Act. Any person or persons, or stage or express company, or railway company, who knows or has reason to believe that they were taken or killed contrary to the provisions of this Act and who receives for transportation any of said animals, birds, or fish so killed, caught, or taken, or who shall violate any of the provisions of this Act or any rule or regulation that may be promulgated by the Secretary of the Interior with reference to the management and care of the park or for the protection of the property therein, for the preservation from injury or spoliation of timber, natural curiosities, or wonderful objects within said park, or for the protection of the animals, birds, or fish in the park, or who shall within said park willfully commit any damage, injury, or spoliation to or upon any building, fence, hedge, gate, guidepost, tree, wood, underwood, timber, garden, crops, vegetables, plants, land, springs, natural curiosities, or other matter or thing growing or being thereon or situated therein, shall be deemed guilty of a misdemeanor and shall be subject to a fine of not more than \$500 or imprisonment not exceeding six months, or both, and be adjudged to pay all costs of the proceedings. (U.S C., 6th supp., title 16, sec. 395c.)

SEC. 5. That all guns, traps, teams, horses, or means of transportation of every nature or description used by any person or persons within said park limits when engaged in killing, trapping, ensnaring, or capturing such wild beasts, birds, or animals shall be forfeited to the United States and may be seized by the officers in said park and held pending the prosecution of any person or persons arrested under charge of violating the provisions of this Act, and upon conviction under this

Regulations, etc.,
to be prescribed.

Evidence of
violations.

Punishment for
violating provi-
sions hereof, etc.

Forfeiture of
guns, traps, etc.,
illegally used.

Act of such person or persons using said guns, traps, teams, horses, or other means of transportation, such forfeiture shall be adjudicated as a penalty in addition to the other punishment provided in this Act. Such forfeited property shall be disposed of and accounted for by and under the authority of the Secretary of the Interior. (U.S.C., 6th supp., title 16, sec. 395d.)

Disposal of.

SEC. 6. That upon the recommendation and approval of the Secretary of the Interior of a qualified candidate the United States District Court for the Territory of Hawaii shall appoint a commissioner who shall reside in the park and who shall have jurisdiction to hear and act upon all complaints made of any violations of law or of the rules and regulations made by the Secretary of the Interior for the government of the park and for the protection of the animals, birds, and fish, and objects of interest therein, and for other purposes, authorized by this Act. (U.S.C., 6th supp., title 16, sec. 395e.)

Commissioner
for.
Appointment,
authority, etc.

Such commissioner shall have power, upon sworn information, to issue process in the name of the United States for the arrest of any person charged with the commission of any misdemeanor, or charged with a violation of the rules and regulations, or with a violation of any of the provisions of this Act prescribed for the government of said park and for the protection of the animals, birds, and fish in said park, and to try the person so charged, and, if found guilty, to impose punishment and to adjudge the forfeiture prescribed. (U.S.C., 6th supp., title 16, sec. 395e.)

Judicial power
of, in violations
of rules, etc.

In all cases of conviction an appeal shall lie from the judgment of said commissioner to the United States District Court for the Territory of Hawaii, and the United States district court in said district shall prescribe the rules of procedure and practice for said commissioner in the trial of cases and for appeal to said United States district court. (U.S.C., 6th supp., title 16, sec. 395e.)

Appeals from, to
district court.

SEC. 7. That such commissioner shall also have power issue process as hereinbefore provided for the arrest of any person charged with the commission within said boundaries of any criminal offense not covered by the provisions of section 4 of this Act, to hear the evidence introduced, and if he is of opinion that probable cause is shown for holding the person so charged for trial shall cause such person to be safely conveyed to a secure place of confinement within the jurisdiction of the United States District Court for the Territory of Hawaii, and

Procedure in
criminal cases.

certify a transcript of the record of his proceedings and the testimony in the case to said court, which court shall have jurisdiction of the case: *Provided*, That the said commissioner shall grant bail in all casesailable under the laws of the United States or of said Territory. (U.S.C., 6th supp., title 16, sec. 395f.)

Provisos.
Bail.

