National Park Service
U.S. Department of the Interior
Ala Kahakai National Historic Trail

Ala Kahakai
National Historic Trail

Abbreviated Final Comprehensive Management Plan & Environmental Impact Statement

October 2008

Photo Credits

Front cover: Top: Pu‘u Kohola Heiau; bottom left: Trail to Luahinewai, Kīholo, North Kona; bottom center: Manini‘owali, N. Kona; bottom right: Ka‘awaloa, S. Kona; NPS photos.

Back cover: Top left: Ka‘awaloa Road, S. Kona; center left: Petroglyphs, Anaehoomalu, bottom left: jeep trail, N. Kohala; right: Mamalahoa trail. NPS photos.

ABBREVIATED FINAL ENVIRONMENTAL IMPACT STATEMENT
and
Comprehensive Management Plan
For the

Ala Kahakai National Historic Trail

Pacific West Region

National Park Service

United States Department of the Interior

October 2008

1800 Lava Flow, Kalae Mano, N. Kona, NPS photo

Abbreviated Final Environmental Impact Statement
& Comprehensive Management Plan
(These pages replace pages iii-iv of the Draft CMP/EIS)

Ala Kahakai National Historic Trail

U.S. Department of the Interior ■ National Park Service

October 2008

The Ala Kahakai[1] National Historic Trail (NHT) was added to the National Trails System on November 13, 2000. The legislation authorizing the trail identifies an approximately 175-mile portion of prehistoric *ala loa* (long trail) on or parallel to the seacoast extending from ʻUpolu Point on the north tip of Hawaiʻi Island down the west coast of the island around Ka Lae (South Point) to the east boundary of Hawaiʻi Volcanoes National Park. As authorized by Congress, the Ala Kahakai NHT, combines surviving elements of the ancient and historic coastal *ala loa* with segments of later *alanui aupuni* (government trails), that developed on top of or parallel to the traditional trails, and more recent pathways and roads that create links between the historic segments. To comply with the National Trails System Act (16USC 1241-1251), the National Park Service (NPS) is required to prepare a comprehensive management plan for the trail that will outline how the national trail would be administered and managed for approximately 15 years.

Because changes to the draft document were minor and confined primarily to factual corrections which do not modify the analysis, an abbreviated format has been selected. Use of this format complies with the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act (40 CFR 1503.4[c]). The abbreviated format requires that the material in this document be integrated with the draft CMP/EIS to describe the final plan, significant environmental impacts, and public comments that have been received and evaluated. Additional copies of the draft are available upon request.

This document is the final comprehensive management plan and environmental impact statement (CMP/EIS) for the Ala Kahakai NHT. The plan is intended to be a useful long-term decision-making tool, providing NPS administrators with a logical and trackable rationale for decisions about the protection and public use of the national historic trail. The CMP examines three possible management strategies, called "alternatives," and the impact on the national trail resources of implementing these alternatives. These alternatives respond to the National Trails System Act, NPS planning requirements, and the issues identified during public scoping. One of these alternatives, Alternative C: Ahupuaʻa Trail System, constitutes the Proposed Action and the Preferred Alternative by the NPS.

Alternative C, the environmentally preferred alternative, is based on the traditional Hawaiian trail system in which multiple trail alignments within the *ahupuaʻa* (mountain to sea land division) are integral to land use and stewardship. Under the proposed action, a continuous trail parallel to the shoreline would be protected; however, on public lands and where landowners wish it, the Ala Kahakai NHT could include inland portions of the *ala loa* or other historic trails that run lateral to the shoreline, and the shoreline *ala loa* would be connected to ancient or historic *mauka-makai* (mountain to sea) trails that would have traditionally been part of the *ahupuaʻa* system. During the 15-year planning period, the priority zone from Kawaihae through Puʻuhonua o Hōnaunau National Park to Hoʻokena would be the focus for developing a continuous publicly accessible trail, but trail administration and management would protect and preserve trail sections outside of that zone as feasible.

Through an agreement, the state of Hawaii could convey to the NPS a less-than-fee management interest in trail segments that are state-owned under the Highways Act of 1892 within the Ala Kahakai NHT corridor. The NPS would then be responsible for managing these segments and federal law would fully apply. However, in cooperation with the NPS, local communities of the *ahupuaʻa* would be encouraged to take responsibility

[1] A term coined by a planner in 1973 from *ala* (path, trail) *kaha* (by the) *kai* (sea). *Kahakai* means beach, seashore.

for trail management using the traditional Hawaiian principles of land management and stewardship. The Ala Kahakai Trail Association would be expected to be robust enough to play a major part in trail management, promotion, and funding. An auto tour would be completed. The environmental consequences of the alternatives are examined in the EIS.

The plan identifies the necessity of community partnerships to protect trail resources and provide appropriate trail user services. As a partnership endeavor, the success of this plan is not solely determined by the NPS; rather its success rests with the will and perseverance of other local government agencies, communities, organizations, neighborhood associations, and individuals who have the capacity and desire to implement actions within this plan.

This document is online at the NPS Planning and Public comment System at http://parkplanning.nps.gov/alka. A limited number of copies of this report are available from the mailing address below. In addition, the final CMP/EIS is available at the following public libraries on the island of Hawaiʻi and in Honolulu:

Hawaiʻi State Library
Bond Memorial Public Library
Hilo Public Library
Honokaʻa Public Library
Kailua-Kona Public Library
Keaʻau Public Library
Kealakekua Public Library
Laupahoehoe Public Library
Mountain View Public Library
Naʻalehu Public Library
Pahala Public Library
Thelma Parker Public Library

The release of this final CMP/EIS and published Notice of Availability in the Federal Register will be followed by a 30-day no-action period after which time the alternative or actions constituting the approved comprehensive management plan will be documented in a Record of Decision. For further information, contact the Superintendent, Ala Kahakai NHT, 73-4786 Kanalani Street, #14, Kailua-Kona, HI 96740 or by telephone at 808-326-6012.

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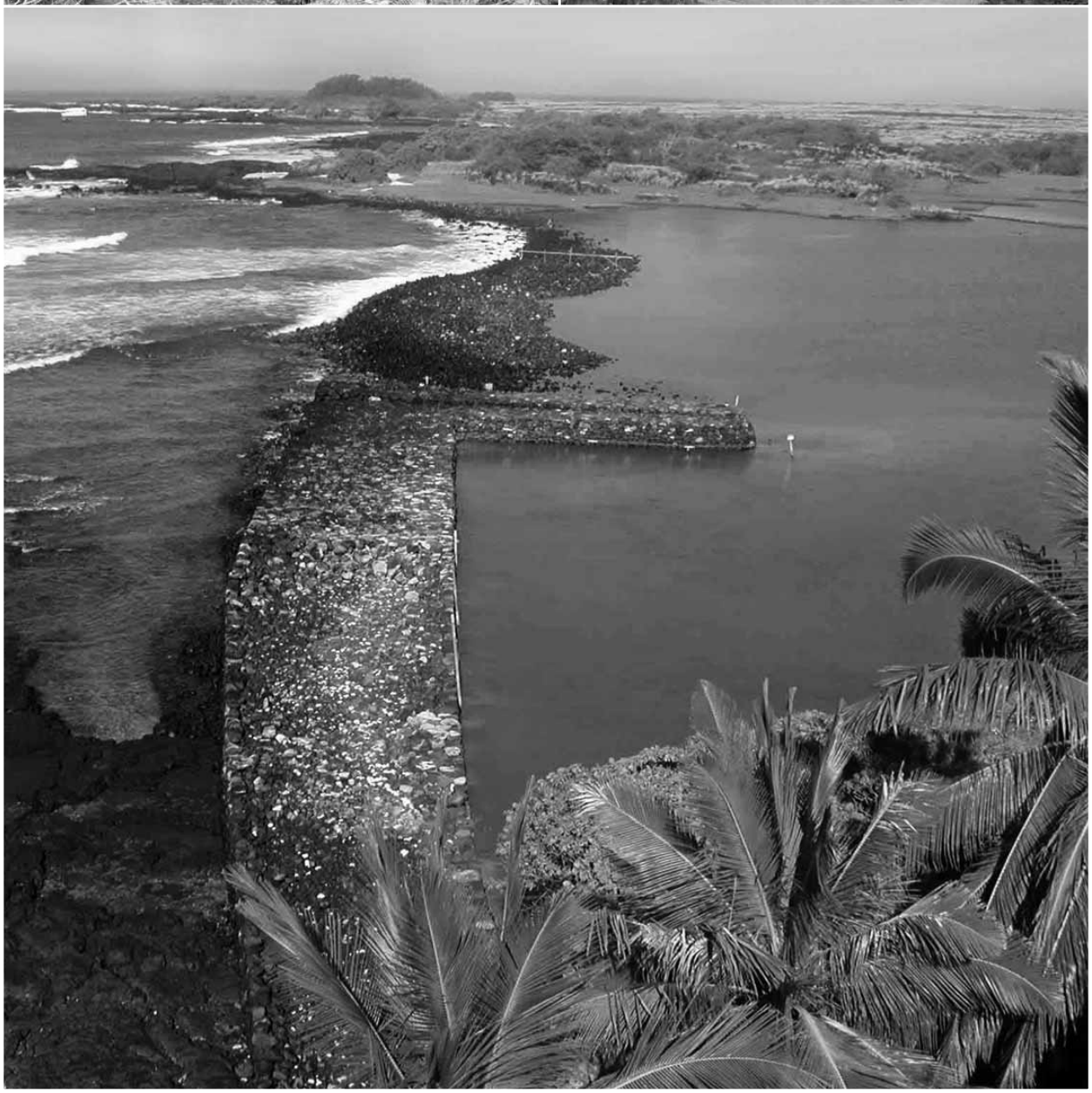


Introduction

Section 1: Introduction

Organization of This Document

This final comprehensive management plan and abbreviated final environmental impact statement is organized into four sections: 1) Introduction; 2) Errata; 3) NPS Responses to Substantive Comments from Meetings and Correspondence; 4) Copies of Agency, Organization, and Individual Correspondence

Section 1, Introduction
This section summarizes the public participation in developing and reviewing the draft CMP/EIS and provides a summary of public comments on the plan.

Section 2, Errata
This section contains the corrections and revisions to the draft CMP/EIS that are incorporated into the final plan, which includes the proposed action. Reading of this section is best done with a copy of the Draft CMP/EIS at hand. The plan is available at **http://parkplanning.nps.gov/alka**. Once at the site, select "comprehensive management plan," then "document list", then "draft comprehensive management plan/environmental impact statement." Compact disks and a limited number of printed copies are available through the superintendent's office.

Section 3, NPS Responses to Substantive Comments from Meetings and Correspondence
Consistent with the requirements of 40 CFR 1503, the NPS planning team provided written responses to those pieces of correspondence that have either substantive comments or comments that the team felt needed clarifying.

Substantive comments are defined by Director's Order 12, "Conservation Planning, Environmental Impact Analysis, and Decision-Making" (NPS 2006) as those comments that

- Question, with reasonable basis, the accuracy of information in the EIS
- Question, with reasonable basis, the adequacy of environmental analysis
- Present reasonable alternatives other than those presented in the EIS
- Cause changes or revision in the proposal

Substantive comments raise, debate, or question a point of fact or policy. Comments in favor of or against the preferred alternative or other alternatives, or those that only agree or disagree with NPS policy, are not considered substantive.

In this section, comments and their responses are organized by topic heading to help guide the reader. Individual substantive comments are responded to directly. For subjects that received more than one substantive comment, the issue is summarized and then representative quotes are provided. The agency's response follows comments on each topic.

Section 4, Copies of Agency, Organization, and Individual Comment Letters
As required by 40 CFR 1503, copies of all letters from agencies are included. Because they offer substantive comments, offer information, or express the range of concerns expressed by the public, copies of all letters from organizations and a representative sample of letters from individuals are also included. All substantive comments from these letters are responded to in Section 3, NPS Responses to Substantive Comments from Meetings and Correspondence. All letters, emails, and comments submitted through the Planning, Environment, and Public Comment (PEPC) web site will be available to the public as part of the administrative record for the project after the Record of Decision is signed.

Development of the Draft Plan/EIS

The April 4, 2003, publication of the Notice of Intent to prepare an environmental impact statement for the comprehensive management plan for the Ala Kahakai NHT initiated the public scoping period. During the three-month period, the NPS conducted nine open house meetings attended by 200 people representing the general public, private landowners, trail advocacy groups, Native Hawaiian organizations, and state, county, and federal agencies. In addition, the planning team met with numerous individuals, community groups, private landowners, and government agency representatives to understand their concerns and visions for the Ala Kahakai NHT.

Using the information from all of these sources, the NPS planning team developed five alternatives for management of the trail: Alternative A, No Action; Alternative B, Single Ala Kahakai Trail; Alternative C, Ahupuaʻa Trail Systems; Alternative D, Historic Trail Clusters; Alternative E, Public Lands. The public was invited to comment on these alternatives by using a printed booklet or by attending one of nine public meetings conducted in April and June of 2004. A draft alternatives document was then

prepared that eliminated alternative E because it appeared to be the initial step in completing an entire trail and therefore would be incorporated into the other alternatives. During development of the draft plan and environmental impact statement, the planning team eliminated alternative D from further consideration because it had been considered and rejected in the *Feasibility Study* for the trail, Congress had designated a continuous linear trail, and the public did not support it as a stand-alone alternative, suggesting that historic segments are a place to start to develop a continuous trail.

Distribution of the Draft Plan/EIS, Public Outreach, and Response

The *Ala Kahakai NHT Draft Comprehensive Management Plan and Environmental Impact Statement* and EIS (CMP/EIS) was printed during the month of September 2007, during which time a newsletter including the executive summary of the draft was sent to a mailing list of over 1000 persons. On October 4, 2007, the draft was made available on the NPS Planning, Environment and Public Comment website (http://parkplanning.nps.gov/alka). Over two hundred copies of the printed draft and ten in compact disk (CD) format were distributed in late October to agencies, organizations, and the public who had participated in the planning process, requested a copy, or were identified by the NPS as potentially having an interest in the project. Another approximate 150 copies and several CDs were handed out at public meetings or through requests to the superintendent. The 60-day public review and comment period began with publication of a Notice of Availability in the *Federal Register* on October 26, 2007. The public review and comment period ended on December 31, 2007, but the NPS continued to receive and accept comments for an additional two weeks.

In addition to the solicitation of written comments, a series of six public meetings and open houses were held in the following six communities on the island of Hawaii from November 5 through November 10, 2007: Kailua-Kona, Captain Cook, Pāhala, Waimea, Hilo, and Kapaʻau. These meetings were advertised through the September trail newsletter mailed to approximately 1000 individuals, flyers distributed throughout the trail corridor, and articles that appeared in *West Hawaii Today* and the *Kaʻū Calendar* in late October and early November.

Ninety people signed in at the public meetings, 30 of whom were not on the NPS mailing list, suggesting that meeting announcements and publicity were successful. Aside from approximately 83 individual statements recorded on the meeting flip charts and 21 comment sheets completed at the meetings, the NPS received 40 responses via the Planning, Environment, and Public Comment website or other written communication. Many of the written comments came from people who had attended and commented at the public meetings.

The preponderance of public comment indicated that NPS is pursuing the correct path for the national trail in Alternative C: Ahupua'a Trail Systems, the selected and environmentally preferred alternative. The extent of the combined oral or written comments received were not substantive to the point of requiring the development of an entire new alternative, making major changes or revisions to an existing alternative, or requiring major modifications to the proposed action.

After conducting the public comment period on the draft *CMP/EIS*, the planning team concluded that the changes to the draft document were minor and confined primarily to factual corrections that do not modify the analysis; therefore, an abbreviated format was selected. Use of this format complies with the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act (40 CFR 1503.4[c]). The abbreviated format requires that the material in this document be integrated with the draft CMP/EIS to describe the final plan, significant environmental impacts, and public comments that have been

Public Meeting in Kona, NPS photo

received and evaluated. Additional copies of the draft are available upon request.

Summary of Public Comments

Following is a brief summary of the topics receiving the most focus from both written and oral comments. The NPS staff reviewed and considered all comments received in preparation of this final plan and environmental impact statement. Summarized below are agency comments; comments from the public follow.

Comment topics and concerns expressed by agencies:

- The EPA rated the draft EIS as LO—Lack of Objections, with recommendations that we work closely with state and county agencies to ensure protection of watersheds and marine areas in the trail vicinity. Specific text regarding watersheds and marine areas is included in the Errata section and thereby incorporated into the proposed action.
- The U. S. Coast Guard listed 13 Aids to Navigation along the trail route that need to be accessible. These are named in the Errata section.
- The U.S. Fish and Wildlife Service agreed with the conclusions of the draft that the project is not likely to have a negative impact on listed species and that it has much potential for positive impacts to native ecosystems and listed species. Two suggestions, made to assist the NPS in avoiding negative impacts to the endangered Hawaiian Hoary bats, are included in the Errata section.
- The Hawaii State Department of Land and Natural Resources Nā Ala Hele Trails and Access Program, while preferring Alternative B: Single Trail as simpler to manage, deferred to the NPS on our choice of alternative C based on the input of the Hawaii Island community. The Program Manager recommended several clarifications of the draft statements regarding state law and these are included in the Errata section. In addition, Nā Ala Hele raised concerns that the public may attempt to link sections of trail regardless of the degree of sustained management and that reliance on community organizations should not usurp NPS efforts to obtain sustainable staffing and funding base.
- The Hawaii Department of Transportation reserved the right to review NPS plans as they relate to their facilities. The management plan expresses the intention to provide advance consultation and to coordinate with all involved landowners and state agencies, which would include DOT. Specific mention of DOT is made in the Errata section under the roles of the state of Hawaii, thereby incorporating it into the proposed action.
- Hawaii State Parks foresees challenges for trail implementation regarding funding, agreements with landowners, camping, security at trailheads, accessibility to medical attention, illegal commercial activity on government lands, and issues of carrying capacity. These comments are addressed in the "Response to Comments" section.

Major comment topics and concerns expressed by the public:

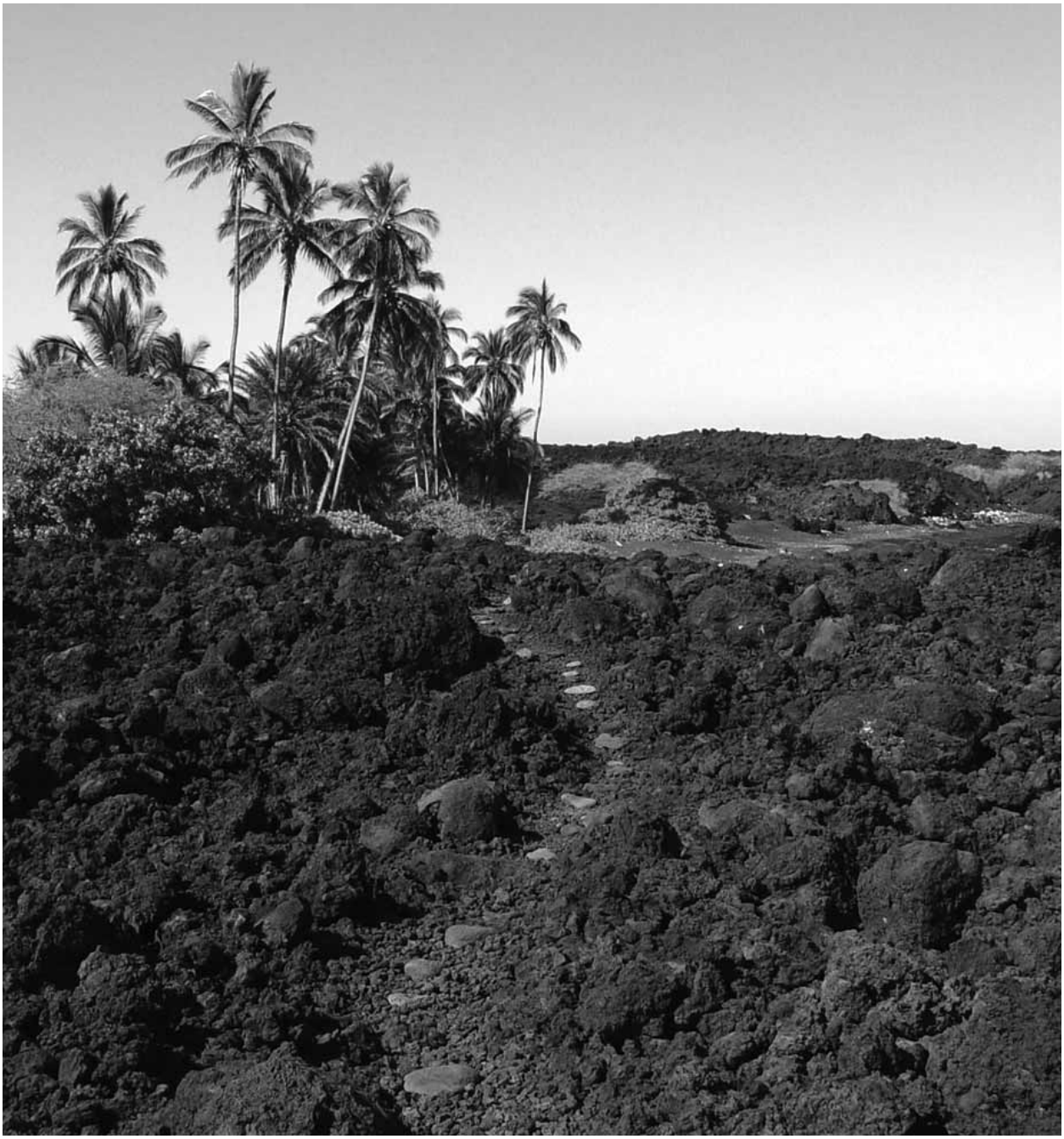
- **Impacts of increased public access, especially on cultural resources:** Twenty-four separate statements reflected concerns that increased public access enabled by the national trail would have negative effects on sacred and historic Hawaiian sites and other cultural and natural resources, especially in currently remote areas along the trail route.
- **Capacity for Management:** Even though supporting alternative C, 11 commenters expressed concerns about the capacity of the NPS to effectively develop and support community-based management or to take on such a project at all. In addition, eight commenters specifically questioned the capacity of the Ala Kahakai Trail Association to fulfill the management role outlined for it.
- **Priorities:** Seventeen comments focused on priorities. Some suggested expanding the priority area for developing a continuous trail. The planning team agreed with one of these suggestions that the priority area for trail use should extend beyond Puʻuhonua o Hōnaunau NHP for about two miles to Hoʻokena Beach. This change is noted several places in the Errata and incorporated in the proposed action.

Several commenters suggested that the priority area be extended to more remote areas, extended on either end, extended around the island, or extended to include more *mauka-makai* trails and other recreational trails. Also, several suggested there should be a priority placed on getting the trail on the ground, marked, and mapped.

- **Trail Operations:** Several commenters felt that funding, staff, and budget were inadequate to the tasks outlined in the plan. Some wondered what the NPS would do in the event that fund raising by community-based organizations, especially the Ala Kahakai Trail Association, falls short of expectations.
- **Preference for Alternatives Other than Alternative C:** Three landowners and one botanist preferred Alternative D: Historic Trail Clusters and a fourth preferred either alternative D or failing that, Alternative A: No Action. In general, they argued that developing non-historic connector trails to tie together historic segments is not historically accurate.
- **Natural Resources:** Individual comments suggested restoring dryland forests and preserving native trees, standardizing resource management measures for special ecosystems along the trail route, considering the effects of erosion and soil run-off when clearing trails, and using environmentally responsible methods for weed removal.
- **Coordination with Others:** Several statements suggested agencies and organizations with whom the NPS could coordinate in implementing the plan. Since the draft plan states that the NPS intends to coordinate with all affected or interested organizations, agencies, and individuals, these comments provide helpful reminders.
- **Other Comments:** Comments supported non-motorized uses, a centerline survey of the trail, and recreational uses such as camping water catchment. In addition, offers of help came from individuals, private landowners, and organizations.

Ali‘i Drive, Kailua, N. Kona, NPS photo

Shoreline Trails, Makalawena, N. Kona, NPS photo



Trail to Luahinewai, Kīholo, North Kona, NPS photo

Errata

Section 2: Errata

This section contains the corrections and revisions to the draft CMP/EIS that are incorporated into the final plan, which is the proposed action. Reading of this section is best done with a copy of the Draft CMP/EIS at hand. The plan is available at **http://parkplanning.nps.gov/alka.** Once at the site, select "comprehensive management plan," then "document list", then "draft comprehensive management plan/environmental impact statement." The plan is also available at local libraries on the island of Hawaii and at the main library in Honolulu. Compact disks and a limited number of printed copies are available through the superintendent's office.

Changes to the document have been handled in the following way:

- Chapter titles relating to the draft CMP/EIS are identified first for ease of reference.
- Page numbers refer to the page numbers in the *Ala Kahakai NHT Draft Comprehensive Management Plan and Environmental Impact Statement*.
- Paragraphs cited are counted beginning with first full paragraph on the page or are counted after the specific section cited.
- Text to be removed from the draft document appears as ~~remove~~.
- Text to be added appears underlined.

General Edits

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Page vi, under Alternative C and after Alternative C: Costs 95

> Alternative C: Funding 98

Page vi, Chapter 3 The Affected Environment, after land Use 111

> The Affected Environment 115 placed at left margin and aligned with the word "Introduction"

Page vi, Chapter 3 The Affected Environment, after Natural Resources and Values

> Scenic and Visual Resources 127

Executive Summary

Page xiii, column 2, under **Actions Common to All Alternatives**, paragraph 5

> An initial administrative focus on the ~~73~~ 75-mile corridor from Kawaihae through Pu'uhonua o Hōnaunau NHP to Ho'okena (see map 1) for development of trail segment management agreements.

Page xiv. column 2, under **Alternative B: Single Trail**, paragraph 1, line 4

> Within the planning period of 15 years, the goal would be to complete the linear trail within the priority zone from Kawaihae ~~though~~ through Pu'uhonua o Hōnaunau National Historical Park to Ho'okena and to protect other segments outside of that area as feasible.

Page xv, column 1, paragraph 3, line 1

> Costs for this alternative are based on incorporating ~~73~~ 75 miles of trail roughly from Kawaihae through Pu'uhonua o Hōnaunau NHP to Ho'okena into the Ala Kahakai NHT by the end of the planning period of approximately 15 years.

Page xvi, column 1, top paragraph, line 1

> ~~In order to better support interpretation of the Hawaiian trails as a system, focus of this alternative would lie in those areas containing multiple alignments, and a~~ Priority would be placed on developing a continuous linear trail, completion of which would be a long-term goal. To support interpretation of Hawaiian trails as a system, there will be selective focus on a few areas containing multiple alignments, both lateral and *mauka-makai*.

Page xvi, column 2, paragraph 2, line 1

> Costs for this alternative are based on incorporating ~~88~~ 90 miles of trail roughly from Kawaihae through Pu'uhonua o Hōnaunau NHP to Ho'okena into the Ala Kahakai NHT during the planning period of approximately 15 years by adding 15 miles of *mauka-makai* trails to the ~~73~~ 75 miles of trail in alternative B.

Chapter 1: Introduction

Page 12, column 2, beginning at line 10 (editorial correction suggested by Curt Cottrell, Nā Ala Hele

Program Manager)

However, the research used to document the claim by the ~~government~~ state may be legally challenged for a variety of reasons if the claim is adverse to the landowner. The trail ownership may ultimately be adjudicated in court. Until such time that a quitclaim deed is executed between the state and the adjacent private landowner, and it is recorded with the Bureau of Conveyances, the title to a specific trail feature may be subject to challenge over time by future landowners.

~~Opening~~ Restoring managed public access to a ~~state trail to the public~~ trail that has been confirmed to be state owned via a quitclaim deed or access has been negotiated through other forms of documentation, may require~~s~~ a cultural survey and potential preservation or re-construction, management, maintenance, and vehicular access, parking and signage plans that consider the perpetual commitment of staff time and funding resources. ~~If resources are lacking to open them to public use, often the trails may be "land banked" that is held by the state without a management entity and not open to the public.~~ In most cases for these segments of coastal *ala loa*, there is currently insufficient state staff and funding for the pertinent planning and management. Therefore, the abstract data collected by Nā Ala Hele is documented on a database and, if a segment of the *ala loa* is still physically intact, may remain subject to unmanaged public use based on its location and its potential to provide shoreline access.

~~Several state-owned segments with potential to be components of the Ala Kahakai NHT are land banked at this time~~. The Feasibility Study identified 35 miles of ~~potential state trail~~ trails crossing private lands as being subject to the Highways Act and that may be eligible ~~for inclusion~~ to include as ~~part~~ authorized segments of the Ala Kahakai NHT.

Page 33, column 2, paragraph 3, line 9 (editorial correction suggested by Curt Cottrell, Nā Ala Hele Program Manager)

~~Trails included in the Na Aka Hele system must be determined to have a functional value to be included in the system.~~ Currently, trails that are determined to have value for managed public access in a manner that would not inadvertently jeopardize sensitive cultural features, and that have a capacity for management by either Program staff or through an agreement with a private landowner, may be added to the legal jurisdiction of the Program and subject to Chapter 13-130, Hawaii Administrative Rules.

Page 35, column 2, paragraph 2 (editorial correction suggested by Peter Young, ʻOʻoma Development)

ʻOʻoma Development: Planning continues for this private development. Adjacent and north of Kohanaiki, it includes residential uses, ~~an 18 hole golf course,~~ a public shoreline park with facilities and camping, and an alignment of the Ala Kahakai NHT as the existing shoreline trail. The proposed plans for ʻOʻoma preserve the Māmalahoa Trail in place with a buffer on both sides. The historic Māmalahoa Trail is approximately 10 feet wide within a 30-foot wide easement and runs north-south through the property. A buffer of 50 feet on both sides of the trail will remain undisturbed. Therefore, the Māmalahoa Trail with the buffer will provide a 110-foot wide open space corridor, which is approximately 2,520 feet long, and includes approximately seven acres. There will also be an additional 60-foot building setback from the buffer on both sides. The Ala Kahakai National Historic Trail is located within the property area designated as shoreline park and coastal preserve. The 18 acres along the shoreline will be designated as a public shoreline park and will be an extension of the beach parks planned at The Shores at Kohanaiki and NELHA [National Energy Laboratory of Hawaii]. The shoreline park will include parking, comfort station, and a cultural public-use facility. These park buildings will be located approximately 330 feet away from the shoreline and outside of the shoreline setback area. The 57 acres *mauka* of the shoreline park will be designated as coastal preserve because this area contains known archeological and cultural sites, including burials. To protect

the integrity of these sites, the coastal preserve will remain generally undisturbed and development will be prohibited, with the exception of trails between the community and the shoreline.

Chapter 2: Alternatives for Management

Page 42, column 2, paragraph 1, **Compliance with state preservation laws**, add at end of paragraph

The NPS will seek a memorandum of understanding with the SHPD to encourage consistency in the preservation, development, management and marking of the trail through various jurisdictions.

Page 45, Column 1, paragraph 2, line 12

If a trail segment requires construction, it will be located so as to avoid trampling or removal of native plants and adverse effects on sea turtle or Hawaiian monk seal resting areas.

Page 46, column 1, paragraph 1, line 6

Once a baseline is established, a monitoring program will determine the significance of the impacts. Should it be found that the Ala Kahakai NHT provides opportunities for outsiders or even local individuals to overfish or loot an area of nearshore or reef resources, trail use in the area will be closely monitored and closed if necessary and the individuals will be prosecuted to the limits of the state and federal law. The goal would be to prevent these incidents from happening through close oversight of sensitive areas and enforcement of the law.

Page 46, column 2, after paragraph 1, **Endangered Plant and Animal Species**, insert the following:

Specific suggestions for Endangered Hawaiian Hoary bats *(Lasiurus cinereus semotus)* and endangered Hawaiian hawks *(Buteo solitarius)*, which nest in both exotic and native woody vegetation, include the following. To avoid impacts to the bats, no woody plants suitable for bat roosting should be removed or trimmed during the bat birthing and pup rearing season (April to August). In addition, if the project involves fencing, the use of barbed wired will be minimized to avoid impacts to bats. To avoid negative impacts to hawks, brush and tree clearing or trimming should not occur during the hawk nesting and breeding season (March through September), if hawk nests are present. Thus, surveys for hawk nests should occur prior to trimming or clearing activities.