SEC. 8. That all process issued by the commissioner shall be directed to the marshal of the United States for the district of Hawaii, but nothing herein contained shall be so construed as to prevent the arrest by any officer or employee of the Government or any person employed by the United States in the policing of said reservation within said boundaries without process of any person taken in the act of violating the law or this Act or the regulations prescribed by the said Secretary as aforesaid. (U.S.C., 6th supp., title 16, sec. 395g.)

Service of
process.

Summary
arrests.

SEC. 9. That the commissioner provided for in this Act shall be paid an annual salary as appropriated for by Congress, payable quarterly: *Provided*, That the said commissioner shall reside within exterior boundaries of said Hawaii National Park at a place to be designated by the Secretary of the Interior: *And provided further*, That all fees, costs, and expenses collected by the commissioner shall be disposed of as provided in section 11 of this Act. (U.S.C., 6th supp., title 16, sec. 395h.)

Pay of
commissioner.

Provisos.

Residence
required.

Disposal of fees,
etc.

SEC. 10. That all fees, costs, and expenses arising in cases under this Act and properly chargeable to the United States shall be certified, approved, and paid as are like fees, costs, and expenses in the courts of the United States. (U.S.C., 6th supp., title 16, sec. 395i.)

Fees, United
States cases.

SEC. 11. That all fines and costs imposed and collected shall be deposited by said commissioner of the United States, or the marshal of the United States collecting the same, with the clerk of the United States District Court for the Territory of Hawaii. (U.S.C., 6th supp., title 16, sec. 395j.)

Deposit of fines
and costs.

SEC. 12. That the Secretary of the Interior shall notify, in writing, the Governor of the Territory of Hawaii of the passage and approval of this Act and of the fact that United States assumes police jurisdiction over said park.

Notice to Terri-
tory of Federal
police jurisdic-
tion assumed.

Act of 1938

An Act To add certain lands on the island of Hawaii to the Hawaii National Park, and for other purposes, approved June 20, 1938 (52 Stat. 781)

Hawaii National
Park. Lands
added.

Description.
Kalapana
extension.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That when title to all or any of the following-described lands on the island of Hawaii, in the Territory of Hawaii, shall be vested in the United States, such lands shall be, and the same are hereby, added to and made a part of the Hawaii National Park.

Kalapana extension (being portions of the lands of Kahaualea, Panaunui, and Apua and all of the lands of Poupou, Pulama, Kamoamo, Laeapuki, Panauiki, Kealakomo, and Kahue, in the district of Puna, and portion of the land of Keauhou, in the district of Kau): Beginning at the United States Coast and Geodetic Survey triangulation station Kupapau (marked by a survey tablet set in large rock), the true azimuth and distance from said point of beginning to the United States Coast and Geodetic Survey triangulation station Hakuma (marked by a United States Coast and Geodetic Survey tablet set in smooth lava outcrop and surrounded by a circular patch of cement near edge of sea pali) being two hundred and forty-four degrees forty minutes and fifty seconds exactly fourteen thousand four hundred and thirteen feet and running as follows, all azimuths being measured clockwise from true south (note azimuths of courses 1 to 4, inclusive, are referred to Hakuma meridian):

Along the seacoast at high-water mark, in a general southwesterly direction for the first five courses, the true azimuths and distances between points on said seacoast being --

1. Exactly sixty-six degrees and fifteen minutes twenty-six thousand three hundred and thirty-six and six-tenths feet to United States Coast and Geodetic Survey station Laeapuki, marked by a survey tablet set in mound and covered by a small cairn;
2. Exactly sixty degrees and ten minutes eighteen thousand seven hundred feet to Kaena Point;
3. Exactly seventy-one degrees and fifty-six minutes, twenty-one thousand three hundred and fifty feet to Apua Point;
4. Exactly ninety-eight degrees and forty-five minutes seven thousand four hundred feet to a pipe in concrete at a place called Okiokiahu (note: azimuths of courses 5 to 11, inclusive, are referred to Uwekahuna meridian);

5. One hundred and nine degrees fifty-seven minutes and twenty-two seconds ten thousand seven hundred and seventeen and nine-tenths feet to a pipe in concrete at a place called Makaloa; thence
6. One hundred and seventy degrees four minutes and thirty-nine seconds exactly six thousand eight hundred feet along Hawaii National Park, Kilauea section, to the foot of the Puueo pali;
7. Two hundred and forty-three degrees five minutes and thirty seconds exactly one thousand nine hundred and seventy-three feet along the foot of Puueo pali along portion of the land of Keauhou;
8. Exactly two hundred and eighty-six degrees fifty minutes exactly nine thousand seven hundred feet along portion of the land of Keauhou;
9. One hundred and seventy-eight degrees thirty-eight minutes and twenty-five seconds exactly twelve thousand five hundred feet along portion of the land of Keauhou to a pipe in concrete at top of the Poliokeawe pali;
10. One hundred and sixty-six degrees twenty-two minutes and twenty-four seconds twelve thousand four hundred and sixty-seven and nine-tenths feet along portion of the land of Keauhou to a pipe in concrete on the south boundary of Hawaii National Park, Kilauea section;
11. Exactly two hundred and sixty-nine degrees and ten minutes twenty-one thousand one hundred forty-six and five-tenths feet along Hawaii National Park, Kilauea section, to a pipe (note: azimuths of courses 12 and 13 are referred to Puu Huluhulu meridian);
12. Exactly two hundred and eleven degrees and thirty minutes thirteen thousand seventy-four and seven-tenths feet along Hawaii National Park, Kilauea section, to a pipe;
13. Exactly two hundred and eighty-one degrees exactly two thousand nine hundred and thirty-one feet along portion of the land of Kahaualea (note: azimuths of courses 14 to 24, inclusive, are referred to Hakuma meridian);
14. Exactly two hundred and twelve degrees and thirty minutes exactly eight thousand and fifteen feet along the land of Kahaualea;
15. Exactly two hundred and ninety-seven degrees and fifteen minutes exactly twenty-four thousand five hundred and fifty-two feet along the land of Kahaualea;
16. Exactly two hundred and forty-five degrees and fifty-eight minutes exactly six thousand one hundred and sixty-eight feet along the land of Kahaualea;

17. Exactly three hundred and twenty-six degrees and thirty-one minutes exactly five thousand two hundred and forty-eight feet along the land of Kahaualea;

18. Exactly three hundred and fifty-nine degrees and fifteen minutes exactly four hundred and forty-five feet along the land of Kahaualea;

19. Exactly three hundred and twenty-nine degrees exactly two thousand two hundred and eleven feet along the land of Kahaualea;

20. Two hundred and thirty-four degrees thirty-nine minutes and forty seconds exactly three thousand two hundred and eighty-three feet across portion of the land of Kahaualea;

21. Exactly three hundred and thirty-eight degrees and twelve minutes three thousand nine hundred and twenty-seven and five-tenths feet along the land of Kapaahu;

22. Exactly three hundred and thirty-four degrees and thirty minutes exactly one thousand seven hundred and eighty feet along the land of Kapaahu to the south corner of grant 3208 to West Kaloi;

23. Exactly three hundred and thirty-one degrees and thirty minutes five thousand and ninety-seven and eight-tenths feet along the land of Kapaahu to a point near sea-coast, thence

24. To and along the seacoast at high-water mark to the point of beginning, the true azimuth and distance being: Exactly fifty-three degrees and eighteen minutes three thousand three hundred and sixty-four feet.

Area, forty-nine thousand three hundred and forty acres.

Footprint extension: Beginning at the northeast corner of this tract of land, at a point on the west edge of the Keamoku Aa Flow (lava flow of 1823), and on the westerly boundary of Hawaii National Park, Kilauea section, as described in Governor's Executive Order 86, the coordinates of said point of beginning referred to Government survey triangulation station Uwekahuna, being four thousand seven hundred and six and six-tenths feet south and seventeen thousand nine hundred and seventy and three-tenths feet west, and the true azimuth and distance from said point of beginning to Government survey triangulation station Ohaikea being one hundred and sixty-six degrees and twenty minutes exactly six thousand three hundred and fifty feet, as shown on Government survey registered map 2388, and running by azimuths measured clockwise from true south--

Footprint
extension.