Page 46, column 1, after paragraph 1, insert the following heading and paragraph

Watersheds and Marine Areas

Due to the sensitive nature of the watersheds and marine areas in the trail vicinity, the NPS will work closely with state and county agencies to ensure protection of these areas from soil erosion and other negative effects during construction or maintenance projects and during operations. The NPS will consult with the Big Island Soil and Water Conservation District office, County of Hawaii, and with the Hawaii State Department of Health regarding best management practices and appropriate permits for these activities.

Page 50, column 2, after bulleted statement

Landowner participation in the Ala Kahakai NHT is voluntary, though encouraged, and requires an agreement between the willing landowner and the NPS. Land would be acquired, if at all, only from willing sellers and donors. If a proven state-owned trail that is eligible for the Ala Kahakai NHT passes over private land, federal laws would apply only to the trail right-of-way and agreed upon adjacent areas and not to the rest of the landowner's property. State and county laws that apply to landowners now would continue to do so. If a linking trail opportunity exists on private property that is not required through some state or county provision, it would be at the landowner's discretion to participate. Landowners may wish to protect for public use and enjoyment resources adjacent to and associated with the trail. Experience on other national trails indicates that many landowners take pride in preserving trail resources. Recognition of trail sites provides a positive way for landowners to help preserve resources without giving up ownership rights. Interested landowners could be encouraged to incorporate their resources into the Ala Kahakai NHT so that they would receive the benefits of NPS

technical and possible financial assistance in protecting those resources. Easements and partial interests in land can sometimes provide significant tax relief under the National Trails System Act, as amended, section 7(k).

Page 51, column 2, paragraph 2, line 4

. . . the Ala Kahakai NHT administrative staff will initially focus on the ~~73~~ 75-mile corridor from Kawaihae through Pu'uhonuna o Hōnaunau NHP to Ho'okena. . . .

Page 61, column 1, after the first five lines, add

- Numbers of fires and numbers of injuries as indicators of overuse

Management actions that may be considered to avoid or minimize these impacts include: educate users on the potential for fire and injury and the ways to avoid them, limit or disallow fires; reduce use levels in areas where fires or injury are frequent.

Page 61, column 2, end of last paragraph, add

. . . reduce use levels, schedule visits by large groups.

Page 70, column 1, paragraph 2, line 5

Within the planning period of 15 years, the goal would be to complete the linear trail within the priority zone from Kawaihae through Pu'uhonua o Hōnaunau National Historical Park to Ho'okena and to protect other segments outside of that area as feasible.

Page 73, column 1, paragraph 2, line 5 (editorial correction suggested by Curt Cottrell, Nā Ala Hele Program Manager

Some of these segments are land-banked~~, with the Department of Land and Natural Resources~~ via documentation that may include, but is not limited to, both the Nā Ala Hele abstract database, documents filed with the State Historic Preservation Division, or approved Conservation District Use Applications that may technically be considered under the jurisdiction of the State Land Division. The jurisdiction is challenged when an affected private landowner disputes the claim of state ownership and there is pending litigation. Such trail segments and associated features would remain in an unmanaged condition until such time as either the NPS or Nā Ala Hele has resolved the ownership issue and has the capacity to manage them.

Page 73, column 2, after the bullets insert the following

Trail alignment will not interfere with the access of the U.S. Coast Guard to its 13 aids to navigation, one each at 'Upolu Point, Māhukona, Keahole Point, Keawekāheka Point, Keauhou Bay, Ho'opuloa, Kamaoa Point, and Honokōhau; two in the vicinity of Kailua Bay; and three in the vicinity of Kawaihae.

Page 78, column 1, paragraph 2, Line 1

This cost estimate is based on completing the ~~73~~ 75-mile section of trail from Kawaihae (Pu'ukoholā Heiau NHS) through Pu'uhonua o Hōnaunau NHP to Ho'okena by the end of the approximate 15-year life of the CMP.

Page 78, column 1, paragraph 3 line 7

Other needed disciplines (administrative assistant, archeologist, ethnographer, cultural landscape specialist, GIS specialist, trail management/maintenance coordinator, title researcher/abstractor) would be shared with other federal or state parks or provided through the Ala Kahakai Trail Association.

Page 78, column 2, **Table 6: Alternative B, Staffing Goals** add under "Other Needed Disciplines"

Title Researcher/Abstractor

Page 80, column 1, paragraph 2, line 1

Table 8 estimates the funds needed to complete the ~~73~~-75mile portion of the Ala Kahakai NHT within the 15-year period of this plan in FY 2007 dollars.

Page 86, column 1, paragraph 2, line 6

A continuous linear trail would be ~~included~~ a priority in this alternative as in alternatives A and B. Initial focus ~~would lie in those public lands containing~~ for incorporating multiple trail alignments, both lateral and *mauka-makai*, would lie in selected public lands.

Page 87, column 1, after paragraph one, insert

> The NPS will consult and coordinate with the State Department of Transportation (DOT) and its divisions (airports, harbors, and highways) regarding those locations where the trail may affect the lands, easements, or rights-of-way under its jurisdiction. Details of responsibilities related to implementing the trail will be worked out collaboratively, and the DOT will be asked to review and comment on plans by the NPS when they relate to locations where the trail affects or enters its facilities.

Page 88, column 1, after paragraph 2, **The State of Hawaii,** insert the following paragraphs

> Proposed land uses within the Conservation District shall be reviewed by the Department of Land and Natural Resources to determine what type of authorization may be required prior to implementation. The NPS may apply for a blanket authorization Conservation District Use Permit to implement minor land uses such as signage and trail identification markers for areas within the Conservation District for the entire trail length to insure consistency of trail indicators.

Page 88, column 1, paragraph 3, **The County of Hawaii**, line 13

> ~~County Planning would include the NPS in the mailing list for the Planning Commission to alert the NPS to possible development affecting the Ala Kahakai NHT.~~ The County Planning Department will work with the NPS to develop a system whereby project applications determined to have potential impacts on historic trails within the Ala Kahakai corridor are sent to the Ala Kahakai NHT administration for review and comment. The notification system will provide approving agencies and applicants clear guidelines on when the Ala Kahakai NHT should be included in the review process. Such applications include Subdivisions, Special Management Area Assessments and Use Permits, Special Permits, Grading, Project Districts, Rezoning, State Land Use District Boundary Amendments, Leases of State-owned lands, Environmental Assessments, and Environmental Impact Statements.

Page 89, column 2, paragraph 2, line 5 (editorial correction suggested on a Kona Outdoor Circle meeting comment sheet, 11/5/2007)

> These trusts include such groups as the Trust for Public Land, Nature Conservancy of Hawaii, ~~Kona Land Trust~~ Hawai‘i Island Land Trust, and the “kingdom trusts” of Kamehameha Schools, Queen Emma Foundation, and the Liliuokalani Trust.

Page 90, column 1, after paragraph 1 insert the following

> Trail alignment will not interfere with the access of the U.S. Coast Guard to its 13 aids to navigation, one each at ‘Upolu Point, Māhukona, Keahole Point, Keawekāheka Point, Keauhou Bay, Ho‘opuloa, Kamaoa Point, and Honokōhau; two in the vicinity of Kailua Bay; and three in the vicinity of Kawaihae.

Page 95, column 2, paragraph 2, line 1

> This cost estimate is based on completing, by the end of the approximately 15-year life of this CMP, ~~88~~ 90 miles of trail: the ~~73~~- 75-mile linear section from Kawaihae (Pu‘ukoholā Heiau NHS) through Pu‘uhonua o Hōnaunau NHP to Ho’okena and 15 miles of *mauka makai* trails on federal or state lands.

Page 96, column 1, paragraph 1, line 9

> Other needed disciplines (administrative assistant, GIS specialist, trail management/ maintenance coordinator, archeologist, anthropologist/ethnographer, cultural landscape specialist, ecologist, title researcher/abstractor), and trail crew would be shared . . . .

Page 96, column 1, **Table 9: Alternative C Staffing Goals** add under “Other Needed Disciplines”

> Title Researcher/Abstractor

Page 97, column 1, paragraph 1, line 5 (editorial correction suggested by Curt Cottrell, Nā Ala Hele Program Manager)

> Within the ~~73~~- 75-mile sections of trail, Nā Ala Hele ~~owns 21 miles~~ has documented that approximately 21 miles may be subject to the Highways Act and qualify as state owned.

Page 98, column 1, paragraph 2, last line

If this anticipation is not met, the projects and programs projected under alternative ~~B~~ C may be only partially met.

Page 166, column 1, paragraph 2, **Analysis**

Completion of the ahupuaʻa trail system for the Ala Kahakai NHT would provide some additional access to fisher trails and coastal resources for traditional gatherers and other visitors. Although local fishers may enjoy having better access to nearshore fish resources, they fear that it would allow outsiders access to denude an area of nearshore resources to sell commercially. Should it be found that the Ala Kahakai NHT provides opportunities for outsiders or even local individuals to overfish or loot an area of nearshore or reef resources, trail use in the area will be closely monitored and closed if necessary and the individuals will be prosecuted to the limits of the state and federal law. The goal would be to prevent these incidents from happening through close oversight of sensitive areas (recommended by local fishers and gatherers) and enforcement of the law.

Page 186, column 2, paragraph 2 heading

Landowners~~hip~~

Page 192, column 1, paragraph 2, line 3 (editorial correction suggested by Curt Cottrell, Nā Ala Hele Program Manager)

NPS management of confirmed state owned segments of trail could have long-term beneficial effects ~~on trail management and~~ on the ~~relationship between Na Ala Hele and the NPS.~~ ability of both the state and the NPS to preserve and sustainably manage intact segments of *ala loa* within the Ala Kahakai NHT corridor.

Appendices

Appendix F: Draft Memorandum of Understanding Between the National Park Service Department of Land and Natural Resources—State of Hawaii and the County of Hawaii for the Implementation, Management, Protection and Public Use of the Ala Kahakai National Historic Trail

Page 257, Article II: Authority, line 3 (editorial correction suggested by Samuel J. Lemmo, State Office of Conservation and Coastal Lands)

B. Hawaii Revised Statutes (HRS) Chapters 6E, 115, 171,183C, 184, 198D, 205, 205A, 264-1, and section 46-6.5

C. Hawaii Administrative Rules (HAR) 13-5, 13-275-284, 13-300, 13-221, 13-146, 13-130

Page 259, under Key Officials and "For DLNR" (editorial correction suggested by Curt Cottrell, Nā Ala Hele Program Manager)

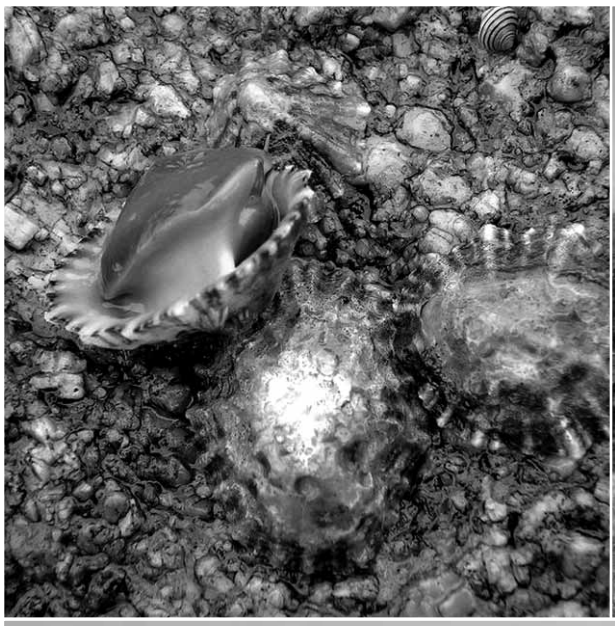
Curt Cottrell, Program Manager, Nā ala Hele

Page 259, under "The appropriate County Departments agree to:" line 7

7. ~~Include the Ala Kahakai NHT administrative office on the mailing list for the Planning Commission.~~

Work with the NPS to develop a system whereby project applications determined to have potential impacts on historic trails within the Ala Kahakai corridor are sent to the Ala Kahakai NHT administration for review and comment. The notification system will provide approving agencies and applicants clear guidelines on when the Ala Kahakai NHT should be included in the review process. Such applications include Subdivisions, Special Management Area Assessments and Use Permits, Special Permits, Grading, Project Districts, Rezoning, State Land Use District Boundary Amendments, Leases of State-owned lands, Environmental Assessments, and Environmental Impact Statements. The County agrees to contact the NPS regarding these reviews in a timely manner.

Above: Monk Seal, below: Pohuehue Beach Morning Glory, NPS photos



Responses to Comments

Section 3: NPS Responses to Substantive Comments from Meetings and Correspondence

Comments and responses are organized according to the order of the alternatives presentation in the draft CMP/EIS. Beneath each heading, specific topics are addressed. All responses to written comments are made in this section. Letters from agencies and organizations are printed in their entirety in Section 4.

Hawaiian names and spellings are as they appeared in the correspondence. All comments are taken directly from the correspondence or from the flip charts or comment sheets recorded in the public meetings. Comments from public meetings are identified by the location and date of the meeting and noted in brackets [ ]. All other comments are taken from letters. Within quotations of written comments, the editor has inserted comments in brackets for clarity.

Administration, Management, and Partnerships

Topic: Capacity for Management

Even though supporting alternative C, eleven commenters expressed concerns about the capacity of the NPS to effectively develop and support community-based management or to take on such a project at all. In addition, several commenters questioned the capacity of the Ala Kahakai Trail Association to fulfill the management role outlined for it.

Comments

- How can we propose to manage 175 miles when we can't manage what we already have (e.g. in Hawaii Volcanoes NP)? [Yano Hall 11/6/2007 public meeting]
- It is challenging, if not impossible, to accurately assess the adequate degree of funding and necessary staffing associated with implementing either Alternative B or C. However, NPS should consider that the public expectation that may be fostered by the current and future publicity associated with the development of Ala Kahakai will make protecting unfunded and unmanaged sections of intact ala loa (and ancillary cultural features) very challenging and may also exacerbate trespass issues.
- Alternative C is my first choice, although I have concerns that the "devil will be in the details." The DCMP/EIS contains many good intentions, but is short on contingency plans should the NPS encounter great difficulty in developing a "viable and highly effective" Trail Association, lack of stable and consistent support from community partnerships, and/or insufficient landowner and non-federal agency participation.

Response: Staffing costs for Alternatives B and C are stated in the CMP. In anticipation of the adoption of the CMP, a request for federal funding for staff has been submitted via the NPS Pacific West Regional Office. In addition, in fiscal year 2008, the U.S. Congress increased the annual base funding for the Ala Kahakai NHT from $260,000 to $420,000. In May of 2008, a full-time archeologist was hired and an Interpreter/volunteer coordinator will be hired in 2009 subject to availability of funds.

Managing trails within the Ala Kahakai corridor is dependent on the development of partnerships with state and county agencies, landowners, and communities. The initiative for federal designation of the trail came from the community, and we believe that this plan is a reflection of the will of the community to participate in the management of a viable trail system. Ala Kahakai NHT administration and Ala Kahakai Trail Association and other partners will focus on building the capacity of communities to plan and sustain management of the trail. We are aware of the increased interest in the Ala Kahakai NHT and those who inquire are directed to managed segments of the trail located within the three NPS units in West Hawaii and to the existing Ala Kahakai State Trail located in South Kohala. No segment of the trail shall be open to the public marked as the "Ala Kahakai NHT" without active, on-the-ground management in place, and the trail will not be opened all at once but in segments. Trespassing is already occurring and, with the population ever-growing, trespassing, whether conscious or not, will increase as demand for shoreline access increases. Government and private landowners cannot manage these lands alone. Hence the need for partnering and community involvement in educating the public and in sustained management of trail segments.

Comments:

- Very little is stated about AKTA (Ala Kahakai Trail Association). The public needs to be included. More discussion, public forums need to be held. [Kohala Intergenerational Center 11/10/2007 Public Meeting]
- P. 88 of the DCMP/EIS openly states that if this Association's "capacity does not develop as anticipated," projects and programs may not be realized. The DCMP/EIS describes substantial reliance by NPS upon state, county and private entities to assume 50% - 60% of the costs and other responsibilities for trail segments. To achieve this, stable and committed partnerships must be formed. I saw little detail in the DCMP/EIS about the Ala Kahakai Trail Association. Since other NHTs rely upon "a variety of partners ... to help with planning, constructing, managing, monitoring, and interpreting the trail with funds and in-kind services," (pp. 80 & 98), there must be lessons learned from the experiences of other existing NHT associations? How are NHT partnerships encouraged? How are the partners represented in the Association?
- The management plan clearly states that to make Alternative C come to fruition, a very robust non-profit trail partner will be required. This is a major concern of E Mau Na Ala Hele.
- Inclusion of the stake holders such as private landowners, resort management and community groups is vitally important; but the plan seems to assume greater participation than may be possible currently. For example although the community has been very involved in the national historic designation of the trail, a viable Ala Kahakai Trail Association does not currently exist. Na Ala Hele (State of Hawaii) has a dedicated trail crew but only funding for a couple of employees to maintain many miles of trails across the island.
- Involving local communities in any economic activity relating to the trail is a good idea, but there will need to be substantial assistance provided to these communities to establish sustainable organizations
- The capabilities of this program to ensure the preservation of cultural resources, cultural sites, natural resources, and burials is of utmost importance. The draft makes laudable acknowledgement of Hawaiian family engagement; however, there are no plans identified or developed to build community capacity and empower Hawaiian families to undertake the responsibility. With no clear funding support, the families will have all the responsibility without the means to fully realize the management needs. [Kona Outdoor Circle 11/5/2007 Comment Sheet]

Response: The Ala Kahakai Trail Association is established and registered with the State of Hawaii with an active four-person board in place. Board members include descendant/family representatives from three Districts in which the trail corridor is located. Board expansion will include a diverse range of members who can bring skills and connections to the effort. The board developed a strategic plan that includes goals, priorities, and strategies for communications and youth engagement and that is being implemented. Capacity building of this organization is taking place. For instance, in May 2008, board members attended a workshop on historic trails sponsored by the Partnership for the National Trails System. The trail association and the Ala Kahakai Trail office are currently working with a number of family groups at specific areas within the trail corridor on management planning, organizational capacity-building, and trail clearing projects. In this way, descendant-led, community-based management models, inclusive of the community-at-large, are being created. Cooperators in these efforts include other community-based non-profits, Hawaii Island National Park Service units and their supporting friends groups, the University of Hawaii, state, and county agencies.

Topic: Priorities

Seventeen comments focused on priorities for administration and management of the trail. A few of these comments are relevant to the plan and are responded to below. Many of the suggestions were either beyond the scope of the national trail legislation or beyond the scope of what can be accomplished in the 15-year planning period and are not incorporated here. These include suggestions to extend the trail to more remote areas, extend it on either end, extend it around the island, or extend it to include more *mauka-makai* trails and other recreational trails. These suggestions are not addressed here as substantive comments.

Comment

- I would encourage the inclusion of Hoʻokena as the initial southerly terminus. This would allow the remnant of the 1871 trail to actually "go somewhere" a characteristic that should be inherent in all trails. Hoʻokena Beach Park becomes a logical trailhead. Hoʻokena is also the southern terminus of the 60-mile Kona Heritage Corridor (along the Mamalahoa Highway from Puʻuwaʻawaʻa).

  Response: This suggestion, made by others, is now included in the plan for the reasons suggested. The trail is historic with visible evidence on the ground, is in the Nā Ala Hele inventory, connects to a national park, includes a campsite, and could be one of the first segments to become an official component of the Ala Kahakai NHT. This change adds two miles to the assessment of miles included in the alternatives. The Errata section incorporates several revisions required by this change.

Comments

- In addition, please consider expanding the "priority area" of the 15 year trail plan to encompass other areas along the trail path that may be threatened or in need of management. The current "priority area" only encompasses the areas of population density in the Kona and South Kohala areas; other trail corridor areas such as Mahukona, Miloli'i or South Point have significant use by locals and visitors and should be considered as a priority for management.
- … prioritize the most northerly segment of the trail corridor between Upolu Point and Lapakahi for several reasons:
  - It is significant to the history of not just the island of Hawaiʻi, but is unique in the role it played in the history of all the islands, as well.
  - It will integrate North Kohala into the trail development at an early stage, along with the other five districts that are traversed by the trail.
  - Inclusion of the historic transportation corridor of the Hawaiian Railroad Company reveals the role played by later transportation modes in the Kingdom of Hawaiʻi.
  - The Railroad corridor from Mahukona to Upolu would offer opportunities for alternative modes such as bicyclists to experience the corridor and provide a loop for hiking.
  - Extending protection and development initially may be more valuable in the long run than redeveloping the urban (Aliʻi Drive) and resort (Na Ala Hele) segments. Protecting and acquiring access rights for other sections outside of the priority area should remain high on the list of objectives. Opportunities due to local developments or property transactions should be seized to secure these other segments.

  Response: The trail corridor is defined by its enabling legislation. The National Trails System Act allows for trails that connect with the national historic trail to be designated and marked as components of the trail. Thus, other lateral and *mauka-makai* trails within the corridor may be included. While a priority trail segment is described in the CMP, Ala Kahakai staff continues to work with communities located outside of the priority area in providing information and technical assistance on trail protection, management planning, and related activities. The priority area is targeted because growing population within this area has resulted in increasing visitation, adverse impacts to the resources, and the inadequacy of facilities designed for smaller populations. (Page 51 in the plan contains the rationale for defining this area.) The aim is to develop well managed trail segments with suitable infrastructure improvements within the priority area. Management will be designed to protect and perpetuate the lifestyles of Native Hawaiian families and long-time residents of the area and to accommodate recreational demands of a growing population in the Kailua environs and the South Kohala resort communities. Providing for cultural and recreational opportunities for the growing population within the priority area will serve to relieve pressure and potential negative impacts on the more difficult to manage areas outside of the priority area.

Comment

- We would, however, like to caution that developing of the mauka-makai and other connecting trails should not overshadow identifying, preparing, and opening the main lateral shoreline trail. If resources are limited,

we advise selecting and concentrating on a few important trail hubs with the major mauka-makai trails, keeping the priority highest on the linear shoreline trail.

Response: The intent of the plan is to emphasize the development of the lateral shoreline or near shoreline trail but to recognize that this is a long-term project. The approach recommended in the comment is the one that is proposed; that is, maintaining the priority on the linear trail but also finding hubs on public lands where the lateral trails intersect *mauka-makai* trails. The errata for pages xvi and 86 include changes made to the text to clarify the emphasis.

Topic: Landowner concerns

Landowners expressed concerns that public access will lead to trespass, impacts to cultural and natural resources, vandalism, theft, and looting, that trail use is not compatible with ranching or farming, and that the plan does not provide adequate resources to address these issues. Landowners also have concerns for their liability.

Comments

- As land managers, we know that undirected and anonymous public access will lead to a number of potential adverse impacts to these land areas. The inability to account for human activities will result in undesirable trail behavior which will lead to compounded problems for landowners that include: the criminal trespassing into adjacent private properties, impacts on the integrity of associated cultural resources (such as modification or destruction of sites) as well as rare and endangered natural resources, vandalism, and theft (or looting). Greater access will require larger community support and more funds by State and Federal agencies towards enforcement and protection. The current plan does not provide adequate resources to address these issues.
- All of our land is leased to agricultural enterprises. I think your management budget is woefully inadequate to cover fencing, signage, and insurance necessary in order to indemnify landowners, farmers, and particularly ranchers. Who will pay for the miles of fencing, and maintenance of that fencing, that will be required to keep livestock separated from hikers? Who will bear the burden of liability on a trail, which is open to the public, and may be potentially unsafe due to underfunded management?

Response: The plan does not propose "undirected and anonymous" public access, but rather, several strategies are proposed pages 42-44 for limiting and evaluating public use. Management actions for disruptions to private property owners are addressed on page 61. Landowner participation in the Ala Kahakai NHT is voluntary. This was stated in the environmental impact statement on a page 186, but was only implied in the plan. For clarity, it is now included in the plan (see Errata for page 50). Agreements for incorporating a trail segment into the Ala Kahakai NHT are always between the NPS and the landowner or land manager (p. 50) and adjacent landowners are included in planning and management teams (p. 51). As the plan states, trail segments will be included in the Ala Kahakai NHT incrementally when there is the staff, funding, and community commitment sufficient to develop and manage each segment according to its resource needs. Fencing may or may not be required and would be decided upon during management planning. For instance, many public trails in the San Francisco Bay Area openly cross fenced cattle pastures but the trails themselves are not fenced. Trail liability is addressed through state recreation laws. In the state of Hawaii, landowners are not liable for recreational use (pages 223-224 of the plan discuss landowner issues).

Comment letter from Hawaii State Parks

- We favor the development of a comprehensive Ahupuaʻa Trail System for the Ala Kahakai National Historic Trail. The challenges we foresee include, but are not limited to the following:

  1. Funding for infrastructure development, including compliance with ADA guidelines;

  2. Agreement with private land owners/ developers and State and County governments;

  3. Camping, especially on private property and culturally sensitive areas;

  4. Security at the starting points where vehicles may be parked for long periods of time and at designated camp sites that may be easily accessible;

  5. Accessibility to medical attention;

6. Illegal commercial activity on government lands; and

7. Issues of carrying capacity.

Response: Approaches to these challenges are discussed in the plan as follows. Funding for the proposed action is discussed on page 98. Agreements with the state, county, and landowners are addressed throughout the document and are a key method of protecting specific sites and segments. According to the resource protection measures described on pages 40-44, camping would not be proposed on private property or in culturally sensitive areas. Security and medical attention would be addressed in specific trail segment agreements. Of course, illegal activity on government lands—county, state, or federal—would not be condoned. The approach to carrying capacity is addressed on pages 58-62.

State Parks is identified as a key partner with the NPS in development of the trail under the proposed action (p.88). The memorandum of understanding between the NPS, the state, and the county of Hawaii will provide the basis for our work together in ensuring that these challenges are addressed appropriately.

Comment

- Please note Queen Emma Land Company's comments numbered below. The common thread to our comments is the actions and responsibilities of the various stakeholders, to natural and man-created events, as guided by the trail management action plan.

1. In natural disasters such as an earthquake, tidal wave, erosion, and fire, what would be the trail management actions immediately prior, during, and after the disaster to protect life and property? If the disaster results in a trail section disappearing in a fully developed area, would a new trail be created in the developed area or would that section of trail cease to exist?

Response: The approach to natural disasters is addressed on the first paragraph on page 48 of the CMP/EIS. Responding to the loss of trail sections due to natural events, as with everything along the trail, will be segment by segment. The plan notes that "the Hawaiian trail system was and will remain dynamic (p. 6)."Depending upon what "fully developed" means, the trail could be rerouted along sidewalks or through parks or other available open space. Any rerouting would follow the management procedures outlined on pages 50-51.

2. What would trail management do should man-created events result in damage to life and property? For example, what actions would the trail management take should people use the trail to access and desecrate caves located off the trail? Who is responsible to repair the cave damage and what would the various stakeholders be able to do to prevent future cave desecration?

Response: After defining a trail segment alignment, management planning will include an inventory of all cultural and natural resources located within the area of potential effect of that segment. Protection measures begin with trail user education on laws, proper behavior on the trail, and the legal consequences if laws are broken. Trail routing, interpretation and promotion can highlight certain features and destinations thereby diverting visitors from sensitive areas and providing a destination which the user would seek (e.g. a great swimming area or a restroom and other amenities). If cave desecration is discovered, the NPS and partners have resources and professionals who can make assessments of the damage based on the resource inventory information gathered during the management planning phase. Cost figures can be determined and a plan to fund or receive assistance for repairs would be developed. The key to prevention of negative impacts on trail resources is education and active management, achieving a level of presence on the trail to effectively enforce laws and regulations.

3. Is there a timetable and benchmarks to achieve the purposes of the management plan? How will the people involved with trail management know if the management plan purposes are being achieved in an efficient manner? Will there be enough flexibility and financial resources to more efficiently achieve the purposes of the management plan?

Response: The CMP/EIS proposes an approximate 15-year plan during which a trail from Kawaihae to Hoʻokena would be completed for public use and other segments and resources protected subject to available funding. Although no metric is suggested in the plan, one would suppose that miles of

Kawaihae Harbor, S. Kohala, NPS photo

trail either completed or protected might be a way to measure progress. Cost estimates and funding sources are suggested, but as the plan states, there is no guarantee that the proposed plan can be implemented within the timeframe.

Comment

- I think you need to actively and directly seek out and engage ALL affected landowners. My suggestion is that you involve them directly in this process, particularly when you are planning a project on their land.

  Response: The plan specifically states on page 51 that adjacent landowners will be included on segment planning and management teams.

Comment

- …does the DCMP/EIS discuss incentives that exist in Hawai'i and/or other states to encourage private landowners to designate historic trails on their property as part of a NHT? P. 88 mentions encouragement of private landowners who have public access requirements in land use approvals to include those easements in the NHT. What would be the possible benefits or disincentives to the landowner? P. 89 says that landowners, etc. "would be encouraged to involve the local community in managing their segment of the trail." Again, what advantages would there be to the landowner or land manager? What kind of liability protection will there be? Without adequate incentives, it seems quite unrealistic to expect landowners to enter into trail management agreements, educate trail users, solicit funds for technical assistance, undertake activities that support the objectives of the NHT, etc. (p. 71).

  Response: Incentives for landowner participation in the Ala Kahakai NHT are discussed on page 188 in the environmental impact statement. These ideas are now also expressed in the plan. See page 50 of the Errata.

Comment

- Bishop Estate seems to be concerned about pillaging of sites, liability, and upkeep. Their current preservation strategy consists of heavy gates across vehicular access points, and signage along the highway warning against the removal of rocks from the area. These signs have been vandalized. We would encourage the Bishop Estate to see the development of these shoreline trails as a wonderful opportunity rather than a burden. We would suggest that, in fulfilling their purpose in executing the will of the Princess, they consider returning to Hawaiian values of place.

  Response: This paragraph is taken from a much longer letter proposing a means by which Bishop Estate could support community-based management of trails on its land. The letter has been forwarded to Bishop Estate.

Comment

- In the long haul, probably the biggest impediment will be gaining access through private land in order to finish the trail. Where possible, after trying reasoning, you should be prepared to use the 1892 Highways legislation to force access where it applies. Beyond that about all you can do is publish where the trail goes and where on whose land you are unable to gain access. Perhaps public pressure will be effective in some cases.

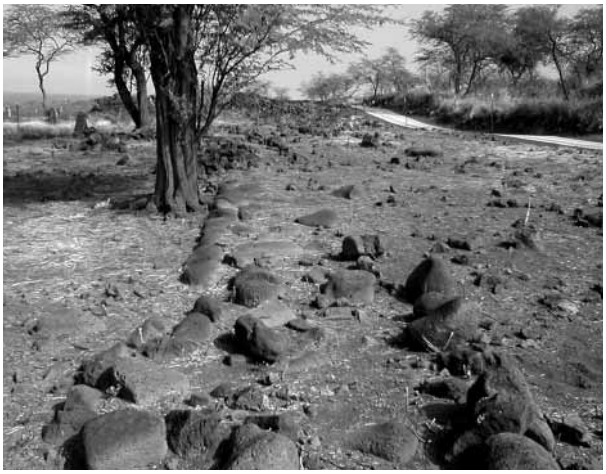
  Response: Influencing landowners through either use of the law or public pressure is not a part of the proposed action or of the NPS approach to trail administration and management. The process of determining state of Hawaii use of the Highways Act of 1892 serves to clarify ownership of a trail segment and therefore should not be viewed as a threat of force but rather as a clarification of title. We plan to work with landowners to help them protect valuable trail segments and resources. We will support the state in its management of those areas over private land that have a quitclaim deed or negotiated access.

Topic: Management Entity

Comments

- Ahupua'a management can lead to conflict if agencies are uninformed. We must conduct responsible research into families. Define what we mean by lineal descendent. Some archeologists and anthropologists are contracted by landowners and hold no validity to communities. [Kohala Intergenerational Center 11/10/2007 Public Meeting]
- We also believe trail management through partnership with local communities and families with traditional ties to the land, is vital. Where families or local community groups cannot be identified, the NPS should partner with other organizations interested in stewardship of the trail.
- The concept of a community-based management model that includes a sustainable, traditional and culturally-sensitive approach to reclaiming of the trail by the local community is also very exciting. While it promises to be challenging at times, this management model is important to community-building.

  Response: The draft MOU contained in this CMP is anticipated to be executed in a timely fashion following approval of this plan. This will provide the basis for NPS, state and county agencies to work together in the implementation of the CMP. We purposely did not refer to family and descendant groups in the CMP as "lineal descendants" since this term is used in other legal forums such as the Burial Council and judicial proceedings related to title claims and could cause confusion in this plan.