1. Three hundred and forty-six degrees and twenty minutes exactly fourteen thousand two hundred and fifty-eight feet along Hawaii National Park, Kilauea section, as described in Governor's Executive Order 86;

2. Fifty degrees and twenty-five minutes exactly twenty-seven thousand six hundred and fifteen feet along Hawaii National Park, Kilauea section, as described in Governor's Executive Order 81, thence along the remainder of the Government land of Kapapala to the point of beginning as follows:

3. One hundred and ninety-one degrees no minutes and twenty seconds thirteen thousand five hundred and forty-four and five-tenths feet to a pipe at fence corner a little southwest of the old halfway house and about twenty feet southeast of the edge of the Government main road;

4. Two hundred and thirty-four degrees and twenty-five minutes one thousand three hundred and seventy-seven and five-tenths feet to a pipe on a mound of pahoehoe about ninety feet southeast of the Government main road;

5. Two hundred and twenty degrees and forty minutes exactly one thousand seven hundred and eighty-seven feet crossing the Government main road to a spike in large boulder in stone wall about one hundred and twenty-five feet north of the Government main road; thence

6. Along stone wall over the lava flows, the boundary following the wall in its turns and windings, the direct azimuth and distance being: two hundred and nineteen degrees twenty-two minutes and forty-five seconds exactly eighteen thousand one hundred and twenty-one feet to a point in said stone wall;

7. Two hundred and thirty-eight degrees and seven minutes exactly two hundred and fifty feet partly along stone wall to a pipe in the middle of a corral;

8. Two hundred and thirty-four degrees and two minutes exactly two hundred feet across corral and along stone wall to a point in said wall;

9. Two hundred and thirty-nine degrees and thirty minutes exactly three hundred and fifteen feet along stone wall to a pipe at end of wall and on the south side of the old Peter Lee Road;

10. One hundred and eighty-five degrees and thirty minutes exactly three hundred and eighty feet crossing old Peter Lee Road and along fence to a pipe at fence corner on the west bank of a ravine, thence

11. Following along the west bank of ravine, the direct azimuth and distance being: two hundred and three degrees and twenty-three minutes four hundred seventy-five and seven-tenths feet to a pipe on the west bank of the ravine;

12. Two hundred and twenty degrees and fifty-four minutes exactly two hundred and forty-five feet across ravine and along fence to a spike in stone pile;

13. Two hundred and twelve degrees and forty-four minutes exactly two hundred feet along fence to a spike in stone pile;

14. Two hundred and twenty-two degrees and fifty-three minutes exactly two hundred and forty feet along fence to a spike in stone pile;

15. Two hundred and twenty-five degrees and forty-six minutes three hundred and forty and six-tenths feet to the point of beginning and containing an area of five thousand seven hundred and thirty acres more or less; and, in addition, any lands adjacent or contiguous to the Hawaii National Park as hereby extended which, in the discretion of the Secretary of the Interior, are necessary for proper rounding out of the boundaries of the park: *Provided*, That the United States shall not purchase, by appropriation of public moneys, any land within the aforesaid area, but such lands shall be secured by the United States only by public and private donations. (16 U.S.C. sec. 391b.)

SEC. 2. The Secretary of the Interior is hereby authorized, in his discretion and upon submission of evidence of title to him, to accept, on behalf of the United States, title to the lands referred to in the previous section hereof as may be deemed by him necessary or desirable for national park purposes. (16 U.S.C. sec. 396.)

SEC. 3. (a) That the Secretary of the Interior is authorized to lease, under such rules and regulations as he may deem proper, land ascertained by him to be suitable for home site purposes in the Kalapana extension as described herein, to native Hawaiians when such occupancy does not encroach on or prevent free access to any points of historic, scientific, or scenic interest or in any manner obstruct or interfere with protection and preservation of said area as a part of the Hawaii National Park: *Provided, however*, That occupants of homesites shall reside on the land not less than six months in any one year: *And provided further*, That fishing shall be

Additional adjacent or contiguous lands.

Proviso.

Lands to be secured by donation only.

Acceptance of title authorized.

Leases for home site purposes in the Kalapana extension to natives.

Provisos.

Residence requirements.

permitted in said area only by native Hawaiian residents of said area or of adjacent villages and by visitors under their guidance.

(b) The term "native Hawaiian", as used in this section, means any descendant of not less than one-half part of the blood of the races inhabiting the Hawaiian Islands previous to 1778. (16 U.S.C. sec. 396a.)

SEC. 4. That the provisions of the Act of August 1, 1916 (39 Stat. 432), entitled "An Act to establish a national park in the Territory of Hawaii"; the Act of August 25, 1916 (39 Stat. 535), entitled "An Act to establish a National Park Service, and for other purposes"; the Act of February 27, 1920 (41 Stat. 452), entitled "An Act to authorize the Governor of the Territory of Hawaii to acquire privately owned lands and rights-of-way within the boundaries of the Hawaii National Park"; and all Acts supplementary to and amendatory of said Acts are made applicable to and extended over the lands hereby added to the park: *Provided*, That the provisions of the Act of June 10, 1920, as amended, entitled "An Act to create a Federal Power Commission; to provide for the improvement of navigation; the development of water power; the use of the public lands in relation thereto; and to repeal section 18 of the River and Harbor Appropriations Act, approved August 8, 1917, and for other purposes", shall not apply to or extend over such lands (U.S.C., title 16, sec. 391): *And provided further*, That the Governor of the Territory of Hawaii is authorized to convey to the United States any and all lands and interests in lands acquired by the Territorial Government under the provisions of this Act. (16 U.S.C. secs. 391b--1, 392b.)

Fishing restrictions.

"Native Hawaiian" defined.

Provisions of designated Acts extended to additions.

39 Stat. 432.
16 U.S.C. sec. 391.
39 Stat. 535,
16 U.S.C. sec. 1
41 Stat. 452,
16 U.S.C.

Provisos.

Designated provisions inapplicable.
41 Stat. 1063,
16 U.S.C.,
ch. 12.

Conveyance authorized.

Act of 1959

Excerpt from "An Act To provide for the admission of the State of Hawaii into the Union," approved March 18, 1959 (73 Stat. 4, 11)

* * * * *

SEC. 16. (a) Notwithstanding the admission of the State of Hawaii into the Union, the United States shall continue to have sole and exclusive jurisdiction over the area which may then or thereafter be included in Hawaii National Park, saving, however, to the State of Hawaii the same rights as are reserved to the Territory of Hawaii by section 1 of the Act of April 19, 1930 (46

Hawaii National Park.

16 U.S.C. 395.

Stat. 227), and saving, further, to persons then or thereafter residing within such area the right to vote at all elections held within the political subdivisions where they respectively reside. Upon the admission of said State all references to the Territory of Hawaii in said Act or in other laws relating to Hawaii National Park shall be deemed to refer to the State of Hawaii. Nothing contained in this Act shall be construed to affect the ownership and control by the United States of any lands or other property within Hawaii National Park which may now belong to, or which may hereafter be acquired by, the United States. (48 U.S.C. prec. § 491 note.)

Act of 1960

An Act To designate and establish that portion of the Hawaii National Park on the island of Maui, in the State of Hawaii, as the Haleakala National Park, and for other purposes, approved September 13, 1960 (74 Stat. 881)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That, effective July 1, 1961, the detached portion of the Hawaii National Park which lies on the island of Maui is hereby established as a separate unit of the national park system to be known as Haleakala National Park. The park so established shall be administered in accordance with the Act entitled " An Act to establish a National Park Service, and for other purposes", approved August 25, 1916 (39 Stat. 535), as amended and supplemented, and in accordance with any other applicable provision of law relating to the Maui portion of Hawaii National Park. (16 U.S.C. § 396b [Supp II].)

Haleakala
National Park,
Hawaii.
Establishment.