Ancient trail remnant, S. Kona, NPS photo

Topic: Coordination with Others

We received several suggestions for coordination with others. The first five statements below are from the identified agencies and each is responded to individually. Others are responded to or simply listed as recommendations since the CMP/EIS states that administration and management will be conducted in collaboration with other agencies and individuals.

Comment from the Environmental Protection Agency

- It appears from the Draft EIS that coordination between government agencies, Native Hawaiian groups, trail organizations, land owners, and other individuals has been ongoing and will continue throughout the life of this plan. In light of the sensitive nature of the watersheds and marine areas in the trail vicinity, we recommend the National Park Service work closely with State and County agencies to ensure protection of these areas during construction or maintenance projects and during operations. The Big Island Soil and Water Conservation District office, County of Hawaii, and Hawaii State Department of Health should be consulted regarding best management practices and appropriate permits for these activities.

  Response: Consultation with The Big Island Soil and Water Conservation District office, County of Hawaii, and Hawaii State Department of Health has been added to the plan to specify this coordination. See page 46 of the Errata.

Comment from the U.S. Coast Guard

- Along the Ala Kahakai NHT Corridor there are approximately thirteen Aids to Navigation. One aid in each of the following locations, Upolu Point, Mahukona, Keahole Point, Keawekaheka Point, Keauhou bay, Hoopuloa, Kamaoa Point, and Honokohau. Two aids in the vicinity of Kailua Bay, and three in the vicinity of Kawaihae. All of the mentioned aids to navigation will need to be accessible at all times by Coast Guard personnel for general maintenance and emergency repairs to ensure the safety of mariners.

  Response: These aids to navigation are now listed in the plan. Errata for pages 73 and 90 reflect these changes.

Comment from the Hawaii State Office of Conservation and Coastal Lands

- Proposed land uses within the Conservation District shall be reviewed by the Department to determine what type of authorization may be required prior to implementation. We request that our Conservation District rules and regulations noted as the Hawaii Administrative Rules, Chapter 13-5 be included in Article II: AUTHORITY of the Draft Memorandum of Understanding located in Appendix F.

  Response: These changes are reflected in the errata for pages 88 and 257.

Comment from the Hawaii State Historic Preservation Division

- …the multiple jurisdictions and management authorities must be well planned and thoroughly thought through in order to avoid conflict or confusion over responsibilities on lands not owned by the National Park Service but potentially administered by them under this plan. As the plan states, consistency in the preservation, development, management and marking of the trail through various jurisdictions will be a challenge. The SHPD awaits further details in this regard and looks forward to the development of an appropriate Memorandum of Understanding with the National Park Service should this alternative be pursued.

  Response: The plan now includes reference to a Memorandum of Understanding with SHPD. See errata for page 42.

Comment from the Hawaii State Department of Transportation

- 1. We understand the path of the trail will need to be further researched and surveyed to determine actual conditions along the trail, path size and alignment/direction for the trail.

  2. Locations where the trail path will or may cross or abut any of the lands, easements or right-of-way under our jurisdiction will need to be identified. Advance consultations with our Department and the respective affected division (airports, harbors and highways) should be done so that any impacts, conditions or requirements of use, and necessary documentations can be addressed. This would include responsibilities for work, construction, and funding of any tasks associated with implementing the path of the trail.

  3. While the possibility of additional locations exist, locations where possible impacts on our transportation facilities could occur are: Kona International Airport at Keahole (KOA), State Route 160 (Ke-ala-o-Keawe Road to the City of Refuge), and Kawaihae Harbor. Specific sites at the airport and harbor will have to be identified and delineated by the National Park Service. The Draft EIS made general statements related to the trail at or around Kawaihae Harbor. Our Harbors staff looks forward to getting clarifications from the National Park Service regarding the trail going through our harbor facility. Our Airports staff noted that the trail might have been affected by construction work of certain portions of KOA Airport.

  4. Since further work and details associated with the trail will need to be done by the National Park Service, we will need to reserve the right to examine, evaluate and comment on these plans by the National Park Service when they relate to locations where the trail affects or enters our facilities.

  Response: Thank you for the information. Since NPS plans to work with all stakeholders on each segment of trail, the Department of Transportation will be consulted on those segments of trail within its jurisdiction. Specific reference to coordination with DOT is included in the Errata page 87. During its current survey of the 15 miles from Kawaihae to ‘Anaeho‘omalu, the NPS will coordinate with the DOT regarding the trail around Kawaihae Harbor.

Comment:

- I urge that the MOUs with the state and county include more than just applications involving the Conservation District and Planning Commission! A system needs to be worked out whereby applications determined to have potential impacts on historic trails within the Ala Kahakai corridor are sent to the Ala Kahakai NHT for review and comment. All of these reviews must be done in a timely manner, and approving agencies and applicants will need clear guidelines on when the Ala Kahakai should be included in the review process. Such applications include: Subdivisions, Special Management Area Assessments and Use Permits, Special Permits, Grading, Project Districts, Rezoning, State Land Use District Boundary Amendments, Leases of State-owned lands, Environmental Assessments,

and Environmental Impact Statements. A few of the forenamed applications require Planning Commission approval, but several of them do not.

Response: This suggestion has been incorporated into the draft MOU. See errata for page 259. Once the MOU is signed by all parties, the NPS will work immediately with the County Planning Department to set up a strategy for addressing notification of all projects that might affect historic trails that could be included in the Ala Kahakai NHT. The suggestion is also incorporated into the body of the plan. See errata for page 88.

Comments

- NPS needs to work with the county on Community Development Plans immediately.
- Planning for the trail should be coordinated with the Hawaii County Planning Department's effort to prepare the Community Development Plans for North and South Kona, South Kohala and North Kohala. Coastal and mauka-makai trails are part of these plans. Please contact County Planning Director Chris Yuen for information on these plans.
- Since the plan includes environmental management measures relating to anchialine pools and nearshore waters such as resource management and water quality monitoring programs, these should be coordinated with the West Hawaii Regional Fishery Management Area, which already has numerous marine protected areas along the coast, as well as the Hawaii County Planning Department and their effort to standardize the water quality monitoring programs along the coast as part of the Special Management Area permits. Please contact Dr. Bill Walsh of DLNR regarding the West Hawaii Regional Fishery Management Area, and County Planning Director Chris Yuen regarding the water quality monitoring programs.
- Ask the County of HI to stop selling segments of trails, territorial roads, and other connections that may help develop this trail. Currently the County continues to try to sell trail segments for pennies. All sales should be suspended until the Ala Kahakai is in the final form.
- Any economic activity relating to the trail should be carefully coordinated with the Hawaii DLNR since much of the trail is in Conservation District, in which there are specific restrictions on commercial activity.
- Explore the state management mechanisms of the state fisher councils. [Tutu's House 11/8/2007 Public Meeting]

Response: Thank you for your suggestions. In response to comments made in letters and public meetings regarding coordination with Community Development Plans, relevant language from this CMP is now incorporated by county planners into the County Community Development Plans being developed for the districts within the trail corridor. Ala Kahakai NHT administration will take into consideration all comments offered at the public meetings and in letters regarding the draft plan in implementing the plan.

Topic: Offers of Support

Comments

- In pursuit of our mission. PATH is willing and able to be a partner in the need to educate the public on the proper use of this trail system. We recognize the significant public demand for access must be properly balance with management and stewardship of the land. If we can be of assistance in this way, please let us know.
- As the CMP states, it is acknowledged that the success of the Initiative rests in the hands of our local communities with support from government and private organizations. Working within a broad range of community interests, the Ala Kahakai Trail Association will play a pivotal role in acquisition and coordination of the delivery of funding support and resources to the NPS and to the many communities involved with trail use and management.
- The management plan clearly states that to make Alternative C come to fruition, a very robust non-profit trail partner will be required. This is a major concern of E Mau Na Ala Hele. We offer our continuing strong support as a trail partner. With our large and interested membership, we feel we have great potential to fill this very critical need.
- Ala Kahakai trails extend throughout Ka'u so you are already aware of these treasures. I would like to lend my voice to all efforts to protect and learn from them. Like me, thousands of people treasure the historic, biological and recreational values of these areas

and support conservation efforts here.

Response: Thank you for your support. Trail administration will need these partners and more in order to accomplish the goals of the plan.

Comment

- Private landowners along the trails, including some of my own clients, such as Jacoby Development at the Kealakehe ahupua`a, and Earl Bakken at the Kiholo ahupuaa, have clearly expressed their interest in participating with the AKNHT system. But, this will require carefully crafted agreements for public access and limiting liability. The trail should not further restrict land use in the parcels through which it passes, since state and county planning systems provide for this land use management.

  Response: Thank you for your support. Management of trail segments will be the result of agreements between landowners or land managers with input from a community management team (as described on page 51of the draft CMP/EIS). Public access will be one issue addressed in these agreements. Trail liability is addressed through state recreation laws. In the state of Hawaii, landowners are not liable for recreational use (as discussed pages 223-224 of the draft CMP/EIS). On other national historic trails, landowners have sought to officially include their trail segments and associated resources in the national trail, thereby relieving them of liability for use of the trail by uninvited users. As noted on page 111 of the draft CMP/EIS, last paragraph, "Land use zoning and permitted uses will not change as a result of any of the alternatives for management of the Ala Kahakai NHT …."

Topic: Inventory

Comments

- Encourage an inventory of all public accesses in existence prior to the 1892 highways act, so these accesses can continue to be owned in fee simple by the state of Hawaii. [Kohala Intergeneration Center 11/10/2007 Comment Sheet]
- The early stages of trail development should include a GPS centerline survey. This should be applied to the core route and all mauka-makai trails as well. There are many benefits to executing this as soon as practical.
  - This will be of great assistance to increase accuracy and meld all subsequent studies.
  - It will more accurately link trail information to existing GIS data bases and other resources.
  - Can automatically generate precise centerline profiles and detailed alignment charts and maps.
  - It will facilitate references to existing property boundaries and adjacent parcel ownership.
  - It will benefit project review and analysis as well as future meets and bounds surveys.

  Response: An updated inventory of public shoreline access is underway by the county. The Ala Kahakai NHT is working with the University of Hawaii in researching maps and other information to assist in locating pre-1892 trails for the entire trail route. A centerline survey is a good idea for the reasons noted; however, given the complexities of locating historic trail segments, this will necessarily be done on a segment by segment basis as trail segments become potential to include in the Ala Kahakai NHT.

Resource Protection

Topic: Impacts of increased public access, especially on cultural resources

Twenty-four separate statements reflected concerns that increased public access enabled by the national trail would have negative effects on sacred and historic Hawaiian sites and other cultural and natural resources, especially in currently remote areas along the trail route, and that management proposals are not adequate to mitigate impacts.

Comments

- Because there are many sacred and historical areas along the coastline (especially where I live in North Kohala) that are remote and not readily accessible, I feel that they are somewhat protected right now. But when the trail opens, that means that strangers and tourists who might not care about the sanctity of an area could be a threat to these sacred sites.
- Trails open up access to larger community and increase impacts on the trail itself (for its informational value of archeological record) as well as adjacent cultural sites (looting, movement of rocks, insensitivity) on other

properties.

- I am particularly concerned with the impacts these actions will have on the remote coastline and resources of Kapalilua, South Kona and Ka‘ū. Past cases have shown that once access is opened to such places, it will be impossible to halt or control.
- While some areas offer recreational opportunities to many people (such as Punalu‘u), the best preserved remain the areas remote from paved roads. Pohue Bay, Waioahukini, Kamilo, Waikapuna and other better-known areas all should be placed under secure protective status.
- I am very concerned about the impact the increased usage of this trail will have on currently remote, fragile, and relatively inaccessible resources (anchialine ponds, ‘opihi, coastal landscapes, wahi kupuna, etc)
- While I support the intention of the National Park Service to protect and preserve the ancient and historic trails within the corridor from increased pressures of population growth and urbanization, I am concerned that the management actions and strategies proposed in the Draft CMP/EIS are not sufficient to mitigate the deleterious impacts of increased access on natural and cultural resources.

Response: The NPS understands and appreciates these concerns. The management proposals in the plan are aimed at preventing the kinds of impacts described in these comments in the following ways. 1) The CMP/EIS is a 15-year planning document that describes a priority area for completing a publicly-accessed, continuous trail that encompasses urban and threatened areas from Kawaihae through Pu‘uhonua o Hōnaunau to Ho‘okena Beach. The more remote areas such as North Kohala, South Kona, and Ka‘ū would be priorities for protection and preservation of trail segments, alignments, and resources, but protected trail sections in these areas would most probably not be opened for public use as part of the Ala Kahakai NHT within this timeframe. 2) The plan states that no section of trail will be opened to public use as part of the Ala Kahakai NHT until adequate inventory and assessment of resources, a management plan and management entity, and a monitoring plan are in place. Each management plan will require additional environmental compliance. 3) Community-based management described on pages 50-51 of the plan provides a means of protecting resources. Trail administration will rely on a network of *kūpuna*, *kama‘āina*, landowners, trail users, agency representatives, organizations, and others to inform it of activities in each district that may threaten potential trail segments or their resources. Administration would act quickly to address threats to all areas of the trail within the limits of the laws and resources available. 4) Although the NPS does not own most of the trail, it can use a variety of methods to protect resources on nonfederal land. These are described on pages 40-44 of the draft CMP/EIS.

Keolonahihi, N. Kona, NPS photo

Comment

- Many of the vast archaeological and environmental resources that have been preserved for centuries have survived due to managed access by landowners. When you interpolate a trail, that does not now exist, publish maps, and invite the public to tour these sites, with an inadequately defined and underfunded management plan for protection of these resources, you put the resources in jeopardy. This, I believe, would be counterproductive to your goals.

Response: Some landowners have protected resources admirably; however, some resources have been damaged despite their management of their land or resulting from their development of it. Protecting resources is not just a matter of keeping the public out, but it requires

knowing what resources are present, evaluating them, and preserving them in place without disturbance from farming, resort, residential or other development. Participation of landowners in the NHT is voluntary.

The plan does not propose to interpolate a trail but rather to identify historic trail segments through methods defined by state and federal law and then to prepare management plans for those trail segments using planning and management teams on which the adjacent landowners would participate. This approach is described in the Resource Protection section of the draft CMP/EIS, pages 40-44 and the Management Approach section, pages 50-51. Trail segments will be available to the public as part of the Ala Kahakai NHT only when adequate planning has been completed and the requisite management and monitoring are in place.

Topic: Natural Resources

Individual comments suggested protection measures for Hawaiian hoary bats and Hawaiian hawks, restoring dryland forests and preserving native trees, standardizing resource management measures for special ecosystems along the trail route, considering the effects of erosion and soil run-off when clearing trails, and using environmentally responsible methods for weed removal.

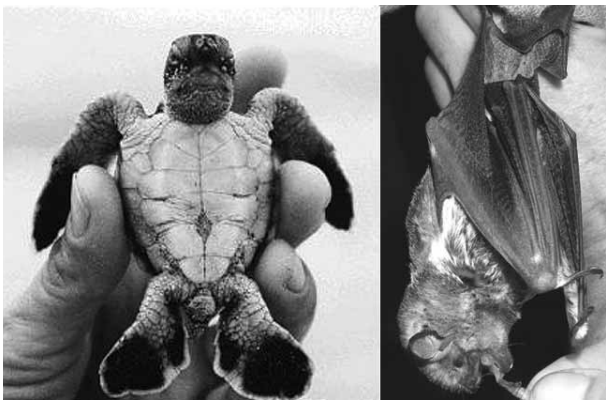
Comment

- 1) Endangered Hawaiian hoary bats (*Lasiurus cinereus semotus*) and endangered Hawaiian hawks (*Buteo solitarius*) nest in both exotic and native woody vegetation. To avoid impacts to the bats, no woody plants suitable for bat roosting should be removed or trimmed during the bat birthing and pup rearing season (April to August). To avoid impacting hawks, brush and tree clearing or trimming should not occur during the hawk nesting and breeding season (March through September), if hawk nests are present. Thus surveys for hawk nests should occur prior to trimming or clearing activities.

  2) If the project involves fencing, the use of barbed wire should be minimized to avoid impacts to bats.

  Response: This information provided by the U.S. Fish and Wildlife Service has been incorporated in the plan. See errata for page 46, column 2.

Comment



Hawksbill turtle and hoary bat, NPS photos.

- Resource management measures for special ecosystems along the trail, such as anchialine pools, dryland coastal forests, rocky shorelines, and beaches, should be standardized and consistent with the DLNR measures already in place.

  Response: The Ala Kahakai NHT plans to include all relevant state agencies including the Division of Forestry and Wildlife, DOCARE, Aquatics, Conservation Lands, etc, in the management planning. The NPS Inventory and Monitoring Program team will be consulted to assure that natural resource monitoring protocols are consistent.

Comment

- I was alarmed when you said [at the Kapa‘au public meeting] that when working with the community to clear portions of the Ala Kahakai Trail (in the Kona area I believe) you were providing them with poison to kill the plants. I am hoping these people know the difference between native and non-native plants. In any case, even if the plants are invasive, I feel that it is environmentally irresponsible to apply poison to a trail so close to the ocean. It could potentially damage our reefs and contaminate the groundwater. In an ecosystem as fragile as the Hawaiian Islands, there is no place for synthetic herbicides. Please consider clearing the trail in a more environmentally responsible way.

  Response: The Ala Kahakai NHT is working with communities on clearing certain state- or NPS-owned trails and applies the same state and federal environmental and historic preservation compliance standards that are used within the national parks. Community

managers will be offered training on safety and best management practices including the proper and environmentally safe approaches to invasive plant management. We agree that the use of pesticides and herbicides should be limited as much as possible.

Comment

- I am also concerned about over-gathering. As our coastlines become more accessible by this trail, I'm worried that people will be tempted to gather too much fish, opihi, limu, rocks, etc., from these areas. Is there room in your plan to hire workers to monitor the amount of natural resources being taken from the area? Maybe you could work with the DLNR and/ or community volunteers to facilitate this.

  Response: Marine resources related to traditional coastal harvesting are addressed on page 46 of the Draft CMP/EIS. Actions recommended are consulting local fishers and gatherers, assembling baseline data, developing a monitoring program, collecting ethnographic data, and encouraging appropriate activities through interpretive media and informational materials. The errata for page 46 cites additional actions recommended and incorporated into the proposed action.

Comment

- Please also consider the effects of erosion and soil run-off when clearing the trails

  Response: Although an unstated value of the National Park Service, prevention of erosion and runoff are now specifically mentioned in the plan. See page 46, Watersheds and Marine Areas, in the Errata section.

Comment

- Also remember that the coastal and dryland forest areas are almost gone. Please try to preserve what is left. If there are endemic and/ or native trees on the trail, consider moving the trail if possible.

  Response: Native plant communities, including dry forest, are discussed on page 45 of the plan. In general, invasive (non-native) species would be removed from the trail tread, as possible. New construction would be located to avoid trampling or removal of native plants. See errata for page 45 in which "removal of native plants" has been added.

Topic: Native Hawaiian User and Uses

Comment

- I am writing this on behalf of my family, ancestors and all that we have talked about of the controversy surrounding the Ala Kahakai "fictitious" trail that does not exist in the history of my ancestors. [My family has] written protests against this "make-believe" trail that is more insulting to Native families that know this is more damaging to the true history and protection of sites belonging to Hawaiians that lived and died in places next to this proposed "fictitious trail." Historical fact cannot be revised as a matter of convenience to change what really is the truth. Whether it be the sacred heiau, burial, kapu laws and more, the fact is the Ala Kahakai doesn't exist as the proof is because of the old Kapu laws that forbid the free travel from ahupua'a. Under penalty of death, to go into another ahupua'a was unheard of unless there was specific permission given by each chief because no one would want others to come into their places to take kalo, manini, akule, limu, etc.

  Response: The plan immediately notes that the trail name "Ala Kahakai" was used by a planner in 1973 to describe a "trail by the sea" (p. iii; p. 14) that includes the prehistoric and historic shoreline *ala loa* and other trails on or parallel to the shoreline. While the name of the trail was coined, the segments of which it is comprised are real prehistoric and historic trails or routes: "The Ala Kahakai NHT combines surviving elements of the ancient *ala loa* with segments of later *alanui aupuni*, which developed on or parallel to the traditional routes, and more recent pathways and roads that created links between the historic segments" (p. xi). While it was generally true that travel occurred within the *ahupua'a*, it is also true that travel around the island was ensured by Kingdom laws that allow for free travel on trails. These laws were incorporated into state laws. Page 6 of the draft CMP/EIS, notes the limits of access to resources, field plots, and house lots, stating "Travelers, thus, could pass through *ahupua'a* on the *ala loa*, which circumscribed the entire island, but they did not have open access to the resources of the *ahupua'a*."

Comment

- I am also concerned about the impact that increased malihini [one unfamiliar with a place or custom] access and usage will have on the

local and Hawaiian folks that currently utilize resources and practice in these areas.

- Sacred ceremony such as that which occurs at sacred sites should not be forced to be open to those who are there only in curiosity. I am a Kahu of Keolonahihi which is part of Kaluaokalani and the care of that area will not follow a national park plan, it will follow the traditional plan determined by those people who have inherited the care of this place. "Pono" is the condition that will guide the outcomes.

  Response: As stated in the plan, "The goal of the trail protection program in alternative C, the proposed action, is the preservation of cultural features and landscapes that sustain the practice of Hawaiian Values" (p. 90). The entire protection program is outlined on pages 90-91. As each segment of trail is planned, traditional users will sit on or advise the planning and management team "to assure resource protection and sustainability, access timing and other protocols" (p. 91). In addition, page 59 recognizes the potential for impacts on Native Hawaiian use of the trail and their ability to practice their cultural traditions and page 60 describes potential actions that might be taken to avoid or minimize the impacts.

- One of the problems you will encounter is access to "cultural" sites. As was brought up at the hearing, Polynesian Hawaiians will be very concerned about this and can be expected to oppose building the trail near at least some of these sites. Although these sites could be a valuable educational venue, if opposition occurs, in the interest of making progress, you should just relocate the trail away from close proximity to these sites. Otherwise, you will just get bogged down.

  Response: The plan allows for "strategic routing of the trail" as a means of protecting sensitive natural and cultural areas (p. 44).

- You stated that you intend to use ohana kuleana as a basis for setting up and managing the trail. I think that could work if the goals and interests of the ohana are compatible with the needs of the trail and the multitude of interests of the public at large. In one case for example, an ohana has done a wonderful job (with a lot of help from the community at large) in clearing out Kamoa Point. But there is now a real effort to keep non ohana people out even though it is state land - they appear to want to use it only themselves.

  Response: The ohana clearing vegetation and caring for Kamoa Point is implementing a State Parks management plan for the area which includes managing access due to the sensitive nature of the site. Public involvement in the activities of this ohana is inclusive of all ethnicities and includes the international community as well.

Trail User Experience

Topic: Trail on the Ground

Eight comments specifically mentioned getting trail on the ground, marked, and interpreted as the Ala Kahakai NHT as a priority.

Comments

- I urge you - you must, as soon as is possible, show some progress on the ground. Focusing on the Puukohala - Hookena stretch, do some signage and upgrade some of the trail areas that already exist, declare victory, have a big grand opening and make it a press and politician event. You will gain support locally and this will lead to budgetary and other support nationally.

- We hope this process can move forward expeditiously so there will be feet on the ground on approved and accessible trail sections as soon as possible. We urge the timely preparation of infrastructure necessary to open the planned 15-year targeted area of Kawaihae to Pu'uhonua o Honaunau.

- Make a successful trail [segment] that will encourage others to follow. Have a map. Mark the trail. [comment at Tutu's House 11/8/2007 public meeting]

- We also want to emphasize that with the significant timeline it is important to open smaller sections of trail for people to access.

  Response: Existing segments located in the priority area of the CMP are now available to the public. These include the 15-mile state of Hawaii's Ala Kahakai Trail and segments of shoreline and near shoreline trails currently being managed at the three NPS units in West Hawaii. NPS trail administration has targeted the state of Hawaii's Ala Kahakai Trail as the first trail segment, outside of the existing NPS units,

to be consistently marked and interpreted as the Ala Kahakai National Historic Trail.

Topic: Trail Use

Comments concerned keeping the trail for walking only and making the Auto Route accessible for bicyclists.

Comments

- Development of the Auto Route and access points should also readily accommodate access for bicyclists, as well.
- The proposed Auto Route should also include bicycling accommodations as an alternative to the automobile.
- Keep the trail free of vehicular access. Anything on wheels especially when propelled by noxious fuels can only advance the destruction of a beautiful historic trail. Let's keep it to foot traffic only.

  Response: Thank you for your comments. The auto route is a separate route that uses pre-existing roads to connect key trail resources. Trail use is described for walkers only in the trail prescriptions pages 52-55 of the plan. Trail administration will take into consideration promoting bicycle use along the auto route as feasible and practical.

Topic: Trail User Capacity

Comments

- To the final indicator on page 61, we suggest that scheduling visits by large groups may help with crowding around important sites along the trail. Tour companies could voluntarily work with the park staff to schedule tour buses along the auto tour route or the park rules could require companies to schedule bus tours. Both the Arizona memorial and Hanauma Bay Nature Preserve require some form of group scheduling.
- In the list indicators of user capacity is the number of fires along the trails and the number of injuries. As more people hike the trails, the likelihood of more fires started by accident and more people getting injured could be indicators of over use.

  Response: These suggestions have been incorporated into the plan. See both references to page 61 in the Errata section.

Comment

- Overcrowding by outsiders will affect the local communities' ability to "recharge." [Kohala Intergenerational Center 11/10/2007 Public Meeting]

  Response: An approach to user capacity to avoid issues of overcrowding and diminution of the user experience is addressed on pages 58-62 of the plan.

Trail Clearing, Kealakehe HighSchool, O'oma, N. Kona, NPS photo

Topic: Education

Comment

- Identify trail by era of development prior to 1778, 1882-1892, after 1892. Could use a background color to depict each era. Cultural features should be indicated in the same way. [Kohala Intergenerational Center 11/10/2007 Comment Sheet]

  Response: Comment noted. Ideas such as these can be included in the proposed sign plan for the trail.

Comment

- An additional aspect of the trail we feel should not be overlooked is the history of other ethnic immigrant groups such as the Japanese, Chinese, Portuguese, Koreans, Puerto Ricans, and Filipinos as well as explorers, missionaries, whalers, and others who have contributed to the rich history of Hawaii. Their stories, too, are important at different places along the trail, and, where applicable, should be recorded and celebrated.

  Response: Comment noted.

Comment

- Standardized signage and interpretive programs should be developed and shared with the landowners along the route so that there is a consistent system used throughout the trail system.

  Response: Use of the trail marker and development of a sign plan are addressed on page 63 of the plan. Some examples of possible signs are offered in Appendix E, pages 253-255. As they are developed, the sign plan and interpretive materials will be shared with landowners along the route as appropriate.

Topic: Recreation

Comment

- I do note that the discussion of Alternative C focuses mainly on the preservation and enhancement of cultural sites. There is nothing wrong with that, but you must keep in mind that the broader community is going to be more interested in the trail as a historical, educational, and recreational venue - don't forget us.

  Response: Aside from preservation of historic trail fabric and routes, national trail administration is specifically charged through the National Trails System Act to recognize the educational and recreational value of the historic trail (See the footnote on page 2 of the final plan.). The 15-year planning period includes the goal of completion of a publicly accessible trail from Kawaihae to Hoʻokena that is well-marked and its historic and cultural value interpreted.

Comment

- There are people who would like to walk the entire trail. The area between Anaehoʻomalu to Spencer Beach offers little to no camping. To make the trail user friendly to people that want to walk its length over a period of day or weeks there needs to be designated campsites every few miles. There needs to be more camping available in North/South Kohala. Presently, the only camping available is these areas are Spencer Beach Park, Mahukona, Kapaʻa. [Tutu's House 11/8/2007 Comment Sheet]

  Response: The plan recognizes the need for campsites: "As sufficient continuous trail is managed and marked, strategically place campsites and water sources would accommodate long-distance hiking. (p. 91)" Cost estimates for the trail from Kawaihae to Hoʻokena are based on having four walk-in campsites. Two approved campsites exist within this area at Spencer Beach and Hoʻokena. Hapuna Beach State Park also offers cabins for camping. The cost estimates include adding two more, although the sites for these are not yet selected.

Facility Development

Topic: Facilities

Comment

- One component of the development plan that has not been fully addressed is the availability of adequate facilities for the development, management and operation of the trail system. A consolidated headquarters (possibly in the area of Kaloko-Honokohau) that could house all needed National Parks Service functions for the trail, as well as other NPS facilities on the island. Such a facility could also accommodate the State Department of Natural Resources (specifically the Division of Forestry and Wildlife, Historic Preservation Division, Division of State Parks, and perhaps even the Divisions of Aquatic resources and Boating and Ocean Recreation.

Space could also be made available for the County Department of Parks and Recreation. This would create a single complex that could more closely link all levels of government that will be involved in the trail development, as well as the operation and maintenance of related facilities. Communal space for meeting and resource sharing could also be arranged for community based organizations involved in trail development such as E Mau Na Ala Hele and People's Advocacy for Trails Hawai'i (PATH). The unifying effect from all of the applicable resources would create a unique opportunity in the future development of the trail.

Response: Comment noted.

Comment

- When do you envision that the West Hawaii Parks Museum will be built, designated or otherwise implemented? Do you foresee the National Park Service as the prime mover to get the facility built? Are you contemplating involving commercial firms as part of a partnership?

  Response: The museum is currently listed in the 2012 Line Item Construction program as part of the NPS Five Year Plan published in FY 2009. While the NPS recognizes the need for a facility for proper preservation, management, and access to cultural collections on the island of Hawaii, it also recognizes the need for the support of other state and non-governmental groups. The NPS is working with all interested parties to preserve and make available to Native Hawaiians native culture on its island of origin.

Trail Operations

Several commenters felt that funding, staff, and budget were inadequate to the tasks outlined in the plan. Some wondered what the NPS would do in the event that fund raising by community-based organizations, especially the Ala Kahakai Trail Association, falls short of expectations.

Topic: Staff

Comment

- I believe a Law Enforcement/Interpretive Ranger should be "Core Staff' for Alternative B as well as for Alternative C.

  Response: The Law Enforcement/Interpretive Ranger position was included in alternative C because the NPS has the potential to actually manage trail segments under that alternative. Page 96 of the plan states, "A law enforcement/interpretive ranger would be added in the event that the NPS takes over management of a significant number of state-owned trail segments." Under alternative B, the law enforcement function would be filled by state rangers or other law officers.

Comment

- P. 87 offers NPS assistance in reviewing land title records (a significant need when determining ownership status of historic trails), but Land Title Researcher/Abstractor does not appear on the "Other Needed Disciplines" list for Alternatives B and C.

  Response: The oversight is corrected in the final plan. See pages 78 and 96 in the Errata section.

Comment

- More access needs more protection and enforcement. 4-5 staff is not enough for half the island. [Kona Outdoor Circle 11/5/2007 Comment Sheet]

  Response: The plan projects the need for five full-time staff and nine other part-time staff positions that would be needed to fulfill the goals of the approximately 15-year planning period. During that time, the NPS will have oversight responsibility for the entire trail, but the focus for planning, management, interpretation, marking, and thus for staff time, would be the trail from Kawaihae to Hoʻokena. The NPS staff would work to protect and preserve historic trails outside of the priority area that might be included as part of the Ala Kahakai NHT, but these most likely would not be managed for public access during the period projected for this plan.

Topic: Costs

Comment

- The estimate for the cost of developing two campsites (p. 97) seems low, considering the State Division of Forestry & Wildlife's cost-estimate for one composting toilet (including unit, shipping, transportation to site by helicopter, labor) in 2001 was $14,000 - $16,000.

  Response: The two campsites estimated are considered to be walk-in sites related to trailheads, the costs for which (road improvements, parking, etc.) are not included

in the campsite costs. Costs for campsites were estimated as follows: clearing and grubbing @$4,000 each, a catchment system for gray water uses @$5,000 each, and a large, handicapped accessible composting toilet @ $75,000 each. Nā Ala Hele staff provided the cost estimate for the composting toilet.

Comment

- Is the cost of installing water catchment systems included somewhere in the One-Time Costs?

  Response: As noted above, the costs for gray water catchment are included. Due to the dryness of the west side of the island, catchment for drinking water would not be feasible. Hikers would be expected to carry drinking water or water could be provided in another manner.