16 U.S.C. 1-4,
passim.

Act of 1976

An Act to designate certain lands within units of the National Park System as wilderness; to revise the boundaries of certain of those units; and for other purposes. (90 Stat. 2692) (P.L. 94-567)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in accordance with section 3(c) of the Wilderness Act (78 Stat. 890; 16 U.S.C. 1132(c)), the following lands are hereby designated as wilderness, and shall be administered by the Secretary of the Interior in accordance with the applicable provisions of the Wilderness Act.

* * * * *

(e) Haleakala National Park, Hawaii, wilderness comprising nineteen thousand two hundred and seventy acres, and potential wilderness additions comprising five thousand five hundred acres, depicted on a map entitled "Wilderness Plan, Haleakala National Park, Hawaii", numbered 162-20,006-A and dated July 1972, to be known as the Haleakala Wilderness.

SEC. 2. A map and description of the boundaries of the areas designated in this Act shall be on file and available for public inspection in the office of the Director of the National Park Service, Department of the Interior, and in the office of the Superintendent of each area designated in the Act. As soon as practicable after this Act takes effect, maps of the wilderness areas and descriptions of their boundaries shall be filed with the Interior and Insular Affairs Committees of the United States Senate and House of Representatives, and such maps and descriptions shall have the same force and effect as if included in this Act: *Provided*, That correction of clerical and typographical errors in such maps and descriptions may be made.

SEC. 3. All lands which represent potential wilderness additions, upon publication in the Federal Register of a notice by the Secretary of the Interior that all uses thereon prohibited by the Wilderness Act have ceased, shall thereby be designated wilderness.

SEC. 6. The areas designated by this Act as wilderness shall be administered by the Secretary of the Interior in accordance with the applicable provisions of the Wilderness Act governing areas designated by that Act as wilderness areas, except that any reference in such provisions to the effective date of the Wilderness Act shall be deemed to be a reference to the effective date of this Act, and, where appropriate, any reference to the Secretary of Agriculture shall be deemed to be a reference to the Secretary of the Interior.

* * * * *

Approved October 20, 1976.

An Act to provide for increases in appropriation ceilings and boundary changes in certain units of the National Park System, and for other purposes. (90 Stat. 2732) (P.L. 94-578)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

TITLE III--MISCELLANEOUS PROVISIONS

* * * * *

HALEAKALA NATIONAL PARK

SEC. 313. The Act of September 13, 1960 (74 Stat.881) which designates and establishes that portion of the Hawaii National Park on the island of Maui, in the State of Hawaii, as the Haleakala National Park, is amended by adding the following new section:

"SEC. 2. (a) Notwithstanding any limitations on land acquisition as provided by the Act of June 20, 1938 (52 Stat. 781), the Secretary of the Interior may acquire for addition to the park any land on the island of Maui within the boundaries of the area generally depicted on the map entitled 'Haleakala National Park, Segment 03,' numbered 162-30,000-G, and dated May 1972, by donation, purchase with donated or appropriated funds, or exchange. The map shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior.

"(b) There is authorized to be appropriated such sums but not to exceed \$920,000 as may be necessary to carry out the purposes of this section."

* * * * *

Approved October 21, 1976.

LIST OF PREPARERS/ CONTRIBUTORS

Don Reeser, Superintendent, Haleakalā National Park
Gary Barbano, Park Planner, Pacific Area Office
Bryan Harry, Director, Pacific Area Office
Dr. Lloyd Loope, Research Scientist, Haleakalā National Park
Ron Nagata, Chief, Resources Management, Haleakalā National
Park
Karen Ardoin, Chief Ranger, Haleakalā National Park
Mark Tanaka-Sanders, District Ranger, Haleakalā National Park
Art Medeiros, Research Biologist, Haleakalā National Park
Melia Lane-Kamahele, Cartographer, Pacific Area Office
Jaynee Nakamura, Secretary, Pacific Area Office
Susan Nikaido, Secretary, Haleakalā National Park
Dr. Gary Somers, Archeologist, Pacific Area Office
Dr. Robert Hommon, Archeologist, Pacific Area Office
Thomas Fake, Landscape Architect, Pacific Area Office

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