Topic: Funding

Comment

- Our concern is that this is also the most expensive alternative and we wonder whether sufficient funds will be available to implement this alternative. We note that part of the funding effort will include monies raised by community-based organizations. Many community-based organizations are capable of raising large sums of money in support of public facilities, the Friends of Public Television and Friends of Waikiki Aquarium are just two examples. There is no guarantee that sufficient funds will be raised to fully implement the plan described in Alternative C. We wonder what the Park Service will do in the event that fund raising efforts fall short of expectations.

  Response: The plan notes in several places that funding and staffing may not be forthcoming and that implementation of the plan could by many years in the future. The NPS will take an incremental approach to implementation of the plan so that only those segments of trail for which there are funds and management capacity will become official parts of the Ala Kahakai NHT.

Comment

- Funding for the trail and all its associated resource management and interpretive programs should come from the federal government. This will supplement the existing (but entirely inadequate) state funding.

  Response: The federal government is committed to funding the Ala Kahakai NHT, along with all national trails. In fact, base funds for the Ala Kahakai NHT have been increased this year to $420,000 from $260,000. But as with all national trails, there is the expectation that there will be significant participation from partners in terms of volunteer hours, donations in kind, and fundraising.

Topic: Planning

Comment

- It is not clear from the narrative in this section

Trail at Pu‘uhonua O Honaunau, NPS photo

Holua Slide, Keauhou, NPS photo

how the community was involved in developing the community vision. Was there a series of meetings with the community or did it occur only at one time during the scoping process?

Response: The community vision was originally developed during the public involvement process of the *Feasibility Study* (1998) for the Ala Kahakai that resulted in the trail's authorization as a national historic trail. This vision was then further developed during the scoping process for the comprehensive management plan and presented as a poster during the alternatives development public meetings.

Comment

- How long do you estimate it will take to research the trail and surrounding areas? Do you foresee the information being obtained within the life span of the management or is this a long-term project that may be completed at some time in the distant future?

  Response: We anticipate that researching the entire trail and surrounding areas will continue when the plan is updated. The proposed action recommends completing research on the trail and immediately surrounding areas from Kawaihae to Hoʻokena and other areas to be targeted outside of the priority area.

Community meeting, NPS photo

Alternatives

Three landowners and one botanist preferred Alternative D: Historic Trail Clusters and a fourth landowner preferred either alternative D or failing that, Alternative A: No Action. They argued that developing non-historic connector trails to tie together historic segments is not historically accurate.

Comments

- Alternative D: "Historic Trail Clusters" calls for the restoration and certification of authentic historic trail segments only. This alternative does not include the construction of non-historic connector trails that would result in a continuous coastal trail. This option honors and protects actual historical trail segments built by our ancestors and supports the continued local usage of trail clusters by living descendents. We feel this option would help discourage irresponsible behavior associated with unaccounted transient movement from one area to another.
- I ask you to reconsider the option of Alternative D: Historic Trail Clusters, as proposed in the 2004 Management Plan/EIS Planning Update http://www.nps.gov/alkaJupload/ACF23FD.pdf (see page 11), which calls for the restoration and certification of authentic historic trail segments only. This alternative does not include the construction of non-historic connector trails that would result in a continuous coastal trail. This option honors and protects actual historical trail segments, and supports continued local usage of trail clusters, while not creating the malihini attraction of a continuous coastal trail.
- The project is designated as a National Historic Trail. The definition of historic implies that the trail exists or has existed in history. While it is documented that this trail does, or did, exist in many places, the trail corridor you have outlined in the Draft Management Plan does not accurately follow the existing trail. It is misleading to designate a Historic trail corridor that is interpolated and does not follow the documented or physical trail alignment. If we are to preserve a Historic trail, it should follow the trail as it exists, or existed, on the ground and should be- supported by historical documents and field surveys

  Response: The CMP/EIS eliminated alternative D from further consideration because 1) it had been considered and rejected in the *Feasibility*

Study for the trail, 2) Congress had designated a continuous linear trail, and 3) the public did not support it as a stand-alone alternative, suggesting that historic segments are a place to start to develop a continuous trail. The plan calls for the interpretation of modern connector trails as such.

Comment

- Protection of the 80-mile trail against the traffic that it is likely to generate after it is developed with picnic tables, toilets, camping areas, interpretation, signage, parking, shelters and other development would be impossible with the tiny budget alternatives that the Plan projects. Furthermore, the Plan calls for financial participation of the community. Kau and much of the Big Island is economically depressed with no prospect for employment opportunities or change in this status. Local community funds for protection of the resource cannot be forthcoming in the foreseeable future. The Department of Interior's reluctance to fund adequately the parks already in the system clearly indicates that this unit will not get the future funding it needs. Until there is a viable plan for the present and reason to believe that future Park needs in the system will be funded so that they can be preserved for posterity, Alternative A is the only reasonable course that can presently be taken.

  Response: Alternative A could be considered the starting point of the plan as it describes what the trail might become with a static budget. The proposed action anticipates that these conditions will change over time with increases in federal funding and partner capacity. The proposed action has a broader vision than simply maintaining current conditions and will be implemented incrementally as segments of trail become official parts of the national trail and specific management plans are in place. Since the draft plan was released for comment, the NPS base budget for the Ala Kahakai NHT has been increased to $420,000 by the U.S. Congress, already allowing for staff hiring and other support for the proposed action. Budget increases for all of the national trails are due in large part to the advocacy of the Partnership for the National Trails of which both the Ala Kahakai Trail Association and Ē Mau Nā Ala Hele are a part.

Environmental Impact Statement

Comment

- The EIS needs to address:
  - Archeological protection is major concern
  - Coastal harvesting [section of the EIS] is woefully lacking
  - "Education is expected to encourage appropriate activities" is inadequate
  - Fishing resources need to be protected; talk about impact of visitors on local fishing.

  [Kohala Intergenerational Center 11/10/2007 Public Meeting]

  Response: With or without the Ala Kahakai NHT, archeological protection is a major concern on Hawai'i Island. The plan incorporates a variety of protection measures that might be used to protect archeological sites (pp. 40-44). Education is but one of the protections for traditional coastal harvesting. Protection measures discussed in the plan (p. 46) include developing baseline data, including fishers and gatherers in trail planning to provide recommendations for fishery protection and sustainable gathering, and monitoring to determine impacts as well as using interpretive media and informational materials to encourage appropriate activities. After listening to concerns at the Kapa'au public meeting in particular, we have strengthened the language in the plan regarding protections of traditional coastal harvesting resources. See page 46, column 1, of the Errata section. See also, page 166 of the Errata section for changes to the EIS.

Comment

- Impacts of increased public access into remote areas of South Kona and Ka'ū are not adequately addressed by the current plan: impacts to natural and cultural resources; impacts to cultural practice and cultural practitioners.

  Response: The proposed action offers procedures and processes to protect natural and cultural resources and impacts to cultural practice and cultural practitioners on pages 40-46 and pages 90-91. The NPS believes that, if these procedures are followed, resources and cultural traditions as related to the Ala Kahakai NHT will be adequately protected.

Suggestions for Editorial Corrections Not Changed in the Final Plan

- Page 97, first paragraph

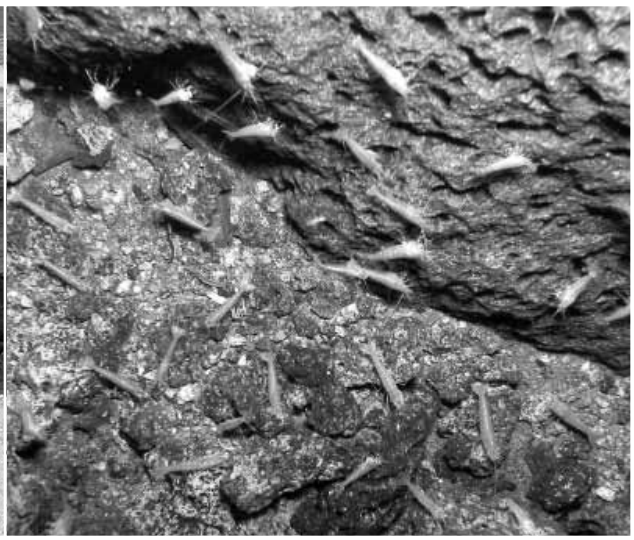
  "Within the 73 mile sections of trail, Na Ala Hele ~~owns 21 miles~~ has documented that approximately 21 miles may be subject to the Highways Act and qualify as state owned. ***However, this mileage data conflicts with the 35 miles referred to in the Feasibility Study and previously mentioned on page 12.***

  Response: The state trail mileage given here refers to mileage within the priority zone (21 miles). The mileage mentioned on page 12 refers to state trail mileage within the entire 175-mile corridor (35 miles).

- We would like to amend the alignment of the trail as shown on the working map dated 12/21/06 on page 101 in this area to reflect the existence of prehistoric and historic trails along the shoreline in the corridor area. The current map shows only the Auto Tour Route in red, which is the current paved government road between Kealakekua Bay and Honaunau Bay. The alignment of the trail needs to be amended to include both the shoreline trails, type A or prehistoric (circa 1750) and type AB (1820-1840) for foot and horse traffic as documented in Trails: From Steppingstones to Kerbstones by Russell A. Apple (Bishop Museum Press, 1965). The current working map on page 101 of your report shows only the historic cart trail, type B, which in modern times has been paved by the government and is the current "Auto Tour Route." Diana Keffer, Dennis Hart, Roy Santana

  Response: The map on page 101 shows historic trails in Nā Ala Hele jurisdiction between Kealakekua Bay and the Mokuʻohai Battleground site as well as another possible lateral trail and another trail in the Nā ala Hele inventory. Although footpaths may exist between Mokuʻohai Battleground Hōnaunau Bay, our data bases did not reveal them. Should you have accurate maps showing type A trails within this area, please share them with trail administration. The plan maps provide only a starting point for developing a Geographic Information System database for the entire trail and will be augmented over time as we get more accurate and detailed information.

Kaʻawaloa Road, S. Kona, NPS photo



Copies of Comment Letters

Section 4:Copies of Agency, Organization, and Individual Comment Letters

All letters from federal, state, and local agencies and organizations are included in full on the following pages. All other substantive comments from individuals, both written and offered at public meetings, are quoted and responded to in Section 3 of this document. Of the 20 letters, emails, and PEPC comments received from individuals, a representative sample of four letters is included. These letters convey the range of the concerns expressed by the public in written form. All public comment, both in the form of letters and of meeting flip charts, are part of the administrative record of the plan which will be available to the public after the Record of Decision is signed.

The letters included are as follows:

Federal

Environmental Protection Agency
U.S. Coast Guard
USFWS

State

Na Ala Hele Trails and Access Program
State Historic Preservation Division
Division of State Parks
Office of Conservation and Coastal Lands
Department of Transportation

County

Hawaii County Council, County of Hawaii (Bob Jacobson)

Organizations

Ala Kahakai Trail Association (Roy Broggini)
E Mau Na Ala Hele (Barbara Schaffer)
Historic Hawaii Foundation (Kiersten Faulkner)
Hoʻokuleana LLC [Oʻoma Development] (Peter T. Young)
Kamehameha Schools (Kehuewa Kikoloi)
Kaʻū Farm and Ranch Company (Chris Manfredi)
Kūlana Huli Honua (Mikahala Roy)
Peoples Advocacy for Trails Hawaiʻi—PATH (Laura Dierenfield)
Queen Emma Land Company (Stuart Lau)
University of Hawaii Environmental Center (Peter Rappa)
Wailea Property Owner's Association (William T. White III)

Individual

Deborah L. Chang
Benjamin Konshak
David Tarnas
Amber Nakamura Whitehead

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

December 21, 2007

Superintendent
Ala Kahakai National Historic Trail
73-4786 Kanalani Street, #14
Kailua-Kona, HI 96740

Subject: Draft Environmental Impact Statement (EIS)/Comprehensive Management Plan for the Ala Kahakai National Historic Trail, County of Hawaii, Hawaii [CEQ #20070437]

Dear Sir or Madam:

The U.S. Environmental Protection Agency (EPA) has reviewed the above referenced document. Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's (CEQ) NEPA Implementation Regulations at 40 CFR 1500-1508, and our NEPA review authority under Section 309 of the Clean Air Act.

The Draft EIS evaluates alternatives for administering, preserving, protecting, developing, managing, and maintaining the 175-mile Ala Kahakai trail over the next 15 years. EPA has no objections to this project and has, therefore, rated this Draft EIS as LO – Lack of Objections (see enclosed "Summary of Rating Definitions"). It appears from the Draft EIS that coordination between government agencies, Native Hawaiian groups, trail organizations, land owners, and other individuals has been ongoing and will continue throughout the life of this plan. In light of the sensitive nature of the watersheds and marine areas in the trail vicinity, we recommend the National Park Service work closely with State and County agencies to ensure protection of these areas during construction or maintenance projects and during operations. The Big Island Soil and Water Conservation District office, County of Hawaii, and Hawaii State Department of Health should be consulted regarding best management practices and appropriate permits for these activities.

We appreciate the opportunity to review this Draft EIS and request a copy of the Final EIS when it is officially filed with our Washington, D.C., office. If you have any

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questions, please call me at (415) 972-3846, or have your staff call Jeanne Geselbracht at (415) 972-3853.

Sincerely,

Nova Blazej, Manager
Environmental Review Office

002081

Enclosure: Summary of Rating Definitions

U.S. Department of Homeland Security
United States Coast Guard

Commander
Fourteenth Coast Guard District

PJKK Federal Building
300 Ala Moana Blvd.
Honolulu, HI 96850
Staff Symbol: dl
Phone: (808) 541-2320
Fax: (808) 541-2309

16500

NOV 27

Superintendent, Ala Kahakai NHT
73-4786 Kanalani Street, #14
Kailua-Kona HI, 96740

Dear Aric Arakaki:

Along the Ala Kahakai NHT Corridor there are approximately thirteen Aids to Navigation. One aid in each of the following locations, Upolu Point, Mahukona, Keahole Point, Keawekaheka Point, Keauhou bay, Hoopuloa, Kamaoa Point, and Honokohau. Two aids in the vicinity of Kailua Bay, and three in the vicinity of Kawaihae. All of the mentioned aids to navigation will need to be accessible at all times by Coast Guard personnel for general maintenance and emergency repairs to ensure the safety of mariners.

Sincerely,

D. V. SHEPARDSON
Chief Waterway Management Branch
U.S. Coast Guard
By direction

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850

FEB 12 2008

In Reply Refer To:
2008-TA-0102

Mr. Aric Arakaki
Superintendent
Ala Kahakai National Historic Trail
73-4786 Kanalani Street, #14
Kailua-Kona, Hawaii 96740

Subject: Comments on the Draft Comprehensive Management Plan and Environmental Impact Statement for the Ala Kahakai National Historic Trail on the Island of Hawaii

Dear Mr. Arakaki,

The U. S. Fish and Wildlife Service reviewed Draft Comprehensive Management Plan and Environmental Impact Statement (EIS) for the Ala Kahakai National Historic Trail. This draft plan presents proposed management alternatives for the 175-mile corridor along the western and southeastern shorelines of Hawaii Island. We have reviewed pertinent information in our files, including data compiled by the Hawaii Biodiversity and Mapping Program and the Hawaii Geographic Analysis Program.

This Draft Management Plan and EIS are well written and comprehensive. We agree with your conclusions, this project is not likely to have a negative impact on listed species and there is much potential for positive impacts to native ecosystems and listed species. To assist you in avoiding negative to listed species, below are a couple of suggestions that may be useful when planning the project.

1) Endangered Hawaiian Hoary bats (*Lasiurus cinereus semotus*) and endangered Hawaiian hawks (*Buteo solitarius*) nest in both exotic and native woody vegetation. To avoid impacts to the bats, no woody plants suitable for bat roosting should be removed or trimmed during the bat birthing and pup rearing season (April to August). To avoid impacting hawks, brush and tree clearing or trimming should not occur during the hawk nesting and breeding season (March through September), if hawk nets are present. Thus surveys for hawk nests should occur prior to trimming or clearing activities.

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2) If the project involves fencing, the use of barbed wire should be minimized to avoid impacts to bats.

We hope this information is useful for completing the Management Plan and EIS. If you have questions, please contact Dr. Jeff Zimpfer, Consultation and Technical Assistance Program (phone: 808/792-9431; fax: 808/792-9581).

Sincerely,

Russell R. Holden for

Patrick Leonard
Field Supervisor

Department of Land and Natural Resources
Division of Forestry and Wildlife
Na Ala Hele Trail and Access Program
www.hawaiitrails.org

Mr. Aric Arakaki, Superintendent
Ala Kahakai National Historic Trail
73-4786 Kanalani Street #14
Kailua-Kona, HI. 96740

December 20, 2007

Subject: Division of Forestry and Wildlife – Na Ala Hele Trail and Access Program; Comments on the Draft Ala Kahakai National Historic Trail Comprehensive Management Plan and Environmental Impact Statement (DCMPEIS)

Aloha Mr. ~~Arakaki~~: ARIC

Na Ala Hele deeply appreciates the effort put forth by NPS on the DCMPEIS and offers the following comments. For clarification purposes, I have underlined proposed revised language and have struck-out language suggested for deletion. I have italicized relevant comments. I commend NPS on the design of the Ala Kahakai logo – in my opinion the image captures the spirit of the coastal ala loa concept, and is very clear and attractive for signage to designate authorized trails.

1. Page 12, Effects of the Highways Act of 1892 (Chapter 264-1 HRS) on the Ala Kahakai NHT

This section needs further clarification:

"However, the research used to document the claim by the ~~government~~ state may be legally challenged for a variety of reasons if the claim is adverse to the landowner. The trail ownership may ultimately be adjudicated in court. Until such time that a Quitclaim Deed is executed between the state and the adjacent private landowner, and it is recorded with the Bureau of Conveyances, the title to a specific trail feature may be subject to challenge over time by future landowners.

~~Opening~~ Restoring managed public access to a ~~state trail to the public~~ trail that has been confirmed to be state owned via a Quitclaim Deed or access has been negotiated through other forms of documentation, may requires a cultural survey and potential preservation or re-construction, management, maintenance, and vehicular access & parking and signage plans that consider the perpetual commitment of staff time and funding resources."

~~If resources are lacking to open them to public use, often the trails may be "land banked" that is held by the state without a management entity and not open to the public.~~ In most cases for these segments of coastal ala loa, there is currently insufficient state staff and funding for the pertinent planning and management, therefore the abstract data collected by NAH is documented on a data base and, if a trail cooridoor or ala loa is still physically intact, may remain subject to unmanaged public use based on its location and relevant function relating to access.

"The Feasibility Study identified 35 miles of ~~potential state trail~~ trails that have been identified as being subject to the Highways Act, cross~~ing~~ private lands and may be eligible ~~for inclusion as part~~ to include as ~~part~~ authorized segments of the Ala Kahakai NHT.

2. Page 33, *reference to Chapter 198D, HRS and Na Ala Hele policy on incorporating a trail into the legal jurisdiction of Na Ala Hele. Recommend revised language:*

~~"Trails included in the Na Aka Hele system must be determined to have a functional value to be included in the system"~~

"Currently, trails that are determined to have value for managed public access in a manner that would not inadvertently jeopardize sensitive cultural features and there is a capacity for management by either Program staff or through an agreement with a private landowner, may be added to the legal jurisdiction of the Program and subject to Chapter 13-130, Hawaii Administrative Rules"

3. Page 73, second paragraph - Trail Alignment

"Some of these segments are land-banked, ~~with the Department of Land and Natural Resources~~ via documentation that may include, but is not limited to, both the NAH Abstract data base, documents filed with the Historic Preservation Division, or approved Conservation District Use Applications, may technically be considered under the jurisdiction of the Land Division. The jurisdiction is challenged affected private landowner disputes the claim of state ownership and there is pending litigation. These features would remain in this condition until such time as either the NPS or NAH has resolved the ownership issue and has the capacity to manage them.

4. Page 97, first paragraph

"Within the 73 mile sections of trail, Na Ala Hele ~~owns 21 miles~~ has documented that approximately 21 miles bay be subject to the Highways Act and qualify as state owned. ***However, this mileage data conflicts with the 35 miles referred to in the Feasibility Study and previously mentioned on page 12.***

5. Page 192, Cumulative Impacts

"NPS management of confirmed state owned segments of trail could have long-term beneficial effects ~~on trail managmnet and~~ on the ~~relationship between Na Ala Hele and the NPS.~~ ability of both the state and the NPS to preserve and sustain ably manage intact segments of ala loa throughout the Big Island.

6. Page 206, Appendices – Appendix A: Relevant Legislation

In addition to HRS Chapters 520, 198D and 343, please add the additional HRS sections we had previously included in the Draft MOU as having application to regulatory aspects of Ala Kahakai NHT) 6E, 46-6.5, 171, 183C, 184, 205, 205A)

***There are two additional HRS Chapters that are also pertinent*: 115, Public Access to Coastal and Inland Recreational Area, and 264-1, Public highways and trails** (264-1 subsumed and codifies the Highways Act)

7. Page 259, draft MOU, "for DLNR" *add "Program Manger" next to "Na Ala Hele"*

8. General Comments

NAH defers to the DLNR Historic Preservation Division and State Park archeologists on details contained in the EIS relating to historic features and appurtenant regulatory and managmnet issues – and has intentionally directed comments only relating to the NAH Program and the specific issues associated with application of the Chapters 264-1 HRS (Highways Act).

It is challenging, if not impossible, to accurately assess the adequate degree of funding and necessary staffing associated with implementing either Alternative B or C. However, NPS should consider that the public expectation that may be fostered by the current and future publicity associated with the development of Ala Kahakai will make protecting un-funded and unmanaged sections of intact ala loa (and ancillary cultural features) very challenging and may also exacerbate trespass issues.

It has been the experience of NAH that once an initial trail corridor (in this case potential sections) is established, that the public may in specific locations attempt to link the sections via usage regardless of the degree of sustained management. This is partially why NAH has advocated Alternative B, concentrate efforts on a single authorized alignment – with the potential to phase in mauka-makai or parallel ala loa over time to recognize and manage features in a manner consistent with the traditional ahupua'a model. However, as stated before, NAH defers to NPS on the preferred Alternative based on the input solicited from the Big Island community.

While a community organization(s) will certainly be very valuable in the management and protection of various sections of ala loa that are incorporated into the project – this approach should not usurp NPS effort to obtain a sustainable staffing and funding base that can insure the perpetual management, once the aforementioned ownership issues are resolved and the alignment(s) is selected and open for public use.

One of the most important next steps is the formal adoption of the Draft MOU between the County of Hawaii, the State of Hawaii and NPS in order to initiate the working arrangement necessary to initiate the implementation of Ala Kahakai.

Mahalo for the opportunity to comment on the DCMPEIS.

Best Regards,

Curt A. Cottrell
Na Ala Hele Program Manager

c: Laura Thielen, DLNR Chair
Chris Yuen, Hawaii County Planning Director
Paul Conry, DOFAW Administrator
Brian Flower, HP
Holly McEldowney, SP Archeologist
Marianne Maigret, SP Archeologist
Tiger Mills, OCCL Planner
Roger Imoto, Branch Manager, DOFAW
Irv Kawashima Hawaii NAH Specialist
Clement Chang Hawaii NAH Specialist
Hawaii NAH Advisory Council

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUJI
FIRST DEPUTY

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESEERVATION DIVISION
601 KAMOKILA BOULEVARD, ROOM 555
KAPOLEI, HAWAII 96707

January 15, 2008

Aric Arakaki
Superintendent, Ala Kahakai NHT
73-4786 Kanalani Str., #14
Kailua-Kona, 96740

LOG NO: 2008.3810
DOC NO: 0801TS06
Archaeology

Dear Mr. Arakaki:

SUBJECT: National Historic Preservation Review – Section 106.
Ala Kahakai National Historic Trail, Draft Comprehensive Management Plan & Environmental Impact Statement
Island of Hawai'i

Thank you for the opportunity to comment on the aforementioned project. The management of the Ala Kahakai NHT is an ambitious and complex undertaking and will require the cooperation of many agencies in order to succeed. Thank you for considering our views on the Draft EIS. This Draft EIS evaluates the impacts of three alternatives of management for the NHT.

We concur, in general terms, that Alternative C is the preferred action alternative. Alternative A, no action, is not proactive enough to promote the long-term preservation or interpretation of the important cultural features along the trail, especially along those segments of trail not on NPS land. Alternative B, is limited in scope, and while it may accomplish the stated goals of preservation and interpretation, it does so only for a narrowly defined linear corridor. Alternative C, in contrast, places the values and world-view of the Hawaiians themselves at the center of the trail's management philosophy. Managing the multidimensional trail system within the paradigm of the Ahupua`a land use system is, first and foremost, culturally appropriate. In addition, treating the NHT more holistically and including broader elements of environmental and cultural stewardship will engage the public in the trial's development.

That said, the multiple jurisdictions and management authorities must be well planned and thoroughly thought through in order to avoid conflict or confusion over responsibilities on lands not owned by the National Park Service but potentially administered by them under this plan. As the plan states, consistency in the preservation, development, management and marking of the trail through various jurisdictions will be a challenge. The SHPD awaits further details in this regard and looks forward to the development of an appropriate Memorandum of Understanding with the National Park Service should this alternative be pursued. *Imua ka kou!*

Aloha,

Nancy McMahon, Acting Archaeology Branch Chief
State Historic Preservation Division
TS

LINDA LINGLE
GOVERNOR OF HAWAII

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUJI
FIRST DEPUTY

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AQUATIC RESOURCES
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CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

DIVISION OF STATE PARKS
POST OFFICE BOX 936
HILO, HAWAII 96721-0936

November 13, 2007

TO: Morris M. Atta
Land Division Acting Administrator

FROM: Glenn Y. Taguchi
Hawaii Parks District Supt.

SUBJECT: Draft Ala Kahakai National Historic Trail Comprehensive Management Plan and Environmental Impact Statement

We favor the development of a comprehensive Ahupua'a Trail System for the Ala Kahakai National Historic Trail. The challenges we foresee include, but are not limited to the following:

1. Funding for infrastructure development, including compliance with ADA guidelines;
2. Agreement with private land owners/developers and State and County governments;
3. Camping, especially on private property and culturally sensitive areas;
4. Security at the starting points where vehicles may be parked for long periods of time and at designated camp sites that may be easily accessible;
5. Accessibility to medical attention;
6. Illegal commercial activity on government lands; and
7. Issues of carrying capacity.

c: SP Administration

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2007 NOV 15 A 10: 19
DEPT. OF LAND & NATURAL RESOURCES
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OFFICE OF CONSERVATION AND COASTAL LAND
POST OFFICE BOX 621
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REF:OCCL:TM

Correspondence: HA 08-82

DEC 10 2007

MEMORANDUM

TO: Morris Atta, Acting Administrator
Land Division

FROM: Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

SUBJECT: Draft Ala Kahakai National Historic Trail Comprehensive Management Plan and Environmental Impact Statement Located on the Island of Hawaii from Upolu Point, North Kohala to Hakuma Point, Puna

The Office of Conservation and Coastal Lands (OCCL) has reviewed the subject document and supports the rejuvenation of the Ala Loa. Proposed land uses within the Conservation District shall be reviewed by the Department to determine what type of authorization may be required prior to implementation. We request that our Conservation District rules and regulations noted as the Hawaii Administrative Rules, Chapter 13-5 be included in Article II: AUTHORITY of the Draft Memorandum of Understanding located in Appendix F.

The National Park Services may wish to apply for a blanket authorization Conservation District Use Permit to implement minor land uses such as signage and trail identification markers for areas within the Conservation District for the entire trail length to insure consistency of trail indicators.

LINDA LINGLE
GOVERNOR

BRENNON T. MORIOKA
ACTING DIRECTOR

Deputy Directors
MICHAEL D. FORMBY
FRANCIS PAUL KEENO
BRIAN H. SEKIGUCHI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

STP 8.2742

January 9, 2008

Superintendent
National Park Service
U.S. Department of the Interior
Ala Kahakai National Historic Trail
73-4786 Kanalani Street, #14
Kailua-Kona, Hawaii 96740

Dear Superintendent:

Subject: Draft Comprehensive Management Plan and Environmental Impact Statement
Ala Kahakai National Historic Trail, Island of Hawaii

We have the following comments on the proposed plans for the subject trail:

1. We understand the path of the trail will need to be further researched and surveyed to determine actual conditions along the trail, path size and alignment/direction for the trail.

2. Locations where the trail path will or may cross or abut any of the lands, easements or right-of-way under our jurisdiction will need to be identified. Advance consultations with our Department and the respective affected division (airports, harbors and highways) should be done so that any impacts, conditions or requirements of use, and necessary documentations can be addressed. This would include responsibilities for work, construction, and funding of any tasks associated with implementing the path of the trail.

3. While the possibility of additional locations exist, locations where possible impacts on our transportation facilities could occur are: Kona International Airport at Keahole (KOA), State Route 160 (Ke-ala-o-Keawe Road to the City of Refuge), and Kawaihae Harbor. Specific sites at the airport and harbor will have to be identified and delineated by the National Park Service. The Draft EIS made general statements related to the trail at or around Kawaihae Harbor. Our Harbors staff looks forward to getting clarifications from the National Park Service regarding the trail going through our harbor facility. Our Airports staff noted that the trail might have been affected by construction work of certain portions of KOA Airport.

STP 8.2742

4. Since further work and details associated with the trail will need to be done by the National Park Service, we will need to reserve the right to examine, evaluate and comment on these plans by the National Park Service when they relate to locations where the trail affects or enters our facilities.

We appreciate the opportunity to provide our comments.

Very truly yours,

Francis Paul Keno

for BRENNON T. MORIOKA, PH.D., P.E.
Acting Director of Transportation

BOB JACOBSON
Councilmember

Chair, Environmental Management Committee
Vice-Chair, Finance Committee

333 Kīlauea Avenue, Second Floor
Ben Franklin Building, Hilo, Hawai'i 96720

Mailing Address: 25 Aupuni Street, Suite 200
Phone: (808) 961-8263
Fax: (808) 961-8912
E-Mail: bjacobson@co.hawaii.hi.us

HAWAI'I COUNTY COUNCIL

County of Hawai'i

December 4, 2007

Superintendent
Ala Kahakai National Historic Trail
73-4786 Kanalani Street, #14
Kailua-Kona, Hawai'i 96740

Re: Comments in Response to the Draft Comprehensive Management Plan & Environmental Impact Statement for the Ala Kahakai National Historic Trail

Aloha:

Upon reviewing the draft management plan and EIS relating to the Ala Kahakai National Historic Trail, I deem Alternative C the most sensible. It is important to ensure access remains open from the mauka end to the makai end of the trail, as the trail was a traditional means of communication for native Hawaiians in ancient times. Ke Kānāwai Māmalahoe, The Law of the Splintered Paddle, allows all travelers safe passage on public roadways and trails, not only from being assaulted by our fellow man, but also from any attempt to prevent free passage on an established trail. This historic law has laid the foundation for modern public safety in the State of Hawai'i; thus, it must be honored.

The Ala Kahakai is a treasure that must be preserved for all to enjoy. I will be introducing legislation to support the prohibition of sales of trail remnants until the management plan is finalized. Please contact me should you feel the need for further clarification on my opinions expressed here.

Mahalo,

Bob Jacobson, Member
Hawai'i County Council

BJ/mf

District 6 ~ Upper Puna, Ka'ū, and South Kona
Hawai'i County Is An Equal Opportunity Provider And Employer

Ray Broggini
Ala Kahakai Trail Association
PO Box 6030
Kamuela, HI 96743

Aric Arakaki, Superintendent
National Park Service
Ala Kahakai National Historical Trail
73-4786 Kanalani Street, #14
Kailua-Kona, HI 96740

December 30, 2007

Dear Superintendent Arakaki,

What a pleasure to receive the CMP/EIS for the Ala Kahakai Historical Trail and to hear your informative presentations at the public gatherings for comments in November.

The request period will I hope bring further clear and useful ideas on board. Mahalo to you and your entire staff for making a reality out of ideas. We have so many people and organizations to thank for the progress so far and are humbled and grateful at the results we have seen.

The Ala Kahakai Trail Association is currently being organized specifically to support the NPS in the implementation of the trail plan. It recognizes the public purpose of the legislation that established the Trail and will appropriately and actively support the NPS with historical trail preservation, management, and public use as currently cited in all of the proposed management alternatives of the CMP.

As the CMP states, it is acknowledged that the success of the initiative rests in the hands of our local communities with support from government and private organizations. Working within a broad range of community interests, the Ala Kahakai Trail Association will play a pivotal role in acquisition and coordination of the delivery of funding support and resources to the NPS and to the many communities involved with Trail use and management.

We look forward with much Aloha and Gratitude to working with all involved organizations now and in the future as we build our capacity to bring the Trail both "back" from its history and forward into the future. Mahalo a nui loa for allowing us to be of service on this most important part of Hawaiian culture.

With gratitude,

Ray Broggini (MD)
Board Member
Ala Kahakai Trail Association

cc. Yvonne Yarber Carter
Keoki Carter

E MAU
NA ALA HELE
P.O. BOX 6384
KAMUELA, HAWAII 96743

"To perpetuate Hawaii's Trails for Hawaii's People"

30 December 2007

Mr. Aric Arakaki
Superintendent
Ala Kahakai Nation Historic Trail
73-4786 Kanalani St. #14
Kailua – Kona, HI 96740

Dear Superintendent Arakaki:

We, E Mau Na Ala Hele, wish to comment on the Ala Kahakai National Historic Trail Draft Comprehensive Management Plan. Our non-profit trails advocacy group was instrumental in helping achieve official recognition of the Ala Kahakai as a National Historic Trail. We have been actively hiking, documenting, and working to protect ancient and historic Hawaiian trails for almost thirty years, and wish to continue our involvement in planning, managing, and protecting this trail.

In agreement with the management plan, we prefer Alternative C: the ahupua'a approach for a system of trails. Including certain selected mauka-makai, parallel, and connecting trails will provide a richer and more realistic interpretation of Hawaii's trails and history. It is commendable the planners wish to include canoe water routes as an integral part of the coastal trail system. We would, however, like to caution that developing of the mauka-makai and other connecting trails should not overshadow identifying, preparing, and opening the main lateral shoreline trail. If resources are limited, we advise selecting and concentrating on a few important trail hubs with the major mauka-makai trails, keeping the priority highest on the linear shoreline trail.

The management plan clearly states that to make Alternative C come to fruition, a very robust non-profit trail partner will be required. This is a major concern of E Mau Na Ala Hele. We offer our continuing strong support as a trail partner. With our large and interested membership, we feel we have great potential to fill this very critical need.

We also believe trail management through partnership with local communities and families with traditional ties to the land, is vital. Where families or local community groups cannot be identified, the NPS should partner with other organizations interested in stewardship of the trail.

We are very pleased the Comprehensive Management Plan is nearing completion so work identifying, and opening the various trail segments to the public, can begin. We hope this process can move forward expeditiously so there will be feet on the ground on approved and accessible trail sections as soon as possible. We urge the timely preparation of

infrastructure necessary to open the planned 15-year targeted area of Kawaihae to Pu'uhonua o Honaunau. We also urge as much protection and preservation as possible for areas of the trail outside of the initial targeted area. Being present on the trail through volunteer projects, hiking, education, and outreach, is one method of preserving and perpetuating the trail.

An additional aspect of the trail we feel should not be overlooked is the history of other ethnic immigrant groups such as the Japanese, Chinese, Portuguese, Koreans, Puerto Ricans, and Filipinos as well as explorers, missionaries, whalers, and others who have contributed to the rich history of Hawaii. Their stories, too, are important at different places along the trail, and, where applicable, should be recorded and celebrated.

E Mau Na Ala Hele concurs the CMP is an excellent working plan, and now, before more of the trails are lost, is the time to move forward. We offer our full support to the Superintendent and the NPS in volunteering as a 501 (C)(3) non-profit partner to help realize the goals of this management plan.

Sincerely and with aloha,

Barbara Schaefer

Barbara Schaefer
President,
For the Board of Directors
E Mau Na Ala Hele

cc: Meredith Kaplan, Project Manager
Jon Jarvis, Pacific West Regional Director
Board of Directors, E Mau Na Ala Hele

HISTORIC HAWAI'I FOUNDATION

November 9, 2007

Arik Arakaki
Superintendent
Ala Kahakai National Historic Trail
Kaloko-Honokōhau National Historic Park
74-4786 Kanalani Street, #14
Kailua-Kona, HI 96740

RE: Draft Comprehensive Management Plan for Ala Kahakai National Historic Trail

Dear Mr. Arakaki:

Thank you for providing the opportunity to comment on the Draft Comprehensive Management Plan for Ala Kahakai National Historic Trail.

Since 1974, Historic Hawai'i Foundation (HHF) has been a statewide leader for historic preservation. HHF's mission is to preserve and encourage the preservation of the historic buildings, places, objects and communities of Hawai'i.

Historic Hawai'i Foundation congratulates you and the planning team on the thoroughness and thoughtfulness of the alternatives included in the draft Comprehensive Management Plan. This kind of long-range planning is critical to understanding the vision, goals, strategies and opportunities available to the Historic Trail and the community. While we recognize that the hard work of identifying resources and making shorter-term management decisions remains, the plan itself will help to guide and focus those efforts.

I would like to reinforce the comments made during the public outreach: the physical preservation of the historic places and resources is critical; and that the associated perpetuation of native Hawaiian history, culture, beliefs and stories is as necessary as protection of the land and historic sites.

Historic Hawai'i Foundation concurs with the preferred alternative set forth in the draft CMP. By broadening the concept of the trail from a linear transportation corridor to an important link in the ma uka-ma kai and ahupua'a systems, a more complete understanding and commitment to the cultural landscape is possible.

The concept of a community-based management model that includes a sustainable, traditional and culturally-sensitive approach to reclaiming of the trail by the local community is also very exciting. While it promises to be challenging at times, this management model is important to community-building. It recognizes the role of the National Park Service as a partner in protecting resources and managing the natural and cultural resources of the Trail.

680 Iwilei Road, Suite 690 / Honolulu, Hawai'i 96817 / Tel (808) 523-2900 / Fax (808)523-0800
Email preservation@historichawaii.org / Web www.historichawaii.org

Please let me know if you need any additional information. We look forward to the completion of the planning process and the successful implementation of the final Comprehensive Management Plan.

Very truly yours,

Kiersten Faulkner

Kiersten Faulkner, AICP
Executive Director

Ho`okuleana LLC
... to take responsibility ...

Peter T. Young
1539 Kanapu`u Drive
Kailua, Hawai`i 96734
(808) 226-3567
PeterYoung@hawaii.rr.com

December 24, 2007

Superintendent, Ala Kahakai NHT
73-4786 Kanalani Street, #14
Kailua-Kona, HI 96740

Subject: Ala Kahakai National Historic Trail Draft Comprehensive Management Plan & Environmental Impact Statement

Dear Superintendent:

As a consultant on behalf of North Kona Village, LLC, I offer the following comments regarding the Ala Kahakai National Historic Trail (NHT) Draft Comprehensive Management Plan and Environmental Impact Statement (EIS).

We want to note a correction to the information provided on page 35 of the EIS:

> *O'oma Development: Planning continues for this private development. Adjacent and north of Kohanaiki, it includes residential uses, an 18 hole golf course, a public shoreline park with facilities and camping, and an alignment of the Ala Kahakai NHT as the existing shoreline trail.*

The private development planned for 'O'oma no longer includes plans for an 18-hole golf course.

North Kona Village, LLC owns approximately 301 acres at 'O'oma:

- 217.56-acre parcel identified by Tax Map Key (3) 7-3-09:04.
- 83-acre parcel identified by Tax Map Key (3) 7-3-09:22.

Two historic trails run through the 'O'oma property: the Mämalahoa Trail/Old Government Road and a shoreline trail, which is proposed to be part of the Ala Kahakai National Historic Trail system.

We understand that your preferred alternative "C" (ahupua'a trail system) includes these two trails to be part of the Ala Kahakai National Historic Trail system, as shown in Map 12 on page 100 of the EIS.

The proposed plans for 'O'oma will preserve the Mämalahoa Trail in place with a buffer on both sides. The historic Mämalahoa Trail is approximately 10 feet wide within a 30-foot wide easement and runs north-south through the property. A buffer of 50 feet on both sides of the Trail will remain undisturbed. Therefore, the Mämalahoa Trail with the buffer will provide a 110-foot wide open space corridor, which is approximately 2,520 feet long, and includes approximately seven acres. There will also be an additional 60-foot building setback from the buffer on both sides.

Do well by doing good.

The Ala Kahakai National Historic Trail is located within the property area designated as shoreline park and coastal preserve. The 18 acres along the shoreline will be designated as a public shoreline park, and will be an extension of the beach parks planned at The Shores at Kohanaiki and NELHA. The shoreline park will include parking, comfort station, and a cultural public-use facility. These park building improvements will be located approximately 330 feet away from the shoreline and outside of the shoreline setback area.

The 57 acres mauka of the shoreline park will be designated as coastal preserve. The coastal preserve contains known archaeological and cultural sites, including burials. Therefore, to protect the integrity of these sites, the coastal preserve will remain generally undisturbed and development will be prohibited, with the exception of trails between the community and the shoreline.

As demonstrated in our proposed plans for 'O'oma, we support the idea of preserving and improving the trails and allowing public access over them, and therefore, we would like to work with the National Park Service in this effort.

We look forward to discussing future trail plans with you. Should you have any questions, please do not hesitate to contact me at 226-3567.

Sincerely,

Peter T. Young

CC: Dennis Moresco, North Kona Village, LLC
Steven Lim, Carlsmith Ball LLP
Thomas S. Witten, PBR HAWAII

KAMEHAMEHA SCHOOLS

Superintendent, Ala Kahakai NHT
73-4786 Kanalani Street, #14
Kailua-Kona, 96740

December 20, 2007

Dear Superintendent of the Ala Kahakai,

The Kamehameha Schools Land Assets Division would like to take this opportunity to provide public comment on the Ala Kahakai Comprehensive Draft Management Plan and Environmental Impact Statement. The proposed trail corridor that extends from Hawī to Volcanoes National Park along the coast of Hawai'i Island has a number of important trail systems that were built by Native Hawaiian ancestors in both pre-contact and early historic times. Within this corridor are a number of important landholdings that are part of the land legacy passed down to Ke Ali'i Bernice Pauahi and tracable to the lineages of Kohala and Kona chiefs that aided Kamehameha I in the unification of the Hawaiian Islands. These landholdings include:

District	Ahupua'a
Kohala:	Pu'uepa, 'Upolu, Puanui,
N. Kona:	Ka'ūpūlehu, Makalawena, Pua'a, Kahalu'u, Keauhou 1, Keauhou 2
S. Kona:	Kahauloa, Ke'ei 1, Ke'ei 2, Hōnaunau, Keōkea, Keālia 1
Ka'ū:	Pākini Nui, Pākini Iki, Kawela, Punalu'u, Hionamoa, Pā'au'au.

The Kamehameha Schools supports the National Park Service's efforts protect and preserve the ancient and historic trails within the corridor from increased pressures of population growth and urbanization. These trails provide critical paths and connections to resources and places for Native Hawaiians to practice and maintain traditional lifestyles. We are concerned however that the proposal to build a continuous trail system that extends from Hawī in to Volcanoes National Park would result in serious adverse impacts and problems for landowners. We feel that any alternative that links historical properties by modern connectors violates the history and spirit in which these trail systems were originally constructed. These alternatives serve and promote the interest of recreational activities over the maintenance of traditional lifestyles and stewardship.

As land managers, we know that undirected and anonymous public access will lead to a number of potential adverse impacts to these land areas. The inability to account for human activities will result in undesirable trail behavior which will lead to compounded problems for landowners that include: the criminal trespassing into adjacent private properties, impacts on the integrity of associated cultural resources (such as modification or destruction of sites) as well as rare and endangered natural resources, vandalism, and theft (or looting). Greater access will require

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KAMEHAMEHA SCHOOLS

larger community support and more funds by State and Federal agencies towards enforcement and protection. The current plan does not provide adequate resources to address these issues.

Kamehameha Schools Land Assets Division would like to you to consider an older alternative that was put forth as an option. **Alternative D: "Historic Trail Clusters"** calls for the restoration and certification of authentic historic trail segments only. This alternative does not include the construction of non-historic connector trails that would result in a continuous coastal trail. This option honors and protects actual historical trail segments built by our ancestors and supports the continued local usage of trail clusters by living descendents. We feel this option would help discourage irresponsible behavior associated with unaccounted transient movement from one area to another.

In the event that the Alternative D: Historic Trail Clusters could not be revisited, we would then advocate for **Alternative A**: **"No Action"** that assumes that existing programs, facilities, staffing and funding would generally continue at current levels. The Ala Kahakai NHT would consist of trail segments within the four national parks through which it passes and only a few other segments, likely on state lands.

Mahalo for your time and the opportunity to comment,

Kekuewa Kikiloi

Kekuewa Kikiloi

Cultural Assets Manager
Kamehameha Schools
Land Assets Division

567 SOUTH KING STREET HONOLULU, HAWAI'I 96813 TELEPHONE (808) 523-6200 FAX (808) 523-6374

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Ka'u
FARM & RANCH COMPANY

January 17, 2008

Aric Arakaki
Superintendent
Ala Kahakai National Historic Trail
73-4786 Kanalani Street, #14
Kailua-Kona, Hawai'I 96740

Dear Aric:

I have had the opportunity to review the Ala Kahakai National Historic Trail Draft Management Plan and Environmental Impact Statement dated August 2007.

As a landowner within the project area I have some concerns:

First: The project is designated as a National *Historic* Trail. The definition of historic implies that the trail exists or has existed in history. While it is documented that this trail does, or did, exist in many places, the trail corridor you have outlined in the Draft Management Plan does not accurately follow the existing trail. It is misleading to designate a *Historic* trail corridor that is interpolated and does not follow the documented or physical trail alignment. If we are to preserve a *Historic* trail, it should follow the trail as it exists, or existed, on the ground and should be supported by historical documents and field surveys.

Second: All of our land is leased to agricultural enterprises. I think your management budget is woefully inadequate to cover fencing, signage, and insurance necessary in order to indemnify landowners, farmers, and particularly ranchers. Who will pay for the miles of fencing, and maintenance of that fencing, that will be required to keep livestock separated from hikers? Who will bear the burden of liability on a trail, which is open to the public, and may be potentially unsafe due to underfunded management?

Third: Many of the vast archaeological and environmental resources that have been preserved for centuries have survived due to managed access by landowners. When you interpolate a trail, that does not now exist, publish maps, and invite the public to tour these sites, with an inadequately defined and underfunded management plan for protection of these resources, you put the resources in jeopardy. This, I believe, would be counterproductive to your goals.

Fourth: I think you need to actively and directly seek out and engage ALL affected landowners. My suggestion is that you involve them directly in this process, particularly when you are planning a project on their land. What is most troubling to me is that at a public meeting that I attended, in Pahala, on November 7, 2007, the spokesman told the group that the Ala Kahakai National Historic Trail Project is a vehicle to use Federal funding to stop development. This is clearly a taking of property rights without just compensation, which raises multiple legal

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questions. If you are seeking voluntary landowner participation in this project, this certainly is not the right approach and is not pono.

While I believe the Ala Kahakai National Historic Trail is a worthy and honorable project, and I believe it would be a valuable and important amenity for the community, I think is should follow the existing *Historic* trail alignment, its management should be adequately funded and you should actively engage ALL stakeholders, particularly landowners, whose properties would be directly affected.

I would be happy to participate in further discussions on this project. Please let me know of any future events or opportunities to participate.

Mahalo for this opportunity to comment.

Sincerely,

Chris Manfredi

Pahualiikoaokaawaloa

Kūlana Huli Honua
Foundation of the Search for Wisdom
a Non-Profit, 501-C3 Organization
Mikahala Roy, Executive Director

Aric Arakaki, Superintendant
National Park Service
Ala Kahakai National Historic Trail
Kaloko-Honokohau NHP
74-4786 Kanalani St. #14
Kailua-Kona, Hawaii 96740

November 5, 2007

Dear Superintendant Arakaki:

Probably the most important aspect discussed at the public meetings regarding the Ala Kahakai National Historic Trail is the statement made by former President William Clinton that has became a lawful instrument now referred to readily as the Apology Bill. In this bill, former President Clinton acknowledges the unlawful acts perpetrated by the United States related to an attempted overthrow of the lawful Hawaiian Kingdom government of these Hawaiian Islands.

As such, it is acknowledged that the United States is a government that occupies Hawaii; that the Hawaiian Kingdom still exists with all laws governing the well being of the lands of the pae 'aina standing intact.

The programs and plans that you work hard to create with the people of these islands will find success, Ric, not because of the government you represent, but because of the nature of you, their man in charge and your relationship with the people. I am President of Kulana Huli Honua, Foundation of the Search for Wisdom at Kamakahonu, Kona. We are among many people and organizations who will work with you because we know your commitment to the aspect of life, to the word 'Oiwi know well as "pono".

We work gladly with you and the people of our communities toward a healthy and happy future in Hawaii. What happens when the laws of the Kingdom of Hawaii and those that govern the U.S. differ in semantics when it comes to the care of sacred lands? We find ourselves in court over such differences at this time. Hawaiians are not in comfort as they participate in meetings such as this.

All lands in Hawaii are sacred. Kulana Huli Honua feels that all truths of the past that are part of an oral society must be respected and supported by the occupying government. Sacred ceremony such as that which occurs at sacred sites should not be forced to be open to those who are there only in curiosity. I am a Kahu of Keolonahihi which is part of Kaluaokalani also and the care of that area will not follow a national park plan, it will follow the traditional plan determined by

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those people who have inherited the care of this place. "Pono" is the condition that will guide the outcomes.

I, as President of this organization and a Kahu of Ahu'ena Heiau, will submit another letter to you giving more testimony related to this Draft Comprehensive Management Plan & EIS. I have not had the time to sufficiently review and comment on this draft although my father, the late David K. Roy, Jr. and I were at more than one of the community meetings and welcomed you to use our Kulana Room office for one of your meetings held on our island. Presently, my organization is a party to a lawsuit so as you can see, the need to defend sacredness is and continues to be the order of the day in Hawaii.

I am also vice-president of Na Kokua Kaloko Honokohau, I know that this organization will wish to make full comment on this Draft and we will be pleased to do so. As you know, kupa, or natives to Kona created the opportunity and then helped pass the law to enable the creation of the Kaloko-Honokohau National Cultural Park. The name was changed to become the Kaloko-Honokohau National Historical Park without the consent of those persons who formed the park. Culture speaks to a living thing that needs care and funding to go toward the flourishing of cultural activities. Historical refers to something that can be reduced, and I do mean reduced, to writing. The bible will never take the place of the words, practices and historical movements of Jesus, a Master.

People who are not among the established families of the land of Hawaii may not guide or be sole decision makers regarding the future of these lands. The concepts you hold in your purview I believe have the makings of sure footing for footsteps to be taken on our path. Namely, the federal occupying government should place resources to help to support and identify the way of life of the first people of these islands, posthaste, such that we lose no more of the traditions that only Hawaiians can give the world.

After this fashion, Kulana Huli Honua is a group that appreciates your good time and expertise. Mahalo to you for your special kokua to me as a traditional guardian of Kamakahonu and to your support to those who support Kamakahonu on a daily basis. I might say here that on page 8 your failure to name Kamakahonu as the land place it is is somewhere that I may start to make comment. However, I do believe you quote Mr. Ross Cordy who was reprimanded for using work time toward writing a publication, "Exalted Sits the Chief" sharing the wealth of historical information he was privy to as a SHPD worker for the state of Hawaii for his own gain in this publication he gains royalties on. "Royal Centers", "royalties" – the use of the words are similar. Why not stay with the Hawaiian words such as Pa alii (enclosures of the alii) as they've been called for generations before us.

We are pleased that Ahu'ena Heiau is depicted upon the cover of this publication not because we look forward to help from the United States with its past history of harm to Hawaiians and to these islands, but because many people will gaze upon this report and they will behold my father's and many other's work – the work of the chiefs before him – the work that was meant to be "felt" by all human beings. The feeling for this and all sacred sites is the presence of Divine Creator.

Sincerely,

Mikahala Roy

Mikahala Roy, President
Kulana Huli Honua

2

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December 31, 2007

Ala Kahakai National Historic Trail
73-4786 Kanalani Street, #14
Kailua-Kona, HI 96740
(808) 326-6012

Aloha Kakou:

We wish to respond to the request for public comment on the Ala Kahakai National Historic Trail (NEPA Comprehensive Management Plan/DEIS) as published in the OEQC November 8th, 2007 issues (12/31/07 comment deadline).

We had the opportunity to hear about the various alternatives for the trail system at a meeting in Waimea and strongly support Alternate C as the best option for preserving and managing the rich cultural heritage of the Ka'u-Kona-Kohala coasts.

First and foremost, it is clear that Alternative C will require the most resources in terms of time, funding and coordination with other agencies. PATH, a 21 year old bicycle and pedestrian advocacy organization, has a mission to help connect the people and places on Hawaii Island with pathways and roadways. In pursuit of our mission, PATH is willing and able to be a partner in the need to educate the public on the proper use of this trail system. We recognize the significant public demand for access must be properly balance with management and stewardship of the land. If we can be of assistance in this way, please let us know.

Secondly, we also want to emphasize that with the significant timeline it is important to open smaller sections of trail for people to access. This is especially important for the *kupuna* of our community, many of whom once knew these lands though fishing, ranching or other subsistence means, and still harbor a desire to experience these lands with their families. One way to do this is to look at smaller, looped sections of the trail system which use the existing mauka-makai connections to create hikes for a variety of users. The looped sections would add value by reaching established trailheads and providing greater connectivity to biking and hiking circulation routes. Two such loops are:

1) Kohala Bay Trail – extend mauka to connect with Mamalahoa Highway
2) Mamalahoa Trail – extend south to Makala Blvd. to connect with Shared-use path under contruction from Henry St.

Regarding the end points of the Ala Kahakai trail system, we strongly urge the National Park Service to:

1) Maintain connectivity to the historic fishing village of Ho`okena by making this the initial southerly terminus of the trail. Ho`okena Beach Park is a very logical trailhead. Ho`okena is also the southern terminus of the 60-mile Kona Heritage Corridor (along the Mamalahoa Highway from Pu`uwa`awa`a).
2) Make development of the north section from Lapakahi to Upolu Point a priority area due to the current open space afforded now that will become more and more difficult to preserve as demand for development spreads to this region.

In addition to the coastal routes, there are many other historic trails that the community development plan process has illuminated as important cultural and natural resources. These trails provide important connectivity to major places of education, commerce, and residential neighborhoods. It's critical to make them a part of the trail system to create destinations within the trails system. These include:

- Judd Trail (between Ali`i Drive and Mamalahoa Highway)
- Hawai`ian Railroad Company (between Mahukona and Upolu Point)
- Kona and Kau Railway (Honuaula to Onouli)
- Kau Sugar Company (Honuapo to Na`alehu)
- Kau Sugar Company (Pahala to Punalu`u)

The proposed Auto Route should also include bicycling accommodations as an alternative to the automobile. The potential as a destination for eco-tourism is enormous but more importantly, this will become a backbone to viable and safe transportation alternatives for residents wishing to use a bicycle as their primary means of transportation.

As a next step, we strongly urge the National Park Service to conduct a GPS centerline survey as soon as possible to begin to generate trail alignment, adjacent property ownership and jump start the future meets and bound survey process.

PATH remains a willing partner in the execution of this ambitious and important trail system for Hawaii Island.

Mahalo Nui Loa,

QUEEN EMMA LAND COMPANY

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November 26, 2007

Mr. Aric Arakaki
Superintendent
Ala Kahakai National Historic Trail
74-4786 Kanalani St. #14
Kailua-Kona, HI 96740

Re: Comments on Ala Kahakai Trail Draft Comprehensive Management Plan and EIS

Dear Mr. Arakaki:

As requested in your October 1, 2007 letter, Queen Emma Land Company comments to the *Ala Kahakai National Historic Trail Draft Comprehensive Management Plan and EIS* are provided in this letter.

As quoted below, the purpose of the trail is admirable, and serves as a desired end product of the management plan.

> -- Preserve, protect, reestablish as necessary, and maintain a substantial portion of the ancient *ala loa* and associated resources and values;
>
> -- Provide for a high quality experience, enjoyment and education -- guided by Native Hawaiian protocol and etiquette -- while protecting the trail's natural and cultural heritage and respecting private and community interests. (pg. 15)

Please note Queen Emma Land Company's comments numbered below. The common thread to our comments is the actions and responsibilities of the various stakeholders, to natural and man-created events, as guided by the trail management action plan

1. In natural disasters such as an earthquake, tidal wave, erosion, and fire, what would be the trail management actions immediately prior, during, and after the disaster to protect life and property. If the disaster results in a trail section disappearing in a fully developed area, would a new trail be created in the developed area or would that section of trail cease to exist?

2. What would trail management do should man-created events result in damage to life and property. For example, what actions would the trail management take should people use the trail to access and desecrate caves located off the trail? Who is responsible to repair the cave damage and what would the various stakeholders be able to do to prevent future cave desecration?

3. Is there a timetable and benchmarks to achieve the purposes of the management plan? How will the people involved with trail management know if the management plan purposes are being achieved in an efficient manner? Will there be enough flexibility and financial resources to more efficiently achieve the purposes of the management plan?

Thank you for considering Queen Emma Land Company comments on the draft management plan. We commend you and the National Park Service in attempting to bring together the Ala Kahakai Trail.

Please contact us if there are any questions.

Sincerely,

Stuart C. Lau

Stuart C. Lau

Water Resources Research Center
Environmental Center

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MĀNOA

December 21, 2007
RE:0770

Superintendent
Ala Kahakai National Historic Trail
73-4786 Kanalani Street, #14
Kailua-Kona, HI 96740

Dear Superintendent:

Draft Comprehensive Management Plan and
Environmental Impact Statement
Ala Kahakai National Historic Trail
West Hawaii

The Comprehensive Management Plan/Environmental Impact Statement (CMP/DEIS) provides long-term direction for resource preservation and visitor use of the Ala Kahakai National Historic Trail. It was developed in consultation with National Park Service park and program managers; interested parties including landowners, native Hawaiian and trail groups; and the general public, and is based on an analysis of existing and projected natural and cultural resource conditions, visitor experiences, and environmental impacts, and costs. It primarily provides a framework for community management system and a vision to be fulfilled through future actions. The legislation authorizing the national trail identifies an approximately 175-mile portion of prehistoric *ala loa* (long trail) and other trails on or parallel to the seacoast extending from 'Upolu Point on the north tip of the Big Island down the west coast of the island around Ka Lae (South Point) to the east boundary of Hawai'i Volcanoes National Park.

General Comments

Alternative C as described in the draft management plan and environmental impact statement seems to be the most desirable one from a management standpoint. Alternative C involves state, county, public interest and private land owners in a meaningful way in managing the National Historic Trail. This alternative offers resources to those entities involved in helping manage the trials and adjacent areas. It helps the county fulfill its requirement to provide lateral easements to the shoreline insuring access to residents and visitors. Our concern is that this is also the most expensive alternative and we wonder whether sufficient funds will be available to implement this alternative. We note that part of the funding effort will include monies raised by community-based organizations. Many

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community-based organizations are capable of raising large sums of money in support of public facilities, the Friends of Public Television and Friends of Waikiki Aquarium are just two examples. There is no guarantee that sufficient funds will be raised to fully implement the plan described in Alternative C. We wonder what the Park Service will do in the event that fund raising efforts fall short of expectations.

Community Vision for the Trail (p. 15)

It is not clear from the narrative in this section how the community was involved in developing the community vision. Was there a series of meetings with the community or did it occur only at one time during the scoping process?

Gaps in Information and Research Needs (p. 29)

How long do you estimate it will take to research the trail and surrounding areas? Do you foresee the information being obtained within the life span of the management or is this a long-term project that may be completed at some time in the distant future?

Resource Protection (p. 40)

The use of volunteer docents along the trail will not only help with public education, but is another way to get visitors to comply with park rules. The experience at the Hanauma Bay Nature Preserve is that compliance with park rules is enhanced by the presence of volunteer docents.

Participation in Planning and Implementation of a Joint West Hawaii Parks Museum Facility (p. 43)

When do you envision that the West Hawaii Parks Museum will be built, designated or otherwise implemented? Do you foresee the National Park Service as the prime mover to get the facility built? Are you contemplating involving commercial firms as part of a partnership?

Potential User Capacity Indicators and Related Management Actions (p. 60-61)

In the list indicators of user capacity is the number of fires along the trails and the number of injuries. As more people hike the trails, the likelihood of more fires started by accident and more people getting injured could be indicators of over use. To the final indicator on page 61, we suggest that scheduling visit by large groups may help with crowding around important sites along the trail. Tour companies could voluntarily work with the park staff to schedule tour buses along the auto tour route or the park rules could require companies to schedule bus tours. Both the Arizona memorial and Hanauma Bay Nature Preserve require some form of group scheduling.

Alternative C: Funding--Administration (p. 98)

The reference to Alternative B in the second paragraph of this section should be Alternative C.

Alternatives Considered But Eliminated From Detailed Study (p. 104)

We believe the place name Hoyokena in the last paragraph on this page is misspelled. It should be Ho'okena.

Impact Terminology (p.141)

Although many documents of this type list impacts as adverse or beneficial, we would like to point out that these are value laden terms. Impacts that may be beneficial to one group may be adverse to another group. One example is the filling of a valley when a dam is built. Recreational boaters and fishers enjoy the benefit of the use of an artificially created lake while the people who may have inhabited the valley lose their place to live. We would rather see the impacts listed for each alternative and leave it to the reader to determine whether the impact is beneficial or adverse.

Effects on Special Status Species From Alternative A: No Action (p. 171-172)

In addition to the impacts to rare, threatened and endangered species (RTE) listed in Alternative A (the no action alternative), we believe another threat exists. If private parcels are sold and developed, we believe that the potential for major impacts to RTE could occur.

Final Comment

We understand the need to move the plan along, but we believe that public participation in the review of the draft CMP and the EIS would have been greater if it did not coincide with the holidays.

Sincerely,

Peter Rappa
Environmental Review Coordinator

cc: OEQC
James Moncur, Water Resources Research Center

Wailea Property Owner's Association

PO BOX 1537 • Kamuela, HI 96743 • TELPHONE (808) 885-7053 • FAX (808) 885-4716

October 04, 2007

Superintendent
Ala Kahakai National Historic Trail
73-4786 Kanalani Street, #14
Kailua-Kona, Hawaii 96740

Dear Sir:

As a 30 year resident who lives on the Ala Kahakai Trail, I understand the importance and historical significance of the trail.

In a recent article in the West Hawaii Today newspaper, it indicated that you are accepting suggestions for various uses over the trail.

I only have one, and that is to keep the trail free of vehicular access. Anything on wheels especially when propelled by noxious fuels can only advance the destruction of a beautiful historic trail. Let's keep it to foot traffic only.

Sincerely,

William T. White, III
President
Wailea Property Owners Association

Deborah L. Chang
P.O. Box 202
Pa`auilo, HI 96776
December 30, 2007

Mr. Aric Arakaki
Superintendent
Ala Kahakai National Historic Trail
73-4786 Kanalani St., # 14
Kailua-Kona, HI 96740

Dear Mr. Arakaki:

SUBJECT: Ala Kahakai National Historic Trail (NHT)
Draft Comprehensive Management Plan (DCMP) & Environmental Impact Statement (EIS)

As one of the founders of the E Mau Nā Ala Hele nonprofit organization, I have advocated for the protection and perpetuation of historic Hawaiian trails and the natural and cultural sites adjacent to these trails since 1979. I see the Ala Kahakai NHT as essentially sharing and implementing that vision. Over the relatively short time that I've been watching, many historic trails and cultural sites have been damaged or lost. As a member of the State's Nā Ala Hele Hawai`i Island Advisory Council, I see that program's limited resources, wide spectrum of responsibilities under its enabling legislation, and its subsequent inability to focus on the historic Hawaiian trails and the cultural richness of that unique resource. As such, I welcome the additional resources that the Ala Kahakai NHT brings to what needs to be a team effort.

I support Alternative C which treats the Ala Kahakai as a trail system and seeks to protect and restore the native Hawaiian network of trails, rather than a single trail. It is a more authentically Hawaiian model than was originally proposed. My comments and questions in this letter are primarily related to Alternative C. Under Alternative C, it will be a challenge to hold steadfast to priorities, while being flexible and opportunistic when trail acquisition potentials present themselves. There will be many pressures to change priorities, as everyone views their particular ahupua`a as most important. I hope that the priority under Alternative C will be to assemble a continuous lateral shoreline trail route while working on opportunities for mauka-makai connectors.

Funding and Staffing

Alternative C will require more human effort and agency resources than the other alternatives. However, the staffing needs, one-time project needs, reliance on public-private partnerships and cost-shares, etc. for a 15-year time frame do not appear to be substantially different for Alternative C compared to Alternative B. Much of the same work will need to be done (i.e., land title research, environmental, archaeological and cultural assessments, etc.) and the same disciplines needed, whether it is for a single trail or an ahupua`a trail network.

- I believe a Law Enforcement/Interpretive Ranger should be "Core Staff" for Alternative B as well as for Alternative C.

- P. 87 offers NPS assistance in reviewing land title records (a significant need when determining ownership status of historic trails), but Land Title Researcher/Abstractor does not appear on the "Other Needed Disciplines" list for Alternatives B and C.
- The estimate for the cost of developing two campsites (p. 97) seems low, considering the State Division of Forestry & Wildlife's cost-estimate for one composting toilet (including unit, shipping, transportation to site by helicopter, labor) in 2001 was $14,000 - $16,000.
- Is the cost of installing water catchment systems included somewhere in the One-Time Costs?

Historic Trail Ownership

The DCMP/EIS oversimplifies the state's "ownership" of historic Hawaiian trails. It is important to note that when land developments occur that contain ancient and historic trails, the common practice is for the state to "quitclaim" its ownership under the Highways Act of 1892 over the subject trails. The trails then become perpetual easements for public access and subject to varying levels of protection (or neglect) by the state and/or the private landowner(s). This is a legal process that can be quite controversial, especially if realignment of a traditional trail route is proposed. Sometimes in that process the private landowner does not acknowledge the state's ownership over the trail, but both parties agree that the end result will be the same, whether the trail is owned by the state or becomes a perpetual easement for public access. The Ala Kahakai DCMP/EIS inadequately discusses what the federal perspective and role might be in such deliberations.

Private Landowner Incentives

Pardon me if I missed it, but does the DCMP/EIS discuss incentives that exist in Hawai`i and/or other states to encourage private landowners to designate historic trails on their property as part of a NHT? P. 88 mentions encouragement of private landowners who have public access requirements in land use approvals to include those easements in the NHT. What would be the possible benefits or disincentives to the landowner? P. 89 says that landowners, etc. "would be encouraged to involve the local community in managing their segment of the trail." Again, what advantages would there be to the landowner or land manager? What kind of liability protection will there be? Without adequate incentives, it seems quite unrealistic to expect landowners to enter into trail management agreements, educate trail users, solicit funds for technical assistance, undertake activities that support the objectives of the NHT, etc. (p. 71).

Permit Reviews

The importance of permit reviews cannot be overstated. It is often because of those reviews that agencies are made aware of the presence of historic trails. I urge that the MOUs with the state and county include more than just applications involving the Conservation District and Planning Commission! A system needs to be worked out whereby applications determined to have potential impacts on historic trails within the Ala Kahakai corridor are sent to the Ala Kahakai NHT for review and comment. All of these reviews must be done in a timely manner, and approving agencies and applicants will need clear guidelines on when the Ala Kahakai should be included in the review process. Such applications include: Subdivisions, Special Management Area Assessments and Use Permits, Special Permits, Grading, Project Districts, Rezoning, State Land Use District Boundary Amendments, Leases of State-owned lands,

Environmental Assessments, and Environmental Impact Statements. A few of the forenamed applications require Planning Commission approval, but several of them do not.

The Ala Kahakai Trail Association

P. 88 of the DCMP/EIS openly states that if this Association's "capacity does not develop as anticipated," projects and programs may not be realized. The DCMP/EIS describes substantial reliance by NPS upon state, county and private entities to assume 50% - 60% of the costs and other responsibilities for trail segments. To achieve this, stable and committed partnerships must be formed. I saw little detail in the DCMP/EIS about the Ala Kahakai Trail Association. Since other NHTs rely upon "a variety of partners… to help with planning, constructing, managing, monitoring, and interpreting the trail with funds and in-kind services," (pp. 80 & 98), there must be lessons learned from the experiences of other existing NHT associations? How are NHT partnerships encouraged? How are the partners represented in the Association?

In summary, I support the establishment of the Ala Kahakai NHT. Alternative C is my first choice, although I have concerns that the "devil will be in the details." The DCMP/EIS contains many good intentions, but is short on contingency plans should the NPS encounter great difficulty in developing a "viable and highly effective" Trail Association, lack of stable and consistent support from community partnerships, and/or insufficient landowner and non-federal agency participation. Mahalo for your consideration of these questions and comments.

Sincerely,

Deborah L. Chang

Deborah L. Chang

c: Curt Cottrell, Nā Ala Hele
Barbara Schaefer, E Mau Nā Ala Hele
Christopher Yuen, County Planning Department

November 28, 2007

Aric Arakaki, Superintendent
National Park Service
Ala Kahakai National Historic Trail
73-4786 Kanalani Street, #14
Kailua-Kona, HI 96740

Aloha Aric,

I am writing in support of Alternative C of the draft Comprehensive Management Plan and programmatic Environmental Impact Statement for the Ala Kahakai National Historic Trail. I urge the National Park Service (NPS) to proceed with this preferred alternative and provide as much funding as possible to protect and maintain these very important public trail corridors.

The island of Hawaii has undergone many major changes in recent years with a large increase in population and development. Preserving, protecting and ensuring access to historical public right of way are of key importance for the future enjoyment of the shoreline that we share. The time is now to take action to protect the Ala Kahakai trail; as I write sections of the trail in South Kohala are threatened between makai cliff erosion and walls of private residences to the mauka. Overall, the trail condition currently ranges from clearly defined to unmarked, overgrown and lost to natural erosion or development. In areas where the trail passes through resort development complexes, the path is confusing among golf course, hotel and residential infrastructure.

The responsibility for maintaining and protecting the physical trail and legal easements defining the path are currently spread among many different parties including the County of Hawaii, various State of Hawaii agencies, and resort associations. Determining the party to address access issues or problems on the trail corridor can be difficult to accomplish. I suggest that the plan include provisions for the NPS to do more to coordinate management of the trail. I fully support the NPS management of state owned trail segments through conveyances of less-than-fee ownership interest. Inclusion of the stake holders such as private landowners, resort management and community groups is vitally important; but the plan seems to assume greater participation than may be possible currently. For example although the community has been very involved in the national historic designation of the trail, a viable Ala Kahakai Trail Association does not currently exist. Na Ala Hele (State of Hawaii) has a dedicated trail crew but only funding for a couple employees to maintain many miles of trails across the island.

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Please consider increasing the fiscal projections to provide funding for the infrastructure and staff to support community participation, manage as many trail miles as possible and act as a central coordinator and repository of information for the whole trail corridor. The NPS has the experience, expertise and most important the ability to find the stories of the land and people and provide the interpretive programs, signs and guides to share these with all.

In addition, please consider expanding the "priority area" of the 15 year trail plan to encompass other areas along the trail path that may be threatened or in need of management. The current "priority area" only encompasses the areas of population density in the Kona and South Kohala areas; other trail corridor areas such as Mahukona, Miloli'i or South Point have significant use by locals and visitors and should be considered as a priority for management.

The Ala Kahakai trail corridor represents a great opportunity for the future of the Island of Hawaii. We have a chance amid rapid development and urbanization of the island to protect and enhance a resource for residents and visitors. A well marked, maintained and protected trail provides an attraction for visitors to enjoy the cultural and natural resources of the island. Funding for staff and infrastructure will help to guide appropriate use, keep the paths open amid development and share the stories of the land. Many of these areas are now being overused or damaged by uncontrolled use or development pressures. I urge the NPS to dedicate as many resources as possible and accelerate plans for the protection of the Ala Kahakai Trail.

Mahalo Nui Loa,

Benjamin Konshak
PO Box 44576
Kamuela, HI 96743

Cc:
Representative Mazie Hirono
Director Pacific Islands Support Office
Superintendent Kaloko-Honokohau National Historical Park
Superintendent Pu'uhonua o Honaunau

- **From:** “David Tarnas” [davidtarnas@hawaii.rr.com]

Sent: 12/29/2007 10:56 AM PST

To: Aric Arakaki

Subject: comment on Ala Kahakai NHT Draft Comprehensive Management Plan and EIS

TO: Aric Arakaki, Superintendent
FR: David Tarnas
RE: Comment on the Ala Kahakai NHT Draft Comprehensive Management Plan and EIS

Hi Aric ~

I am an environmental planning and project management consultant working for both public and private sector clients in the area of the Ala Kahakai Trail. At the public meeting in Waimea seeking comment on the Ala Kahakai NHT Draft Comprehensive Management Plan and EIS, I made the following comments in person. But, I thought I had better provide some written form of these comments as well.

1) Overall, I recommend the Alternative C, the ahupua`a system of trails. The mauka makai connection in the ahupua`a and the connections across the ahupua`a in the moku are important culturally and environmentally.
2) Planning for the trail should be coordinated with the Hawaii County Planning Department’s effort to prepare the Community Development Plans for North and South Kona, South Kohala and North Kohala. Coastal and mauka-makai trails are part of these plans. Please contact County Planning Director Chris Yuen for information on these plans.
3) Since the plan includes environmental management measures relating to anchialine pools and nearshore waters such as resource management and water quality monitoring programs, these should be coordinated with the West Hawaii Regional Fishery Management Area, which already has numerous marine protected areas along the coast, as well as the Hawaii County Planning Department and their effort to standardize the water quality monitoring programs along the coast as part of the Special Management Area permits. Please contact Dr. Bill Walsh of DLNR regarding the West Hawaii Regional Fishery Management Area, and County Planning Director Chris Yuen regarding the water quality monitoring programs.
4) Private landowners along the trails, including some of my own clients, such as Jacoby Development at the Kealakehe ahupua`a, and Earl Bakken at the Kiholo ahupuaa, have clearly expressed their interest in participating with the AKNHT system. But, this will require carefullly crafted agreements for public access and limiting liability. The trail should not further restrict land use in the parcels through which it passes, since state and county planning systems provide for this land use management.
5) Resource management measures for special ecosystems along the trail, such as anchialine pools, dryland coastal forests, rocky shorelines, and beaches, should be standardized and consistent with the DLNR measures already in place.
6) Standardized signage and interpretive programs should be developed and shared with the landowners along the route so that there is a consistent system used throughout the trail system.
7) Involving local communities in any economic activity relating to the trail is a good idea, but there will need to be substantial assistance provided to these communities to establish sustainable organizations.
8) Any economic activity relating to the trail should be carefully coordinated with the Hawaii DLNR since much of the trail is in Conservation District, in which there are specific restrictions on commercial activity.
9) Funding for the trail and all its associated resource management and interpretive programs should come from the federal government. This will supplement the existing (but entirely inadequate) state funding.
10) Construction of new sections of the trail should follow a standardized design that should be shared with all the landowners along the trail to provide a consistent appearance and resource protection along the trail.

Best wishes on the implementation of the plan.

Aloha,
David

David Tarnas
Marine and Coastal Solutions International, Inc.
P.O. Box 6882
Kamuela, HI 96743

Superintendent, Ala Kahakai NHT
73-4786 Kanalani Street, #14
Kailua-Kona, 96740

Aloha mai,

My name is Amber Nāmaka Whitehead. I am a resident of Hawai'i Island, born and raised in Pāpā, South Kona. These comments are submitted in opposition to the completion of a single continuous trail as proposed in Alternatives B and C in the Ala Kahakai Draft Comprehensive Management Plan and Environmental Impact Statement (Draft CMP/EIS).

I work in the field of Conservation and Natural Resources Management here on Hawai'i Island, and am currently a PhD student in the Botany Department at the University of Hawai'i at Mānoa. As such, I have seen firsthand the impacts of invasive species, population growth, and increased access on the natural and cultural resources of Hawai'i Island.

While I support the intention of the National Park Service to protect and preserve the ancient and historic trails within the corridor from increased pressures of population growth and urbanization, I am concerned that the management actions and strategies proposed in the Draft CMP/EIS are not sufficient to mitigate the deleterious impacts of increased access on natural and cultural resources. I am very concerned about the impact the increased usage of this trail will have on currently remote, fragile, and relatively inaccessible resources (anchialine ponds, 'opihi, coastal landscapes, wahi kūpuna, etc). I am also concerned about the impact that increased malihini access and usuage will have on the local and Hawaiian folks that currently utilize resources and practice in these areas. I am particularly concerned with the impacts these actions will have on the remote coastline and resources of Kapalilua, South Kona and Ka'ū. Past cases have shown that once access is opened to such places, it will be impossible to halt or control.

I ask you to reconsider the option of Alternative D: Historic Trail Clusters, as proposed in the 2004 Mangement Plan/EIS Planning Update http://www.nps.gov/alka/upload/ACF23FD.pdf (see page 11), which calls for the restoration and certification of authentic historic trail segments only. This alternative does not include the construction of non-historic connector trails that would result in a continuous coastal trail. This option honors and protects actual historical trail segments, and supports continued local usage of trail clusters, while not creating the malihini attraction of a continuous coastal trail.

Mahalo,

Amber Nāmaka Whitehead, Botanist
Pāpā, Kona Hema, Hawai'i Island
88-1489 B Mamalahoa Hwy. Captain Cook, Hawai'i 96704

Manini‘owali, N. Kona, NPS photo

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As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

D-13/October 2008

EXPERIENCE YOUR AMERICA

United States Department of the Interior

IN REPLY REFER TO:

NATIONAL PARK SERVICE
Ala Kahakai National Historic Trail
Kaloko-Honokohau NHP
74-4786 Kanalani Street, #14
Kailua-Kona, Hawaii 96740
Tel. (808) 326-6012
Fax. (808) 329-2597

Dear Reader:

We are pleased to release the Final Ala Kahakai National Historic Trail Comprehensive Management Plan and Environmental Impact Statement in an abbreviated format. Please note that this abbreviated format is not a full reprint of the original Draft CMP/EIS, and so it must be considered along with the Draft. We have undertaken this abbreviated format because comments on the draft CMP/EIS did not require significant changes in the final plan, but reflect editorial corrections and clarifications of the text. Also, this format saves considerably on printing costs.

This document includes revisions to the draft CMP/EIS, a summary of comments received, our responses to substantive comments, and copies of letters received. For your convenience, the draft CMP/EIS has been posted on the Web at http://parkplanning.nps.gov/alka, and it is available at local libraries. A limited number of copies are available at the above address.

We appreciate the active role you have taken in this complex planning process. During the public comment period for the draft CMP/EIS, over 90 individuals attended public meetings and 48 individuals and organizations provided written comments during the 60-day comment period. Over the entire five-year planning process, your engagement and comments provided an important contribution to decision-making and have helped shape the long-term management decisions for the protection, development, and public use of the Ala Kahakai NHT.

The release of this final CMP/abbreviated EIS and the published Notice of Availability in the Federal Register will be followed by a 30-day no-action period. After the no-action period, the alternative or actions constituting the approved plan will be documented in a Record of Decision which will serve as the official approval of the plan and the selected management alternative.

A presentation plan of the CMP will be published after the Record of Decision. The presentation plan will contain only the approved alternative. Other elements of the EIS will not be replicated. However, the EIS will be maintained in the administrative record. The presentation plan, which will include full-color maps and photographs, will be the working document that will guide the administration of the Ala Kahakai NHT and management activities on-the-ground over the next 15 years.

We offer our sincere gratitude for your dedication, interest, and participation in this process. We initiated this planning process with the intent that the final comprehensive management plan would reflect and perpetuate the values, culture, and stories of the ancestors and their descendants, who built, continue to care for and use these historic trails in their daily lives. We offer special mahalo (thank you) to our ancestors and kūpuna (elders) for inspiring and teaching us how to live in pono (balance) with ourselves and the land.

Sincerely,

Aric Arakaki
Superintendent

Draft Comprehensive Management Plan and Environmental Impact Statement

Ala Kahakai National Historic Trail

Pacific West Region

National Park Service

United States Department of the Interior

August 2007

1800 Lava Flow, Kalae Mano, N. Kona, NPS photo

Draft Comprehensive Management Plan & Environmental Impact Statement

Ala Kahakai National Historic Trail

U.S. Department of the Interior ■ National Park Service

August 2007

Through public scoping and the involvement of public agencies, local communities, and individuals, the National Park Service (NPS) planning team identified three alternatives for the draft Comprehensive Management Plan and programmatic Environmental Impact Statement (EIS) for the Ala Kahakai[1] National Historic Trail. These alternatives respond to the National Trails System Act, NPS planning requirements, and the issues identified during public scoping. These alternatives address trail administration and management, cultural and natural resource protection, and use of the trail by local residents, Native Hawaiians, and the visiting public. Alternative C is the preferred alternative of the NPS to guide the management of the Ala Kahakai NHT.

The plan identifies the necessity of community partnerships to protect trail resources and provide appropriate trail user services. As a partnership endeavor, the success of this plan is not solely determined by the NPS; rather its success rests with the will and perseverance of other local government agencies, communities, organizations, neighborhood associations, and individuals who have the capacity and desire to implement actions within this plan.

Alternative A constitutes the No Action alternative and assumes that existing programs, facilities, staffing, and funding would generally continue at their current levels. The Ala Kahakai NHT would consist of trail segments within the four national parks through which it passes and only a few other segments, most likely on state lands. As recommended in the *Ala Kahakai National Trail Study and Environmental Impact Statement*, January 1998, (*Feasibility Study*) on which national trail status was based, a continuous trail would be the goal but would not be achievable, even in the long-term, under alternative A. An auto tour would be completed that would lead visitors to 18 sites associated with the trail. Recreation along the trail and interpretation of its history would generally be limited to these sites.

Alternative B proposes the completion of a single continuous trail comprised of unaltered or verified ancient and historic portions of the *ala loa* (coastal trail around the island) linked as needed by later pre-1892 trails, pathways, and modern connector trails. Within the planning period of 15 years, the goal would be to complete the linear trail within the priority zone from Kawaihae through Pu‘uhonua o Hōnaunau National Park and to protect other segments outside of that area as feasible. In the long-term, cultural and natural resources along the entire trail tread and agreed upon adjacent areas would be protected and interpreted to the public. The NPS would administer the trail, but management outside of the national parks would remain with the land managing agency or landowner. The NPS would offer technical assistance and limited financial assistance to these management partners. Partnerships with state and county agencies, community organizations, and private individuals would help protect trail resources and provide appropriate trail user services. An auto tour would be completed as in alternative A.

Alternative C, the preferred alternative and environmentally preferred alternative, is based on the traditional Hawaiian trail system in which multiple trail alignments within the *ahupua‘a* (mountain to sea land division) are integral to land use and stewardship. The linear trail would be protected as in

[1] A term coined by a planner in 1973 from *ala* (path, trail) *kaha* (by the) *kai* (sea). *Kahakai* means beach, seashore.

alternative B, but on publicly-owned lands, the Ala Kahakai NHT would include inland portions of the *ala loa* or other historic trails that run lateral to the shoreline and would be connected to ancient or historic *mauka-makai* (mountain to sea) trails that would have traditionally been part of the *ahupuaʻa* system. As with alternative B, during the 15-year planning period, the priority zone from Kawaihae to Puʻuhonua o Hōnaunau National Park would be the focus of administration and management, but sections outside of that zone would protected as feasible. Through an agreement, the state of Hawaii could convey to the NPS a less-than-fee management interest in trail segments that are state-owned under the Highways Act of 1892 within the Ala Kahakai NHT corridor. The NPS would then be responsible for managing these segments and federal law would fully apply. However, in cooperation with the NPS, local communities of the *ahupuaʻa* would be encouraged to take responsibility for trail management using the traditional Hawaiian principles of land management and stewardship. The Ala Kahakai Trail Association would be expected to be robust enough play a major part in trail management, promotion, and funding. An auto tour would be completed as in alternatives A and B.

The environmental consequences of the alternatives are examined in the EIS. Results of public involvement, consultation, and coordination are included.

The public comment period for this document will end 60 days after the U. S. Environmental Protection Agency publishes a notice of its availability in the *Federal Register*. We welcome your comments. They must be postmarked or transmitted by that date.

Written comments on the draft plan should be addressed to:

Superintendent, Ala Kahakai NHT
73-4786 Kanalani Street, #14
Kailua-Kona, HI 96740

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

This document is online at the NPS Planning and Public Comment System at http://parkplanning.nps.gov/alka. An electronic public comment form is provided at this website.

Comments may also be made in person at one of the public workshops that will be conducted during the public review period. The specific dates and times for these workshops will be announced in local newspapers, in the Draft Comprehensive Management Plan newsletter, and online at the above site.

A limited number of copies of this report are available from the mailing address above. In addition, the draft CMP/EIS is available at the following public libraries on the island of Hawaii and in Honolulu:

Hawaiʻi State Library
Bond Memorial Public Library
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Manini‘owali, N. Kona, NPS photo

Executive Summary

From left: ʻUpolu, N. Kohala, NPS photo; Trail Clearing, Kealakehe HighSchool, Oʻoma, N. Kona, NPS photo; and Ancient Trail, Kapuʻa, S. Kona, E. Kalani Flores

The National Park Service (NPS) administers the Ala Kahakai National Historic Trail (NHT), added to the National Trails System by the U.S. Congress on November 13, 2000. The legislation authorizing the Ala Kahakai NHT identifies an approximately 175-mile portion of prehistoric *ala loa* (long trail) and other trails on or parallel to the seacoast extending from ʻUpolu Point on the north tip of Hawaiʻi Island down the west coast of the island around South Point to the east boundary of Hawaii Volcanoes National Park. The Ala Kahakai National Historic Trail combines surviving elements of the ancient *ala loa*[1] with segments of later *alanui aupuni*, which developed on or parallel to the traditional routes, and more recent pathways and roads that created links between the historic segments.

Federal ownership of the Ala Kahakai NHT is limited to the trail alignment within the four national parks it links: Puʻukoholā Heiau National Historic Site; Kaloko-Honokōhau National Historical Park (NHP); Puʻuhonua o Hōnaunau NHP; and Hawaiʻi Volcanoes National Park. Approximately 17% of the NHT is within the boundaries of these national parks. With trail authorization, these trail segments became federally protected components of the NHT, in compliance with § 3(a) 3 of the National Trails System Act.

The National Trails System Act, as amended, requires the preparation of a comprehensive management plan (CMP) for each new trail in the system. The CMP is intended to provide relatively long-term (approximately 15-year) direction for natural and cultural resource preservation, education, and trail user experience of the Ala Kahakai National Historic Trail. It considers the trail holistically. It identifies the necessity of community partnerships to protect trail resources and provide appropriate trail user services. As a partnership endeavor, the success of this plan is not solely determined by the NPS; rather its success rests with the will and perseverance of other local government agencies, communities, organizations, neighborhood associations, and individuals who have the capacity and desire to implement actions within this plan.

This document also includes a programmatic environmental impact statement (EIS), which considers at a general qualitative level the impacts that each of the alternatives could have on the trail environment. The EIS sets the framework for future compliance with the National Environmental Policy Act (NEPA) and the National Historical Preservation Act (NHPA) for each trail segment included in the Ala Kahakai

[1] "Ancient" or prehistoric trails such as the *ala loa* are those which were made in Hawaiian antiquity, predating western contact in 1778. By the middle 1820s, Governor Kuakini and island chiefs began a program of improving key trails on the island of Hawaiʻi to improve access for missionary efforts and the transportation of goods. In the 1830s the king began to formalize a program for work on and development of improved trails and roads. This work was generally performed by those convicted of crimes and in commutation for taxes. This program led to the development of the *alanui aupuni* (government road) system in 1847. These government roads are "historic" in design, function and use (Maly, 2005). In this plan, "ancient" is used instead of "prehistoric" or "precontact" when referring to trails predating Western contact.

NHT. It also assists decision makers and the public in assessing the relative merits and effects of any one alternative from the others.

This CMP was developed in consultation with National Park Service park and program managers; interested parties including landowners, Native Hawaiians, and trail groups, local communities; government agencies; and the general public. The NPS initiated formal consultation with the State Historic Preservation Division (September 2004) and the United States Fish and Wildlife Service (February 2003). The plan is based on an analysis of existing and predicted natural and cultural resource conditions, trail user experiences, environmental impacts, and costs. It primarily provides a framework for administration and management and a vision to be realized through future actions.

Planning Issues and Concerns

During scoping and alternatives review, the public expressed the following concerns about trail management. These are addressed in the CMP.

Trail Administration and Operations

The trail is administered by the NPS, but the NPS owns and manages only 17% of the trail corridor. The trail passes through federal, state, county, Hawaiian Homelands, and private lands each with their own regulations for use. Even within state lands, the Nā Ala Hele Trails and Access Program[2] and State Parks operate under different rules. Consistent preservation, development, management, and marking the trail through varying jurisdictions will be a challenge.

Changes to the Historic Scene

Development, weather, and alien plants have significantly impacted the ancient and historic trail in some areas. New trails and jeep roads have often taken the place of ancient and historic trails. The plan addresses how these sections of trail would be incorporated into the Ala Kahakai NHT.

Vulnerability of Cultural and Natural Features

The Ala Kahakai NHT connects hundreds of cultural sites and traditional use areas. Desecration of cultural sites on public and adjacent private lands by persons accessing these sites via coastal trails is an ongoing problem. The plan addresses how trail management can protect these sites.

Effects on Native Hawaiians

Native Hawaiians have deep concern for protection of natural and cultural resources, which are one and the same to them. For them, the trail is a part of a way of life. It includes not only the pathway but also the network of resources beside the trail. They are concerned that increased public access and use could impact areas of deep spiritual significance and their use of these areas to practice their cultural traditions. They also have concerns for the effect of federal administration of the trail on their gathering and subsistence rights under Hawaiian state law.

Puʻukoholā Heiau NHS, S. Kohala, NPS photo

[2] A statewide program established by Hawaii Revised Statute 198D to inventory, classify, and regulate the use of trails and accesses on each of the islands. See appendix A for the legislation.

Landowner Concerns

Landowners have concerns that trespass, litter, and misuse would result from trail use and that the burden of trail maintenance and protection would fall disproportionately on them. Landowners also have concerns for their liability and about federal intervention in their use of their land.

Undesirable Trail User Behavior

Owners of private lands and managers of public land have suffered the effects of trespassing, vandalism, unauthorized off-road vehicle use, theft, littering, and illegal dumping due to open and largely unregulated access along and to the shoreline. In some cases, coastal resources such as *'opihi* (limpet), *limu* (seaweeds), fish, stones, sand, wood, and plant materials have been depleted. Access where immediate trail oversight is not present has led to over-harvesting of resources and inappropriate dumping of solid waste in coastal and other areas.

Luahinewai, N. Kona, NPS photo

Land Use Decisions

In many cases, cultural and natural resources are threatened or have been lost due to development. State land use designation and county development permitting processes at times have allowed destruction of both traditional and early historic trails as long as developers provide public access to the shoreline.

Alternatives

As part of the planning process, three alternatives were developed to address these issues. Both action alternatives, alternatives B and C, are intended to address these issues successfully, if the recommendations are implemented. Alternative C is the alternative that the NPS proposes to implement. A table comparing the three alternatives immediately follows this summary.

Actions Common to all Alternatives

All alternatives share the following:

The same responsibility for resource protection and visitor health and safety based on federal laws and NPS requirements for management of cultural and natural resources.

The guidelines for high potential sites and segments[3], interpretive facilities, management agreements, trail classifications and management prescriptions, carrying capacity, wilderness, and trail marking.

An auto tour route that includes 18 sites along the Ala Kahakai NHT route.

An initial administrative focus, on the 73-mile corridor from Kawaihae through Pu'uhonua o Hōnaunau NHP (see map 1) for development of trail segment management agreements. Other

[3] A site or segment identified according to the procedures outlined in section 5 (e) of the National Trails System Act. Each site or segment must provide opportunities to interpret the trail's historical significance and to provide high quality recreation along a portion of the route. Route segments should have greater than average scenic values and should also help visitors appreciate the experience of the original trail users. Criteria include historical significance, the presence of visible historic remains, scenic quality, and relative freedom from intrusion. The management planning process determines if sites, trail segments, or associated resources are to be included as official components of the national historic trail.

areas will be protected as possible even though they might not be made available immediately for public use.

Five interpretive theme topics listed here and described in chapter 1: connections to the past, expression of a unique culture, significant events, stewardship, and environment.

All of these commonalities are described in chapter 2.

The alternatives differ on the extent of trail resources and values to which resource protection and the guidelines apply. Within the limits of resource capability, the alternatives vary in both what trail user services and experiences are provided and to what extent they are provided.

Alterative A: No Action

The "no action" alternative, a requirement of the National Environmental Policy Act (NEPA), basically continues the present course of action and serves as a baseline for comparison with all other alternatives. It does not mean that no federal action would occur, but that current federal administration would continue as it is with NPS funding constant at the FY 2006 level of $260,000 with little opportunity for cost of living increases and no possibility for added staff.

Following the recommendation of the *Ala Kahakai National Trail Study and Environmental Impact Statement*, May 1997, (*Feasibility Study*), the goal of alternative A would be to complete a single continuous trail comprised of ancient and historic portions of the *ala loa* linked as needed by later pre-1892 trails, pathways, and modern connector trails. This alternative emphasizes the linear aspect of travel around the island and reflects a Euro-American concept of a trail as a linear transportation corridor or a recreational and educational entity. High potential sites associated with the alignment would be incorporated into the trail as feasible. Management agreements would focus on establishment and protection of a single route parallel to or on the shoreline. Only the trail tread (state right-of-way, easements resulting from land use approvals, or other specified trail right-of-way) and negotiated adjacent areas would be included in the trail. Adjacent natural and cultural resources would be identified and protected as feasible along the trail route.

Given the limited staffing and funding under the No Action Alternative, the Ala Kahakai NHT would consist of trail segments within the four national parks through which it passes and only a few other segments, most likely on state lands and over easements already required by land use approvals. While a continuous trail would be a goal, there would be little opportunity to reach the goal even in the very long-term. An auto tour route would be completed that would lead visitors to 18 sites associated with the trail. Recreation along the trail and interpretation of its history and significance would generally be limited to these sites.

All of the principles of administration and resource management would apply to this alternative, but with the limited available federal funding, the application would occur in few places along the entire route. Generally, current management of ancient and historic trails and public access to them would continue. One-time costs for studies and projects are estimated to be $675,000 over the 15-year plan period. Of that, the anticipated federal share would be $405,000.

Alternative B: Single Trail

Alternative B shares the same overall goal as alternative A, but with added staff and funding more actions are potential, and in the very long term the goal could be accomplished. Within the planning period of 15 years, the goal would be to complete the linear trail within the priority zone from Kawaihae though Pu'uhonua o Hōnaunau National Park and to protect other segments outside of that area as feasible. Also, as in alternative A, an auto tour route would be completed.

The NPS would actively work with the state of Hawai'i Nā Ala Hele Trails and Access Program to identify ownership of ancient and historic trails. Trail administration and management would emphasize agency involvement supported by the Ala Kahakai Trail Association and existing organizations. The NPS would focus its technical and limited financial assistance on Nā Ala Hele, State Parks, county parks, and those organizations that come forward to protect and maintain the trail. Nā Ala Hele would continue to manage state-owned segments of the *ala loa* that cross private lands, following the guidelines set out in the approved CMP. The *Feasibility Study* identified approximately 35 miles of trail across private lands along the entire route that have potential to be state-owned under the 1892 Highways Act,[4] but suggested there may be more.

Day hiking and overnight camping would be supported with signs and markers, development of trail heads, and primitive campsites. While incorporating all of the trail themes, a unified trail interpretative program would emphasize the interpretive topics of movement from place to place, connections to the past, significant events, and stewardship. (Chapter 1 describes these topics and provides interpretive themes.)

Costs for this alternative are based on incorporating 73 miles of trail roughly from Kawaihae through Pu'uhonua o Hōnaunau NHP into the Ala Kahakai NHT by the end of the planning period of approximately 15 years. These miles include trails within national, state, and county parks, trails within Nā Ala Hele jurisdiction, Alii Drive, and 16 miles of trail gaps. Annual operations costs are estimated to range from $493,000-633,000. One-time costs for studies and projects are estimated to range from $2,588,000 to $4,235,000. Of these one-time costs, the estimated federal share is $1,035,000 to $2,178,000. Appendix I presents a comparison of costs by alternative.

Alternative C: Ahupua'a System of Trails

Alternative C includes the goal of a continuous linear trail as in alternative B, but also recognizes the existence and importance of multiple trail alignments in traditional land use and stewardship in Hawai'i by using the authority of the National Trails System Act, as amended, for connecting and side trails (16 USC 1245 Section 6). It reflects the public's vision, developed in the alternatives review process, for the administration and management of the trail. All parallel ancient and historic trails lateral to the shoreline within the Ala Kahakai NHT corridor on public land would be recognized as significant rather than recognizing only a single trail. These alignments would include inland portions of the *ala loa* or other historic trails that run lateral to the shoreline and would be connected to ancient or historic *mauka-makai* (mountain to sea) trails that traditionally would have been part of the *ahupua'a* system. Including *mauka-makai* trails may provide opportunities for loop trail experiences.

These multiple alignments would occur on public lands only, unless a private landowner expressed an interest in recognizing more than a single linear Ala Kahakai NHT. Canoe landings that reflect the traditional use of canoes in long-distance travel would be included, as feasible. In

'Upolu, N. Kohala, NPS photo

[4] All public accesses that can be verified to have been in existence prior to the 1892 Highways Act continue to be owned in fee simple by the state of Hawaii. This law applies even if the trail is not physically on the ground because in many instances trail segments have been destroyed over time due to various land uses or natural processes.

order to better support interpretation of the Hawaiian trails as a system, focus of this alternative would lie in those areas containing multiple alignments, and a continuous linear trail would be a long-term goal. As in alternative B, day hiking and overnight camping would be supported with signs and markers, development of trail heads, and primitive campsites.

Preservation and interpretation of cultural features and landscapes that sustain the practice of Hawaiian values throughout the trail corridor would be the cornerstones of the trail protection program in alternative C. These cultural features include prehistoric and historic archeological and traditional sites and their surrounding natural landscapes, plant and animal ecosystems, and habitat.

Alternative C emphasizes community-based management that protects and preserves cultural sites and landscapes thereby providing the setting for cultural conservation and livelihood opportunities through the on-site practice and preservation of Hawaiian values and customs. A key component of management would be a viable and highly effective Ala Kahakai Trail Association (AKTA) that would partner with the NPS in trail protection and management. It would develop and implement a strategic approach to communication, membership, product development, marketing and fund- raising strategies for projects, project management, and staffing. NPS technical assistance would focus on strengthening the AKTA.

Under alternative C, the trail experience would center on understanding and appreciating Hawaiian values and cultural practice as found along a traditional system of trails. The experience would be comprised of activities, programs, and interpretation emphasizing the trail's significance and history. Although incorporating all of the trail themes, trail interpretation would emphasize the topics of connections to the past, expression of a unique culture, stewardship, and environment.

In alternative C, the NPS would not only administer and manage the trail on national park lands, but also could manage those segments of trail owned by the state through the Highways Act of 1892, including multiple lateral and *mauka-makai* trails within the Ala Kahakai NHT corridor. An agreement with the state of Hawaii could convey to the NPS a less-than-fee ownership interest in trail segments that are state-owned and assign management obligations to the NPS. However, in cooperation with the NPS and under its guidance, local communities within the *ahupua'a* would be encouraged to take responsibility for trail management using traditional Hawaiian principles of land management and stewardship. Federal management of the state-owned trail segments would allow for more consistent management of the trail as a unified entity and enforcement of federal protection laws under 36CFR-Parts 1-5. State laws for resource protection would continue to apply to the Ala Kahakai NHT if more stringent than the federal laws.

Costs for this alternative are based on incorporating 88 miles of trail from Kawaihae through Pu'uhonua o Hōnaunau NP into the Ala Kahakai NHT during the planning period of approximately 15 years by adding15 miles of *mauka-makai* trails to the 73 miles of trail in alternative B. Annual operations costs are estimated to range from $702,000 - 887,000. One-time costs for studies and projects completed over the 15-year planning period are estimated to range from $3,158,000 to $5,015,000. Of the one-time costs, the estimated federal share is $1,263,000 to $2,508,000. Appendix I presents a comparison of costs by alternative.

Table 1: Comparison of Alternatives

PLANNING ISSUE	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: SINGLE TRAIL	ALTERNATIVE C: AHUPUA'A TRAIL SYSTEM
Concept	Single linear trail preserving ancient and historic segments of the *ala loa*[5] connected with more recent trails, jeep roads, and sidewalks to create a continuous trail.	Same as alternative A.	*Ahupua a* approach to trails adding *mauka* trails, other lateral trails, and canoe landings to a continuous linear trail to recognize a traditional system of trails on public lands. Lateral and *mauka-makai* trails authorized as connector trails by the National Trails System Act.
	Continuing federal actions with a flat budget. Provides baseline for comparison.	Additional staff and funding make more actions potential.	
	A Euro-American concept of a trail as a linear recreation and educational experience	Same as alternative A	A Hawaiian concept of trails as a system or network of trails and places providing opportunities for cultural conservation.
Administration, Management, and Partnerships	Ala Kahakai NHT administrator provides oversight to entire trail, as possible, but land managers or owners manage their segments of trail. NPS parks manage their segments of trail. Additional sites and segments added through agreements, as possible.	Same as alternative A, but a continuous linear trail would be achieved in the long term. 15-year plan focuses on priority area. Additional funding would allow more sites and segments to be included.	Same as alternative B, but NPS could manage state-owned segments of ancient and historic trails through an agreement with the state providing NPS an interest in the trail but not ownership.
	Stewardship concepts and values embedded in the Hawaiian culture provide a basis for effective trail management.	Same as alternative A.	Same as alternative A, but the *ahupua a* approach would offer settings in which the culture could be practiced.
	MOU signed with state and county. Nā Ala Hele management of state-owned ancient and historic trails continues. State Parks manages trail on its lands. County continues to require public shoreline access and manage trails on its lands. Landowners or others manage required easements.	Same as alternative A, except NPS would focus technical and limited financial assistance on partnerships with state trail managing agencies and other trail management entities.	Same as alternative A, except NPS would focus technical and limited financial assistance on AKTA to build its capacity to help trail management entities.
	NPS relies on existing local organizations to implement the trail. Has little capacity to help the Ala Kahakai Trail Assn. (AKTA) get off the ground.	NPS actively promotes cooperative community-based management focused on helping trail management agencies, AKTA, and local organizations.	NPS forms viable partnership with a robust AKTA to help manage the trail and its settings on public lands and to promote cultural conservation through on-site practice and preservation of Hawaiian values and livelihood opportunities.
	NPS trail office would become information repository for all information regarding sites and segments.	Same as alternative A, but more information would be processed as sites and segments are added to the trail.	Same as alternative B, but even more information would be managed.

[5] Brief definition of terms: ala loa (long trail); ahupua'a (land division roughly running from the mountains to the sea); mauka (toward the mountains); makai (toward the sea); mauka-makai (mountain to sea).

PLANNING ISSUE	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: SINGLE TRAIL	ALTERNATIVE C: AHUPUA'A TRAIL SYSTEM
Resource Protection			
Resource Protection General	Federal laws for natural and cultural resource management apply in the four national parks. Relevant federal laws and state laws apply to those sites and trail segments recognized as part of the Ala Kahakai NHT. Site and segment-specific management plans required. A range of protection measures available on nonfederal lands: compliance, inventory and assessment, specific management plans, agreement, phasing, strategic trail routing, monitoring, limited visitation, collaborative planning and design, education, coordination with Nā Ala Hele advisory council.	Same protections in place as in alternative A except that protection would extend to the entire linear trail as it is completed.	Same as alternative B except that resource protections would extend to a traditional system of trails on public lands as well as the linear trail.
Resource Protection **High potential sites and segments (**See Glossary.)	Recognition and protection within the four national parks. Management agreements are completed with Nā Ala Hele or State Parks for a few trail sites and segments and interpretive facilities.	Same as alternative A. Same as alternative A, but NPS works to incorporate all sites and segments currently identified as high potential as part of a linear trail. Active inventory and analysis of potential additional sites and segments to complete a linear long-distance trail.	Same as alternative A. The same as alternative B, but protection includes parallel lateral trails and *mauka-makai* trails on public lands using "connector trail" provisions in the NTSA.
Resource Protection **Trail alignment**	Alignment defined in the four national parks. On nonfederal lands, trail consists of identified trail right-of-way and negotiated adjacent resource areas. Uneven and slow progress, where opportunities arise, toward a continuous trail.	The same as alternative A. The same as alternative A, but NPS works with Nā Ala Hele to identify ancient and historic trails for public use. NPS works with Nā Ala Hele, state parks, other public and private landowners to actively develop a single continuous trail.	The same as alternative A. The same as alternative B. In addition, NPS works with Nā Ala Hele to identify ancient and historic *mauka-makai*, trails on public lands to develop a system of trails including the surrounding landscape. The same as alternative B, plus a traditional system of trails on public lands is recognized. Shoreline lateral access trails included in Ala Kahakai NHT.

Planning Issue	Alternative A: No Action	Alternative B: Single Trail	Alternative C: Ahupua'a Trail System
Resource Protection **Program**	Federal protections at national parks. On nonfederal segments, management plans with protection measures including inventory, assessment, and monitoring, in place for individual trail segments, their adjacent negotiated resource areas, and sites that are incorporated into the Ala Kahakai NHT.	The same as alternative A. Protection on nonfederal segments the same as alternative A, but more trail segments and sites would be included.	The same as alternative A. Protections along nonfederal segments the same as alternative B, plus parallel coastal trails and *mauka-makai* trails are included. On public land, preservation of cultural features and landscapes that sustain the practice of Hawaiian values is emphasized. Federal management and protection laws could extend to state-owned trails through an agreement with Nā Ala Hele.
Trail User Experience			
Trail User Experience **Traditional users or practitioners**	Trail management planning would aim to mitigate negative impacts on traditional cultural practices by seeking input and advice from traditional gatherers and other practitioners.	Same as alternative A but NPS seeks to enhance access to and setting for traditional cultural practice.	Same as Alt. A except NPS seeks to facilitate access to and setting for traditional cultural practice
Trail User Experience **Recreation**	Discontinuous trail segments available for day-hiking. Traditional Hawaiian values presented along segments of a single linear trail Auto tour route established as an experiential and interpretive spine that includes key high potential sites and access to several high potential trail segments. Special hiking and cultural events promoted on trail segments included in the Ala Kahakai NHT.	Longer segments available for day-hiking. Overnight camping accommodated as feasible. Traditional Hawaiian values presented along a continuous single linear trail Auto tour the same as alternative A The same as alternative A, but more trail segments available for events.	Loop trails, in and out experiences, and long-distance hiking accommodated, with emphasis on the cultural experience of trails within an *ahupua a*. Traditional Hawaiian values experienced and practiced along a traditional system of trails. The same as alternative A with the addition of the experience of traditional system of trails where accessible from auto tour sites. The same as alternative B, but with emphasis on the *ahupua a* and the traditional system of trails.

Pōhuehue or Beach Morning Glory, NPS photo

Petroglyph Recording, S. Kohala, NPS photo

Planning Issue	Alternative A: No Action	Alternative B: Single Trail	Alternative C: Ahupua‘a Trail System
Trail User Experience **Interpretation and Education**	Potential for a Comprehensive Interpretive Plan (CIP) late in plan period. Initially, no comprehensive approach. Publications, website, wayside exhibits could be developed.	Comprehensive Interpretive Plan (CIP) a priority leading to a range of coordinated interpretive approaches.	The same as alternative B.
	Introduction of trail interpretive themes and programs encouraged at NPS units. Reliance on existing local entities and programs would continue on nonfederal segments. Emphasis on auto tour route.	Emphasizes interpretive topics (interpretive themes are outlined in chapter 1) of movement from place to place, connections to the past and significant events that occurred along the *ala loa*.	Emphasizes interpretive topics of cultural expression, stewardship, and environment. Hands on learning of conservation values and ethics offered from early education to adult programs serves as a basis for job and career employment.
	Outreach to local schools offered as requested and subject to staffing capacity.	Outreach to local schools and an educational curriculum developed. Heritage tourism involving travel along a single route possible if meeting permit requirements.	Outreach to local schools and an educational curriculum developed. Geotourism involving a traditional system of trails possible if meeting permit requirements.
Trail User Experience **Trail Identification, Markers, and Signs**	Markers would be used on few managed trail segments and at interpretive facilities. Public would randomly encounter markers.	Markers used to mark a single, linear trail. Markers guide users but do not clutter landscape.	Markers used on linear trail, parallel lateral trails, and *mauka-makai* trails to identify a system of trails as appropriate. Written guides may be used to avoid sign clutter in some areas.
Facility Development	Some wayside interpretive exhibits may be installed.	A system of wayside exhibits installed.	The same as alternative B.
	For auto tour, may include wayside exhibits, signs and markers, access roads, trailhead parking areas, and comfort stations.	Same as alternative A for auto tour. For hikers, may include wayside exhibits, signs and markers, potable water sources, campsites, trailhead parking and orientation signs.	The same as alternative B NPS would fund necessary facility developments on added federal components.
	State or local governments or private groups would fund development outside of federally owned areas. NPS would fund on federal components. NPS may provide seed money, cost sharing incentives, or technical assistance to nonfederal entities.	Same as alternative A except that more trail segments would require more of the described facilities.	The same as alternative B, except that AKTA would be expected to raise significant funds for development on non-federal land.[6]

Ka‘awaloa, S. Kona, NPS photo

Young Surfers at "Pine Trees", Kohanaiki, N. Kona, NPS photo

[6] If the association's capacity does not develop, projects and conditions proposed under this alternative may not be realized.

	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: SINGLE TRAIL	ALTERNATIVE C: AHUPUA'A TRAIL SYSTEM
Funding	Alternative assumes minimal increases not keeping up with inflation. Competitive NPS Challenge Cost Share Program may be available for project matching funds annually at the discretion of Congress.	NPS would request increases in base funding to implement the CMP. Funds sought from other NPS programs. Funds and staff shared with national parks along the route. The same as alternative A. AKTA and private groups would raise funds as possible for programs. (See footnote 6.)	The same as alternative B. The same as alternative A. AKTA expected to raise significant funds to support educational and cultural programs and facilities. (See footnote 6.)
Cost Estimates[7]	(based on FY 2007 dollars)		
Annual Operations	$259,000	$493,000- $633,000	$702,000 - $887,000
One-time Costs (over 15 years) **Studies** **Projects**	 $375,000 $300,000	 $220,000 – $375,000 $2,368,000 –$3,860,000	 $310,000 - $485,000 $2,848,000 – $4,530,000
Total One-time Costs	$675,000	$2,588,000 - $4,235,000	$3,158,000 - $5,015,000
Anticipated federal share of One-time Costs[8]	$405,000	$1,035,000 - $2,178,000	$1,263,200 - $2,508,000
Staffing	2 full-time	4 full-time; 6 shared/part-time	5 full-time; 9 shared/part-time

'Ōpae'ula Pond, Makalawena, N. Kona, NPS photo

"Pebble Beach", Kaohe, S. Kona, NPS photo

7 Caveat for all cost estimates: The implementation of the approved plan, no matter which alternative, will depend not only on future NPS funding and service-wide priorities, but also on partnership funds, time, and effort. The approval of a CMP does not guarantee that funding and staffing needed to implement the plan will be forthcoming. Full implementation of the CMP could be many years in the future. These cost estimates suggest the range of federal funds in relation to partnership funds — state, county, nonprofit organizations, private entities, and individuals — required to open to the public the section of trail from Kawaihae to Pu'uhonua o Hōnaunau in 15 years and to protect other sections of trail in that time period.

8 The Feasibility Study, approved by Congress, projected a 50% nonfederal match for one-time costs. Alternative A estimates that the federal share would be approximately 60% because much of the trail work would be limited to the national parks. Alternatives B and C estimate the federal share on the low estimate (anticipating greater partner involvement and fundraising) would be approximately 40% and on the high estimate, 50%.

Table 2: Comparison of Impacts of Alternatives

	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: SINGLE TRAIL	ALTERNATIVE C: AHUPUA'A TRAIL SYSTEM
Cultural Resources	Negligible to minor direct and indirect beneficial effects in national parks. No adverse impacts to NRHP properties on federal lands or on sites included in the auto tour due to the trail use; potential minor to moderate adverse impacts to sites on nonfederal lands not included in NHT. Potential for moderate long-term beneficial effects on a few trail segments on nonfederal lands added to the national trail. Potential long-term moderate to major adverse impacts due to loss of ancient trail fragments and other cultural resources within the trail corridor not incorporated in the NHT. Minor long-term beneficial effects result from limited promotion of national recognition of the trail. Minor to moderate long-term benefit resulting from new research on cultural resources within the national parks and on nonfederal segments incorporated into the trail contributing to better understanding and appreciation of the significance of this national historic trail to the culture of Hawaii. Potential long-term moderate to major adverse impacts if existing zoning and development regulations do not adequately protect the trail and its associated cultural resources. Potential long-term moderate to major adverse effects on portions of the trail route not included in the Ala Kahakai NHT from inadvertent desecration by unknowing trail users or from vandalism and looting by artifact hunters. Minor to major long-term effects of inadvertent or intentional damage to trail fabric and resources by private landowners.	Overall, the same as alternative A, except more trail segments included in the Ala Kahakai NHT. In addition: Long-term moderate to major beneficial effect from increased research and knowledge of cultural resources. Short and long-term moderate beneficial effects resulting from heritage tourism that contributes to a better understanding and appreciation of the Ala Kahakai NHT and the Hawaiian culture. Moderate long-term beneficial effect from bringing more NHRP properties under administrative oversight of the NPS. Moderate beneficial effects of enhanced promotion of national recognition of trail. Long-term minor beneficial effects on capacity of Nā Ala Hele to protect resources due to added NPS support. Potential moderate to major short and long-term adverse effects on cultural resources that define the national trail could result from lack of action by the NPS or its partners. Effects ameliorated by incremental implementation of the CMP and by NPS technical assistance. Long-term beneficial impact of research and information sharing that provides land owners a model for preserving resources and contributing to the broader preservation of the Hawaiian culture through public understanding.	Overall similar to alt. B with the addition of the following: Minor beneficial effects from increased community support of park management, but potential minor adverse effects as more trail segments are added within the parks. Long-term moderate to major beneficial effects on resource protection as more trail segments could come under federal jurisdiction and management with NPS less-than-fee interest in nonfederal trail segments, but potential short term minor to major adverse effects if funds and staff are not available for monitoring and protection. Long-term moderate beneficial effects on the Hawaiian community and on resource protection as local communities engage in living and interpreting their culture along a traditional system of trails. Long-term beneficial impact on the setting and character of the trail on public lands, keeping viable the cultural setting of the trail and enhancing the visitor experience through exposure to more aspects of the Hawaiian culture. Short and long-term beneficial effects on cultural resources would result from better options for redirection of trail users. Potential for short and long-term adverse effects of lack of capacity for management on the part of the NPS or partners. Effects could be reduced by incremental implementation.

	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: SINGLE TRAIL	ALTERNATIVE C: AHUPUA'A TRAIL SYSTEM
	Negligible effects on cultural practices of Native Hawaiians on federal lands. Possible minor beneficial effects on nonfederal trail segments.	Moderate long-term beneficial effects from encouragement of traditional access or accommodation of traditional users' practices or beliefs.	Major long-term beneficial effects from facilitation of traditional access or accommodation of traditional user's practices or beliefs.
Cave Resources	Federal and state cave protection laws apply. Negligible effect, neither adverse nor beneficial, on cave resources in national parks and along segments of trail included in the Ala Kahakai NHT. Minor to major short and long-term adverse impacts on cave resources from use of caves on nonfederal lands for recreation. Major long-term adverse effects on cave resources from looting or desecration of caves.	Same as alternative A.	Similar to alternative A, plus moderate to major long-term beneficial effects from inventory and protection of cave resources along official components of the trail on public lands. Moderate beneficial effects if the public becomes better educated about the fragility and uniqueness of cave resources.
Wetlands: Anchialine Pools and Fishponds (See glossary for definition of anchialine.)	Negligible effects on anchialine pools and fishponds on national park lands. Inventory and monitoring of pools adjacent to the trail along with educational messages to users would reduce potential adverse effects on nonfederal lands incorporated into the Ala Kahakai NHT. Short and long-term minor to major adverse impacts could occur to pools along trail segments not included in the Ala Kahakai NHT.	Same as alternative A.	Similar to alternative A, plus minor to moderate beneficial short and long-term effects through management of pools and fishponds associated with a system of trails on public lands. Minor to major long-term adverse impacts to the pools could result from inability to perform pool management and monitoring.
Marine Resources related to Traditional Coastal Harvesting	Negligible impacts, neither adverse nor beneficial, to resources due to trail use are expected. Coordination with State DLNR and consultation with local traditional users to avoid local impacts would have short and long-term beneficial effects on the traditional user.	Same as alternative A.	Same as alternative A, plus Negligible to minor beneficial effects from the *ahupua a* trail system and local community management approach on the traditional user.
Native Ecosystems: Vegetation and Wildlife	Minor short-term adverse effects but minor long-term benefits to native vegetation from requiring alien plant removal and planting of natives, as appropriate.	Same as alternative A.	Same as alternative A, across private lands, but moderate beneficial effects on public lands from the requirement to remove alien plants and plant natives, as appropriate.

	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: SINGLE TRAIL	ALTERNATIVE C: AHUPUA'A TRAIL SYSTEM
	Direct and indirect minor beneficial effects from consideration of trail location, temporary closures during nesting seasons, removal of predators, education of trail users and other measures.	Same as alternative A.	Moderate to major beneficial effects on wildlife habitat on public lands through flexibility in selecting trails for seasonal use to protect nesting wildlife and the opportunity to collaborate with state land managers in habitat management.
Special Status Species	Potential short-term minor adverse effects to special status species may occur; no long-term adverse impacts from trail use on federal lands or along trail segments included in the Ala Kahakai NHT would occur. Trail segment management plans would avoid adverse impacts to specific plant and animal species and their communities as possible. Potential adverse impacts could occur along trail segments not incorporated into the national trail, but would be mitigated by enforcement of state laws.	Same as alternative A.	Same as alternative A, plus Long-term beneficial effects from inventory and preservation of habitats and plant and animal communities on public lands, not just specific species.
Scenic and Visual Resources	Negligible impacts to scenic and visual resources due to Ala Kahakai NHT development. Moderate to major short and long-term generally adverse effects of development within the trail corridor on nonfederal land with exception of state parks.	Same as alternative A plus potential adverse impacts of trail development on visual resources reduced by design guidelines, coordination along entire trail corridor, careful site-specific planning. Impacts reduced to negligible to minor. Development outside of the immediate area of the trail and negotiated protection area could have minor to major adverse effects on views and the visual character.	Same as alternative B except Traditional system of trails would require more directional signs and information that would be mitigated by inconspicuous markers and use of maps and self-guided tour brochures and pamphlets.
Wilderness Values	Long-term negligible adverse impacts on wilderness values, short-term minor adverse effects on operations, and short-term negligible to minor adverse and beneficial effects on visitor experience depending upon if the user is seeking solitude or cultural information.	Same as alternative A.	Same as Alternative A.
User Experience	Long-term minor beneficial effect from the potential to visit trail sites and segments that are protected, interpreted, and monitored. Short-term adverse effects to traditional users if they experience a sense of crowding or a lack of solitude.	Moderate to major short and long-term beneficial effects on visitor understanding and appreciation of the Hawaiian culture through experiencing evidence of ancient and historic places, events, activities, and changes over time along a continuous trail route.	All impacts described for alternative B would apply, plus Moderate to major beneficial effects for visitors interested in gaining knowledge of Hawaiian history and culture through the experience of the living culture along the route.

	Alternative A: No Action	Alternative B: Single Trail	Alternative C: Ahupua'a Trail System
	Short and long-term minor to moderate adverse impacts on recreational use of the trail resulting from limited ability of the NPS to incorporate trail segments into the Ala Kahakai NHT. Short and long-term minor to moderate direct beneficial effects resulting from addressing health hazards along official sections of the Ala Kahakai NHT through safety messages and other forms of education. Short and long-term moderate to major adverse effects on health and safety of users of the numerous nonfederal segments of the trail route that could not be included in the Ala Kahakai through exposure to unsafe conditions without warning and appropriate preparation. Short-term minor beneficial effects on serenity of the trail experience by limiting use of the Ala Kahakai NHT to walkers. Short-term, minor impacts to current users who may find that the regulations limit their use and enjoyment of trails. Minor to moderate beneficial impacts on visitor understanding and experience through interpretive materials regarding the Ala Kahakai NHT offered at the parks and along the auto tour route. Minor adverse impact to visitor understanding and experience resulting from the discontinuous trail limiting the opportunities to experience the ancient and historic *ala loa* and learn of the traditional Hawaiian use of trails.	Minor to moderate beneficial effects from trail segment management plans addressing the potential adverse effects of higher levels of use expected near population centers and resorts in the South Kohala and North Kona districts. Moderate beneficial effects from permit system for commercial tours. Moderate short-term beneficial effects from the opportunity for extensive travel on a continuous trail with through-hiking and overnight camping. Moderate beneficial effects from addressing health and safety issues along a continuous trail. Moderate to major beneficial effects from protection of more remote sections of trail or those in less developed areas that may be valued for their primitive qualities and opportunities for solitude. Moderate to major beneficial effects from elimination of unauthorized uses such as ATVs to trail users seeking quiet, solitude, and a historical experience; but could be experienced as adverse to users who want to continue their ATV activities. Moderate to major short and long-term beneficial effects of better public understanding of resource significance and the ability of Native Hawaiians and local users to walk in the footsteps of the ancient people and experience the diversity of the Hawaiian culture. Long-term moderate to major beneficial impacts on planning for interpretation and education resulting from comprehensive interpretive plan and additional interpretive and educational opportunities.	Moderate to major short and long-term beneficial effects from providing opportunities for local residents, Native Hawaiians, and tourists to experience the ancient and historic Hawaiian system of trails. Short and long-term moderate to major beneficial effects from increased opportunities for local Hawaiians to practice their traditional culture. Short and long-term moderate to major benefits to trail users from using the trail as a setting where people can learn from *kūpuna* or other traditional practitioners about land management and conservation. Minor to major short and long-term benefits to the trail user and the local communities from encouraging development that sustains the environment, cultures, aesthetics, heritage, and well-being of the residents.

	ALTERNATIVE A: NO ACTION	ALTERNATIVE B: SINGLE TRAIL	ALTERNATIVE C: AHUPUA'A TRAIL SYSTEM
Socioeconomic Environment			
Socioeconomic Environment **Economics & Nearby Communities**	Negligible effects would result from NHT recognition.	Negligible beneficial effects from some small economic benefit that may accrue to communities and landowners along the trail in addition to already expected tourism dollars.	Similar to alternative B, but local communities could experience moderate beneficial effects through participation in cultural conservation.
Socioeconomic Environment **Landowners**	Landowners would experience little more adverse or beneficial effects than they do today under state and county laws and regulations. Short to long-term term minor adverse effect felt by landowner if there is pressure from the public to fulfill the state requirement to open a trail to public use across private lands. Short and long-term minor beneficial effects to landowner by receiving technical and limited financial assistance in trail and resource management from the NPS.	Generally negligible to minor effects to private landowners from federal actions as a result of development of the Ala Kahakai NHT as the state already requires protection of ancient and historic trails. A new public trail across private land would increase the potential for trespassing resulting in short-term minor to major adverse effects. Adverse effects could be experienced by landowner if Hawaii law protects trail fabric and segments in place instead of allowing for relocation. Short and long-term beneficial effects to the landowner and the public if a landowner chooses to include resources associated with the Ala Kahakai NHT in trail management.	Effects the same as alternative B, for private landowners, but relieving Nā Ala Hele of management responsibility for trails in its jurisdiction along the Ala Kahakai NHT would be a moderate to major beneficial effect on the agency. State Parks would receive moderate to major beneficial effects if the NPS assists it with parklands adjacent to the linear alignment of the Ala Kahakai NHT that contain other lateral and *mauka* segments of ancient and historic trails. Without NPS assistance, State Parks could experience moderate to major adverse impacts.
Trail Operations	Long-term moderate to major impacts to trail values result from staff levels inadequate to meet the goal of adding trail segments and sites to the Ala Kahakai NHT to create a presence for the trail.	Moderate to major long-term beneficial effects on trail resources and values from added funding and staff with skill in community planning, resource management, interpretation, and other disciplines.	Same as alternative B, plus NPS management of state-owned segments of trail could have long-term beneficial effects on trail management and on the relationship between Nā Ala Hele and the NPS. Long-term moderate to major beneficial effects would result from the Ala Kahakai Trail Association becoming a fully-functioning partner in trail development, protection, management, and interpretation.

Acronyms Used in the Document

ADA	Americans with Disabilities Act
AKTA	Ala Kahakai Trail Association
ALKA	Ala Kahakai National Historic Trail
AIRFA	American Indian Religious Freedom Act
APE	Area of Potential Effect
ARPA	Archeological Resources Protection Act
ASMIS	Archeological Sites Management information Systems
BLNR	Hawai‘i State Board of Land and Natural Resources
CEQ	Council on Environmental Quality
CDUA	Conservation District Use Application
CFR	Code of Federal Regulations
CLI	Cultural Landscape Inventory
CLR	Cultural Landscape Reports
CMP	Comprehensive Management Plan
CRM	Cultural Resource Management
CZM	Coastal Zone Management
DEIS	Draft Environmental Impact Statement
DHHL	Hawai‘i State Department of Hawaiian Homelands
DLNR	Hawai‘i State Department of Land and Natural Resources
DO	Director’s Orders
DOFAW	Hawai‘i State Division Forestry and Wildlife (part of DLNR)
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FCRPA	Federal Cave Resources Protection Act
FEIS	Final Environmental Impact Statement
FMA	Hawai‘i State Fishery Management Area
FRA	Fish Replenishment Area
FY	Fiscal Year (Federal)
GIS	Geographic Information System
GPS	Global Positioning System
HAR	Hawaii Administrative Rules
HRS	Hawaii Revised Statutes
LCS	List of Classified Structures
MLCD	Marine Life Conservation District
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
Nā Ala Hele	Hawai‘i State Nā Ala Hele Trails and Access Program (part of DOFAW)
NAGPRA	Native American Graves and Repatriation Act
NARS	Natural Areas Reserve System
NELHA	Natural Energy Laboratory of Hawaii
NEPA	National Environmental Policy Act
NHP	National Historic Park
NHPA	National Historic Preservation Act
NHT	National Historic Trail
NP	National Park
NPS	National Park Service
NRHP	National Register of Historic Places
NTSA	National Trails System Act
OGR	Old Government Road
PASH	Public Access Shoreline Hawaii
PWRO	Pacific West Regional Office (of the National Park Service)
QLCC	Queen Lili‘uokalani Children’s Center
REZ	Rezoning
r.o.w.	Right of way
SCORP	State Comprehensive Outdoor Recreation Plan
SHPD	Hawai‘i State Historic Preservation Division
SMA	Special Management Area
SUB	Subdivision
TCP	Traditional Cultural Property
TMK	Tax Map Key
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

Hawaiian Words Used in the Text

‘a‘ā Solidified lava with a rough, clinkery surface.

ahu A heap of stones erected as a marker; a cairn; the altar upon which tribute offerings were placed.

ahupua‘a A major land division usually extending from the uplands to the sea, so called because the boundary was marked by a heap (*ahu*) of stones surmounted by an image of a pig (*pua‘a*) or because a pig or some other tribute was laid on the altar as a tax to the chief.

‘āina The living earth.

ala Anciently a footpath, trail, way; now also road or highway.

‘alā Waterworn stones used as steppingstones or to mark a footpath; also called *pa‘alā*.

ala aupuni Government trail, or government road, developed from a program begun in 1847 and continuing until 1892.

ala loa Coastal trail around an island; long trail.

Ala Kahakai “Trail by the Sea,” name given to a state trail from ‘Upolu Point to Kailua and ultimately to the 175-mile national historic trail.

alanui aupuni Street, road, or highway.

ali‘i Hawaiian sacred chiefs and chiefesses; the nobility.

aloha Sacred breath of life, love, compassion.

aloha ‘āina Love of the land, reverence for all living things.

heiau Hawaiian temple platform. There were numerous temples for many different purposes such as agricultural prosperity, fishing, surfing, the *hula*, etc. Only the highest ranking one, the *luakini*, was used for human sacrifice.

hōlua An inclined dry-laid masonry ramp on which sledding contests were held.

ho`okipa Hospitality

ho`okupu Tribute as a sign of honor and respect, gift exchange.

‘ili A subdivision within an *ahupua‘a* administered by the chief controlling the *ahupua‘a*.

‘ike Knowledge.

‘ili‘ili Pebbles.

hula Traditional form of dance.

Ka Lae Literally “the point” (South Point).

Kahiki The “ancient ancestral lands”; believed to refer to Tahiti in the Society Islands.

kahuna Prophet, seer; members of a priestly class; also classes of specialists and experts (e.g. navigators, healers, *tapa* workers, sculptors, architects, medical practitioners, genealogists, and so on).

kama‘āina Native born Hawaiian; person familiar from childhood with any locality; in modern usage it refers to all long-time residents.

Kāne One of four god types of ancient Hawai‘i (Kane, Ku, Lono and Kanaloa).

kapa Tapa, or barkcloth (*Broussonetia papyrifera*).

kapu Taboo; sacred; no trespassing.

Kapu A complex religious and political organization with associated rules (taboos)

kiawe The algoroba (*Prosopis pallida*), a legume from Peru. First introduced to Hawai`i in 1828.

kīhāpai Small land division; cultivated patch or small farm.

ki'i pōhaku A recent term to describe petroglyphs or rock art (literally "stone images").

kino lau Many forms taken by a supernatural, as Pele.

kīpuka An island of vegetation surrounded by younger or sparsely vegetated lava flows.

koa An endemic tree (*Acacia koa*), common in the dry forests, the wood of which was prized for canoes and other artifacts.

ko'a Fishing shrine.

kō'ele Small land unit farmed by a tenant for the chief.

kokua "Pulling with the back," pitching in to help, volunteering.

konohiki Land manager of an *ahupua`a*; a lesser chief.

kōnane An ancient Hawaiian game resembling checkers.

Kū A category with hundreds of gods. Kūkā'ilimoku was the war god of the Pili line of chiefs, of which Kamehameha was a member.

Kūkā'ilimoku Kamehameha I's war image, among others. He was given charge of it by his uncle, Kalaniopu'u.

kukuni or *kuni* To burn, blaze, kindle, scorch, brand.

kula Plain, field, open country; source.

kuleana Responsibility, implied reciprocity.

ku'ula *Heiau* for the worship of fishing gods; also a fish god stone.

Kumulipo Origin, source of life; name of Hawaiian creation chant.

kupuna Grandparent, ancestor, relative of grandparents' generation. *Kūpuna* is the plural form.

laulima "Many hands working together," cooperation.

lōkahi Unity, balance, harmony.

loko kuapā Fishpond wall.

loko pu'uone Pond by the shore.

Lono One of four god types; associated with agriculture, fertility and peace.

lua Pit, indentation, hole.

luakini The *heiau* maintained by a paramount chief in his chiefdom for prayer and human sacrifice; the highest rank of temple. Generally dedicated to different Kū variants of each kingdom, which were the gods of war and of national prosperity.

mahalo Thanks, gratitude.

Māhele Literally "a division, or a portion". The Great Māhele of 1848 was a division of lands between the king, chiefs, and government that established land ownership on a Western style, fee-simple basis. From this single act, the entire social, economic and political order of ancient Hawaii was altered forever.

makai Toward the sea; at the coast.

maka'āinana People in general; citizen.

Makahiki The portion of the Hawaiian annual cycle which saw desanctification of the *luakini* temples and the ceremonial collection of taxes or tribute. It began about the middle of October and lasted four lunar months, with sports and religious observances and a taboo on war.

māla Garden, plantation, cultivated field.

malama Care for, preserve.

mana Spiritual power, derived from the ancient gods, contained in varying degrees in all life forms and inanimate objects.

manaʻo Thought, idea, opinion; theory.

manaʻoʻiʻo Respect for nature.

mauka Towards the interior, or mountains; inland.

mauka-makai Refers to trails that run from the mountains to the sea.

mōʻī King, ruler.

moʻolelo Story, tale, history, tradition, legend.

Nā Ala Hele The name given to Hawaiʻi's Statewide Trails and Access System which was established in 1988. Nā Ala Hele develops and improves mountain and shoreline trails and accesses, both historic and modern, throughout the state while conserving Hawaiʻi's unique environment and cultural heritage. Literally means "the trails."

nui Large; important; before a noun, *nui* might mean "group."

ʻ*ohana* Family, relative, kin group.

ʻ*ōhiʻa* An endemic tree (*Metrosideros polymorpha*) dominant in the west forests. The wood was used for temple images.

ʻ*opihi* Several species of limpets (*Cellana spp.*).

paʻalā Water-worn stones. See *alā*.

pali A cliff or precipice.

papamū "Checkerboard" for game of *kōnane*, consisting of small, shallow holes arranged in a grid, either on native rock or a detachable slab.

pāhoehoe Solidified, smooth unbroken surface lava. When compared with ʻaʻā, often appears as billowy fields with hollows and small hills; large cracks mark some billows.

piko Navel; umbilical cord stump.

pono Balance, proper, right, just, fair, integrity.

puaʻa Pig.

puʻu Any kind of protuberance; hill, peak, mound, bulge.

puʻulena A famous cold wind at Kīluea and Puna

puʻuhonua Place of refuge; sanctuary. These were established specific sites usually associated with a *luakini heiau* at a royal center such as Puʻuhonua o Hōnaunau, of the ruler himself or herself.

tsunami Seismic wave (Japanese).

ʻ*ūlei* A native spreading shrub (*Osteomeles anthyllidifolia*)

wahi pana Storied and sacred places.

wao Environmental zone

Appendix F: Draft Memorandum of Understanding Between the National Park Service, Department of Land and Natural Resources-State of Hawaii, and the County of Hawaii For The Implementation, Management, Protection and Public Use of Ala Kahakai National Historic Trail

This Memorandum of Understanding ("MOU") is entered into, by the National Park Service, ("NPS") the State of Hawaii, by its Department of Land and Natural Resources, ("DLNR") and the County of Hawaii ("County") for the purpose of managing the Ala Kahakai NHT (Trail).

ARTICLE I: BACKGROUND AND OBJECTIVES

WHEREAS, the State of Hawaii, the County of Hawaii, and the NPS have the authority to enter into Agreements that are mutually beneficial and in the interest of the public;

WHEREAS, the National Trails System Act (Act) [16 USC 1244 (a)(22)] established the Trail and placed responsibility for administering the Trail with the NPS;

WHEREAS, only federal lands are to be administered as initial protection components of the Trail; but the Act authorizes the Secretary of the Interior to encourage and assist state, local, and private entities to establish, manage, and protect those segments of the Trail and associated resources that cross nonfederally-owned lands;

WHEREAS, the proposed approximately 175-mile long Trail traverses both federal, state, county, and private land and contains sensitive Hawaiian cultural and natural resources;

WHEREAS, these cultural and natural resources are exceptionally unique, rare and unparalleled compared to any other National Historic Trail in the United States, and require careful coordination and commitment from the parties to this MOU and general public to insure their sustainability, particularly when exposed to extended public use over time;

WHEREAS, establishing the alignment(s) and effectuating the management, maintenance and regulation of activities along Trail is a complicated and long-term project;

WHEREAS, NPS, DLNR and the County have determined that it is necessary to establish a documented working relationship between the NPS and the Hawaii public agencies that have jurisdiction and legal responsibility for land along the Ala Kahakai NHT;

WHEREAS, DLNR and the County, the public agencies with jurisdiction over some area of land where the Trail may traverse, support the concept of a properly protected and managed Trail for traditional and recreational access;

WHEREAS, DLNR has jurisdiction and/or ownership of various sections of historic trails that may comprise the Trail through the Divisions of Historic Preservation, Land, Office of Conservation and Coastal Lands, State Parks and Forestry and Wildlife-Na Ala Hele Trail and Access Program, and their respective Hawaii Revised Statues (HRS) and Hawaii Administrative Rules (HAR);

WHEREAS, several major private landowners have conditions attached to SMA permits, zoning changes, subdivision approvals, or other land use permits administered by the County which require them to allow pedestrian access to and along the shoreline,

WHEREAS, some of these accesses may be suitable for incorporation into the Trail;

WHEREAS, the County continues to receive applications for land use changes from private landowners that may affect the Trail.

WHEREAS, it is essential to coordinate and clarify the jurisdictional, regulatory and management actions and fiduciary responsibilities between the Federal, State and County governments in relation to the management of the Trail in order to provide a seamless trail experience for the user;

ARTICLE II: AUTHORITY

A. National Trails System Act ("the Act")(16 USC 1241-1252),
B. Hawaii Revised Statutes (HRS) Chapters 6E, 171,183C, 184, 198D, 205, 205A, and section 46-6.5
C. Hawaii Administrative Rules (HAR) 13-275-284, 13-300, 13-221, 13-146, 13-130
D. Hawaii County Code, Chap. 25 and 34

ARTICLE III: STATEMENT OF WORK

All of the parties mutually agree to meet, confer, consult, and plan together and to

1. Participate in implementing the Trail Comprehensive Management Plan and to manage the Trail's resources as appropriate and feasible.

2. Establish individual coordinators within each agency for Trail administration activities.

3. Keep each other informed and consult periodically on management issues pertaining to the Trail.

4. Collaborate on amendments or modification to this MOU, as needed, to further clarify the jurisdictional and working relationship between the three parties or any additional organizations or agencies.

5. Work to develop a single set of guidelines regarding administration and management of the Ala Kahakai NHT to avoid inconsistency.

6. Develop and implement a Programmatic Agreement in accordance with the Section 106 or the National Historic Preservation Act and its implementing regulations, including 36 CFR Part 800.6(a)(C) and 800.14(b), and with the respective agencies to ensure appropriate identification and treatment of historic properties potentially affected by use of the Trail and to coordinate federal and state statutory and regulatory authorities regarding historic properties and burial sites.

7. The parties are not obligated to commit resources or to participate in obtaining funds unless such commitments are a part of a specific, separate agreement. Parties can enter into specific agreements and working plans for implementation of individual projects, hiring of personnel, transfer of funds, purchasing of supplies, and other matters.

NPS agrees to:

1. Act as the lead agency in coordinating activities associated with the implementation of the CMP and this MOU and with administration and management of the Trail.

2. Review land use permit applications, environmental assessments and impact statements, and other reviews pertinent to the Trail, as requested by parties to this MOU.

3. Produce and share among the parties Geographic Information System (GIS) maps documenting the historic trail and access data submitted by Na Ala Hele and others, including data generated by the NPS, provided that such information is used in compliance with the terms of the National Historic Preservation Act and the Archeological Resources Protection Act.

4. Work with DLNR and the County in responding to legal issues associated with the Trail.

5. Consider accepting management responsibilities for state-owned portions of historic trail that become official parts of the Trail or for land owned by private entities that wish to participate in the Ala Kahakai NHT program.

6. Coordinate with the Hawaii Island Na Ala Hele Trail and Access Advisory Council on issues that pertain to the Trail.

DLNR agrees to:

1. Overall:

   a. Coordinate support from the pertinent Divisions and Programs of the department in the form of data sharing and technical expertise.

   b. Advocate to the Governor, Legislature, and Congress on issues that affect the Trail.

   c. Include the Ala Kahakai NHT in the review of Conservation District Use applications and other land use permits that affect lands likely to contain ancient and historic trails that might be included in the Ala Kahakai NHT.

2. Through the Division of Historic Preservation (HP):

   a. Continue to provide NPS with historical and archeological data from the HP database.

   b. Assist with the investigation and classification of unrecorded burial sites and historic properties.

   c. Provide regulatory oversight and guidance on issues associated with burial sites and historic properties.

3. Through the Office of Conservation and Coastal Lands:

   a. Provide regulatory coordination where the Trail traverses Conservation District lands.

4. Through the Division of State Parks:

   a. Provide management of the Trail consistent with the NPS Comprehensive Management Plan where it traverses State Parks.

   b. Collaborate on the design of signs and interpretive media and provide technical interpretive assistance along other sections of Trail not owned by State Parks.

5. Through the Division of Land:

   a. As is mutually determined feasible and desirable, execute either a Set-Aside or Lease Agreement through the Board of Land and Natural Resources (BLNR) that would formally approve the conveyance to the NPS of portions of State-owned ancient or historic ala loa (long trail) that qualify to be included as official components of the Trail. It is understood that the execution of either a set-aside or a lease does not relinquish the State's fee simple interest in trail segments that have been determined to be State-owned via Chapter 264-1, Hawaii Revised Statues.

6. Through the Division of Forestry and Wildlife-Na Ala Hele Trail and Access Program:

   a. Continue to provide abstract data that pertains to the Trail corridor.

   b. Assist with the determination of alignments that qualify for recognition as part of the Trail or for conveyance to NPS.

   c. Coordinate with the Hawaii Na Ala Hele Trail and Access Advisory Council on issues that pertain to the Trail.

   d. Provide technical training on trail maintenance to NPS staff and community volunteers.

   e. Provide input on the Trail management planning process.

   f. Collaborate on the design of specific signage that identifies the route of the Trail on the ground and other signage, such as signs warning of specific dangerous natural conditions related to rockfall, flashflood, cliffs, and submerged hazards (excluding hazards related to the ocean).

   g. Provide other pertinent technical information and staff support related to trail management and maintenance if it does not adversely affect other Na Ala Hele projects and existing staff workload.

h. Consider the feasibility of adding currently identified State-owned trail segments that traverse private property, with the consent of the landowner, to the Na Ala Hele Program and include these segments under 13-130 HAR.

The appropriate County Departments agree to:

1. Continue to enforce county and state laws requiring public access to and along the shoreline as a condition of land use approvals. These trails may become official components of the Trail.

2. Require that applicants conduct metes and bounds surveys of any historic trails and routes that will be required as part of the land use permitting process to be preserved and that may become part of the Trail.

3. Encourage private landowners who have public access requirements as conditions of a land use approval to execute an agreement with the NPS to include these areas in the Trail, where appropriate.

4. Work with the NPS to identify public access easements with potential incorporation in the Trail.

5. Work with the NPS to identify trail segments through county parks for incorporation into the Trail.

6. Collaborate on the design of specific signage that identifies the route of the Trail, particularly where it traverses County Beach Parks.

7. Include the Ala Kahakai NHT administrative office on the mailing list for the Planning Commission.

ARTICLE IV: TERM OF MOU

A. This MOU will remain in effect for five years, beginning on the date of the last signature below. This MOU may be renewed upon mutual agreement between the Parties

ARTICLE V: KEY OFFICIALS

A. Key officials are essential to ensure maximum coordination and communication between the parties and the work being performed. They are:

For the NPS
Aric Arakaki, Superintendent
Ala Kahakai National Historic Trail
73-4786 Kanalani Street, #14
Kailua-Kona, HI 96740
Telephone: (808) 326-6012
e-mail: aric_arakaki@nps.gov

For DLNR
Curt Cottrell, Na Ala Hele
Department of Land and Natural Resources
1151 Punchbowl Street
Kilanimoku Building
Honolulu, HI 96813
Telephone: (808) 587-0062
e-mail: Curt.A.Cottrell@hawaii.gov

For the County
Chris Yuen, Planning Director
Aupuni Center,
101 Pauahi Street, Suite 3,
Hilo, HI 96720

Telephone: (808) 961-8288
e-mail: chris_yuen@co.hawaii.hi.us
Or
Patricia Engelhard
Director of Parks and Recreation Department
101 Pauahi Street, Suite 6
Hilo, HI 96720
Telephone: (808) 961-8311
e-mail: parks_recreation@co.hawaii.hi.us

ARTICLE VI: MODIFICATION AND TERMINATION

A. Upon mutual consent of the parties, this MOU may be modified or amended as necessary to clarify roles, management obligations, regulatory functions, or any other purpose necessary to further the administration of the Trail.

B. Modifications or amendments to this MOU may be proposed by any Party and shall become effective upon written approval by all parties.

C. This MOU may be terminated upon 60 days advance written notice given by one of the parties to the others, or it may be terminated earlier by mutual consent of all Parties.

ARTICLE VII: STANDARD CLAUSES

A. Civil Rights

During the performance of this MOU, the parties agree to abide by the terms of Executive Order 11246 on nondiscrimination and will not discriminate against any person because of race, color, religion, age, sex, or national origin. The parties will take affirmative action to ensure that applicants are employed without regard to their race, color, religion, age, sex, or national origin. No otherwise qualified individual will be denied access to a program or activity solely on the basis of a disability.

B. Publications of Results of Studies

No party will unilaterally publish a joint publication without consulting the other parties. This restriction does not apply to popular publication of previously published technical matter. Publications pursuant to the MOU may be produced independently or in collaboration with others; however, in all cases proper credit will be given to the efforts of those parties contributing to the publication. In the event no agreement is reached concerning the manner of publication or interpretation of results, any party may publish data after due notice and submission of the proposed manuscripts to the other parties. In such instances, the party publishing the data will give due credit to the cooperation but assume full responsibility for any statements on which there is a difference of opinion.

C. Non-Fund Obligating Document

This instrument is neither a fiscal nor a funds obligation document. Any endeavor to transfer anything of value involving reimbursement or contribution of funds between the parties will be handled in accordance with applicable laws, regulations, and procedures. Such endeavors will be outlined in separate agreements that shall be made in writing by representatives of the parties and shall be independently authorized by appropriate statutory authority. This instrument does not provide such authority. Specifically, this instrument does not establish authority of noncompetitive award to the cooperator or any contract or other agreement.

Approved as to Form:

For the Department of Land and Natural Resources

_____ _____

Deputy Attorney General Date

For the County of Hawaii

_____ _____

Corporation Counsel Date

Approved:

For the National Park Service

_____ _____

Jonathan B. Jarvis, Regional Director Date
Pacific West Region

_____ _____

Aric Arakaki Date
Ala Kahakai Trail Superintendent

For the Department of Land and Natural Resources

_____ _____

Chairperson of the Board of Land and Natural Resources Date

For the County of Hawaii

_____ _____

Mayor of Hawaii County Date

Appendix G: Sample Agreement between the National Park Service and an Interpretive Facility or Historic Site along the Ala Kahakai NHT

XYZ Historical Society Museum
address

Type of Property: Interpretive facility Owner: XYZ Historical Society

General -- [Delete Complementary Interpretive Facility or Site/Segment as needed from the above header. For sites not owned by a trail state agency select the first paragraph below and delete the other five. For a site owned by a state agency, select the appropriate paragraph and delete the others.]

This agreement represents the Secretary of the Interior's recognition, under the National Trails System Act [16 USC 1241 et seq. § 7(h)(1)], that the XYZ Museum located at _____, meets the national historic trail criteria established by the National Trails System Act and any supplemental criteria prescribed by the Secretary of the Interior.

The National Park Service and the XYZ Historical Society agree voluntarily to strive to achieve the highest level of visitor appreciation of trail resources and history at the Museum, as provided for in the Comprehensive Management and Use Plan for the Ala Kahakai National Historic Trail for "...the identification and protection of the historic route and its historic remnants and artifacts for public use and enjoyment." [16 U.S.C. 1241 et seq. § 3(a)(3)].

Through this agreement, the National Park Service and the XYZ Historical Society agree to work jointly on planning, interpretation, resource management, and other matters that relate to the Ala Kahakai National Historic Trail at the Museum and to strive to meet the goals and objectives of the Comprehensive Management and Use Plan for the Trail.

The XYZ Historical Society retains all legal rights to the property, and nothing in this agreement is to be construed as granting any legal authority to the National Park Service over the property or any action by the Barton County Historical Society.

The agreement may be canceled by either party at any time by providing written notice to the other party. The National Park Service and the XYZ Historical Society agree, whenever possible, to identify issues or concerns to allow for resolution. This agreement will remain in effect unless cancelled by either party, or until the ownership of the property is transferred to another entity.

Signatures

On behalf of the XYZ Historical Society I hereby agree to the recognition of the XYZ Historical Society Museum as an interpretive facility for the Ala Kahakai National Historic Trail.

_____
Executive Director
On behalf of the Secretary of the Interior, I recognize the XYZ Historic Site as an official component of the Ala Kahakai National Historic Trail.

_____
Superintendent, Ala Kahakai NHT

Appendix H: Hawai'i Island Guidelines for the Treatment of Historic Hawaiian Trails

HAWAI`I ISLAND GUIDELINES FOR THE TREATMENT OF HISTORIC HAWAIIAN TRAILS (SUBJECT TO REVISION)

(ADOPTED BY NĀ ALA HELE'S HAWAI`I ISLAND ADVISORY COUNCIL ON MAY 10, 2005)

PURPOSE**: The Nā Ala Hele Hawai`i Island Advisory Council recognizes the need to establish guidelines for consistent treatment of historic Hawaiian trails when developments occur adjacent to them (see attached "Ancient, Historic and Old Government Trails and Roads in Hawaii: A Summary of Pertinent Law"). While each situation poses unique circumstances and every case requires individual consideration, certain guiding principles can be agreed-upon. It is hoped that these guidelines will help with Council decision-making and take some of the guess work out of the process for the Council, developers, State and County agencies and the public.* ***This is a working document that is subject to revision, as we find ways to improve upon it. Please check with the Nā Ala Hele Hawai`i Island program to make sure you are using the most current version.

- **If the Historic Hawaiian Trail Is Under State Jurisdiction, Consultation with the Nā Ala Hele Hawai`i Island Advisory Council Is Highly Recommended**

The Hawai`i Statewide Trail and Access System, known as Nā Ala Hele, is part of the Department of Land & Natural Resources' Division of Forestry and Wildlife. The program is required to establish advisory councils to solicit advice and assistance in the implementation of the statewide trail and access system. See attached "Fact Sheet" for more information on the Nā Ala Hele program.

- **The Assessments of Trail Values by Nā Ala Hele's Hawai`i Island Program & State Historic Preservation Division (SHPD) Differ**

SHPD's assessment of the value of a historic trail depends on its physical condition and archaeological integrity. While SHPD recognizes the cultural value of trails, a trail's archaeological value (and SHPD's preservation recommendation) is greatly influenced by its present-day state of preservation and whether it is an integral part of a larger complex that is to be preserved.

Hawai`i Island's Nā Ala Hele (NAH) assessment of the value of a historic trail involves more than its current physical condition. In its assessment of trail values, NAH also considers these factors:

1. evidence that the trail historically existed by examining archaeological reports, historic maps, historic accounts, early surveyors' notes, land deeds, boundary testimonies, and/or cultural impact assessments,
2. whether the trail potentially connects to other trails to form more lengthy routes, and
3. the public purpose served in preserving the trail.

NAH may also recommend "land banking" of trails deemed to have public value when resources are lacking to open them to public use.

- **Trail Relocation and/or Destruction**

It is the Hawai`i Island NAH Council's (hereinafter "Council") position that no relocation or destruction of historic trails be approved. Any such decision is done on a case-by-case basis, and many factors must be considered. Assessment of the trail's values (see previous section) is done, and council members may visit the subject area as part of decision-making. Council meetings are open to the public, and public opinion re: trail relocation and/or destruction is considered. Cultural experts, the State's Department of the Attorney General, and Nā Ala Hele's abstractor may need to be consulted. Planners, landowners and/or developers are encouraged to contact the Council early in the planning process. This can prevent misunderstandings and potentially costly delays.

Trail Erosion

When the trail is located in an area vulnerable to potential erosion, provisions for trail relocation in the event of trail erosion should be included in all trail-related agreements and approvals. This is in order to ensure that the negotiated trail will be usable forever. Water diversion techniques, i.e. waterbars, may need to be employed if water runoff is occurring or potential for soil erosion is present. Information on "Best Management Practices" (BMPs) to prevent or correct erosion problems is available through Nā Ala Hele.

Wave action has eroded the soil around the *`alā* stepping stones.

Trail has become unusable in sections.

Trail Width

Trail widths vary. There are no standard widths. Sometimes widths are apparent through direct trail observation and archaeological studies. Trail widths can change over time as they are used for different purposes or experience natural forces, such as erosion. Sometimes widths are specified in land deeds, historic maps, or in County permit documents when trail easements are required.

Breaches

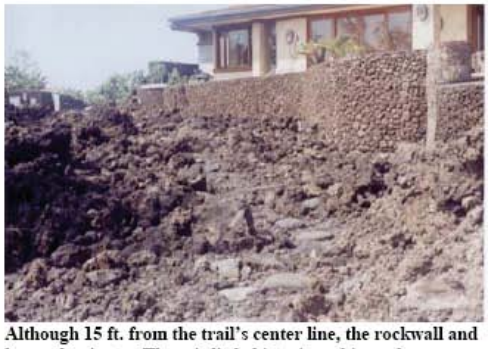
The number and width of breaches should be minimized. The original location of the trail should be restored within the breach, using materials that mimic the historic trail surface. In this manner the breached section will be connected to the original trail on either side. Review of planned breaches by the Council is recommended. Planners and developers are encouraged to request time on Council agendas for that purpose.

This is the preferred surface treatment. It mimics the authentic, historic surface while enabling road use.

The smooth, reddish cobblestone effect does not resemble the historic surface.

Buffer Width

Buffer widths vary. There are no standard widths. The council prefers widths of more than 15 ft., as measured from the trail's outside edges. This also applies to relocated and restored trails. Buffer widths are determined on a case-by-case basis and consideration is given to the archaeological integrity of the subject trail, surrounding environment, land uses, land ownership, and nearby natural and cultural features. The Council should be consulted early in the planning process.



Although 15 ft. from the trail's center line, the rockwall and house dominate. There is little historic ambiance here.

The feeling of open space and history is retained in the midst of a major resort when wider, natural buffers are present.

Buffer Treatments

Whether in its original historic condition or a realigned historic trail, no construction should be allowed within the buffers and the natural, existing terrain and grade should be maintained throughout the buffers. If the trail is in its original historic condition, only hand-clearing within the buffers should be permitted at any time.

In most instances, it is better to retain the existing vegetation, especially plants that provide shade. It is preferred that no landscaping be done within trail buffers unless the plants chosen are native to the area. The trail itself should be kept clear of vegetation.

Native plants such as *noni* sprout on their own.

The wild *kiawe* can be a welcome contrast to the manicured golf course.

Treatments Outside of Buffers

Surroundings immediately adjacent to trail buffers greatly influence the trail experience. When trails are near the shoreline, structures (including walls and fences) *ma kai* of the trails are discouraged to protect view planes and the historic ambiance. In some locations the natural lava "skin" may be the best choice if earth moving equipment has not already damaged the natural lava surface. Additionally certain plants can pose a safety hazard or result in undue maintenance requirements. Plants that drop large leaves and/or fruits (e.g., coconuts) or are likely to lean or encroach into the trail's buffer should be avoided.

Avoid plants that could become invasive, i.e., extensive root systems, exotic ground covers,

or prolific seed producers. Choosing native plants naturally growing in the area is likely to be the most practical approach, requiring minimal watering and special care. Be careful not to plant noxious weeds that are naturally occurring, such as fountain grass. Thorny plants should also be avoided.

Plant surveys done prior to the area's development can help to identify naturally occurring plants. Council members may be able to suggest resource people and sources for native plant materials.

Guy wires were used to keep the plumeria tree from falling into the trail.

Naupaka is encroaching into the trail, making it impassable by more than one person at a time.

■ Adjacent Historic, Cultural & Natural Sites and Interpretive Signs

Opening a trail to public use can potentially impact sensitive historic, cultural and natural sites adjacent to the trail. State Historic Preservation Division (SHPD) requires management plans showing how potential impacts of public use will be mitigated. In addition impacts to native Hawaiian customary and traditional rights and practices, and the alleviation of those impacts need to be addressed in the management plan.

Burials require special protection. Hawai`i Island's Burial Council (through SHPD) should be consulted for guidance. Certain cultural and natural sites may need to be closed to the public. It is recommended that those concerns be brought to the Council for recommendations and referrals.

It is essential to educate people about the significance of and proper behavior around trails and sensitive sites nearby. Signage can be effective in this regard. Interpretive signage planned for trails and adjacent sites should be reviewed by the Council. Check if standardized signage has been adopted for the particular area.

Note the property pin set into the historic trail.

Property markers of various types are commonly found in historic trails and walls. This one is secured with cement within a historic trail. Such practices deface historic sites.

- **Public Access Control**

Privately owned public accesses are commonly open during daylight hours only. In such cases, the Council advocates consistent hours: from sunrise to 1/2 – 1 hour after sunset (allowing time for people to pack up and leave after enjoying the sunset).

Historic Hawaiian trails are a special case because traditionally those trails were in use at all times. The Council supports continuing that practice for historic trails and routes that (1) are connected to a public road or other historic trails or (2) lead to or follow the shoreline. The Council recognizes that situations may arise in which control of public access is necessary.

- **How to Contact the Hawai`i Island NAH Council**

The Division of Forestry and Wildlife - Nā Ala Hele office can connect you to whoever is the current chairperson of the Advisory Council (974-4217). You can request to be on the agenda for the Council's monthly meeting. Contact of specific council members is also encouraged.

(4/17/05, dlc)

Appendix I: Comparison of Costs of the Alternatives

Class C - Cost Comparison of Alternatives for Ala Kahakai NHT CMP [1]

Study and Project Funding Needed	Alt. A	Alt. B: low	Alt B: high	Alt. C: low	Alt. C: high
Over the Next 15 Years					
Studies --Overviews of the entire trail					
Archeological Overview and Assessment		$40,000.00	$100,000.00	$60,000.00	$120,000.00
Ethnographic overview		$50,000.00	$75,000.00	$75,000.00	$100,000.00
Historical overview		$40,000.00	$50,000.00	$50,000.00	$75,000.00
Natural resource overview		$50,000.00	$100,000.00	$75,000.00	$130,000.00
Facility and infrastructure study		$40,000.00	$50,000.00	$50,000.00	$60,000.00
Total Study Costs	$375,000.00	$220,000.00	$375,000.00	$310,000.00	$485,000.00
Projects					
Trail segment reconnaissance		$115,000.00	$140,000.00	$140,000.00	$160,000.00
Trail segment analysis and planning		$660,000.00	$1,100,000.00	$920,000.00	$1,490,000.00
Metes and Bounds surveys		$121,000.00	$495,000.00	$121,000.00	$495,000.00
Trail restoration/construction		$480,000.00	$640,000.00	$675,000.00	$900,000.00
Trailhead development		$710,000.00	$1,020,000.00	$710,000.00	$1,020,000.00
Campsite development		$84,000.00	$168,000.00	$84,000.00	$168,000.00
Facility planning (25 % of construction)		$198,000.00	$297,000.00	$198,000.00	$297,000.00
Total Project Costs	$300,000.00	$2,368,000.00	$3,860,000.00	$2,848,000.00	$4,530,000.00
Total One -time Costs (Studies + Projects) [2]	$675,000.00	$2,588,000.00	$4,235,000.00	$3,158, 000.00	$5,015,000.00
Anticipated Federal Share of One - time Costs	$405,000.00	$1,035,200.00	$2,117,500.00	$1,263,200.00	$2,507,500.00
Annual Operations Costs					
Staff salaries and benefits (core staff)		$288,000.00	$352,000.00	$419,000.00	$513,000.00
Staff salaries and benefits (shared)		$81,000.00	$99,000.00	$121,000.00	$148,000.00
Office: rental, equipment, supplies, phones		$48,000.00	$66,000.00	$64,000.00	$88,000.00
Travel (cars, interisland/mainland travel)		$26,000.00	$36,000.00	$28,000.00	$38,000.00
Brochures, interpretive materials, signs		$20,000.00	$30,000.00	$30,000.00	$40,000.00
Partner support		$30,000.00	$50,000.00	$40,000.00	$60,000.00
Total annual Operation costs (NPS)	$260,000.00	$493,0 00.00	$633,000.00	$702,000.00	$887,000.00

[1] Caveat for all cost estimates: The implementation of the approved plan, no matter which alternative, will depend not only on future NPS funding and service-wide priorities, but also on partnership funds, time, and effort. The approval of a CMP does not guarantee that funding and staffing needed to implement the plan will be forthcoming. Full implementation of the CMP could be many years in the future. These cost estimates suggest the range of federal funds in relation to partnership funds-state, county, nonprofit organizations, private entities, and individuals- required to open to the public the section of trail from Kawaihae through Pu'uhonua o Hōnaunau in 15 years and to protect other sections of trail in that time period.

[2] The Feasibility Study projected a 50% nonfederal match for one-time costs. Alternative A estimates that the federal share would be approximately 60% because much of the trail work would be limited to the national parks. Alternative B estimates the federal share on the low estimate (anticipating greater partner involvement and fundraising) would be approximately 40% and on the high estimate, 50%. Alternative C estimates that the federal share on the low estimate (anticipating greater partner involvement and fundraising) would be approximately 40% and on the high estimate, 50%.

Appendix J: Community Meeting Results

March-June 2003
April-June 2003

MEMORANDUM # 066

TO: Ray Murray, Aric Arakaki, ALKA Planning Team
FROM: Mike Donoho
DATE: 08 July 2003
RE: Public Scoping Report

This report is a summary of the meeting format and input received from the nine scoping "open house" meetings for the Ala Kahakai NHT held between March 22 and June 28, 2003. The input received was from the "Mana'o Form" survey, verbal comments made during the meetings, and through consultations held in each area. Comments submitted after the scoping meetings and this report will also be included in the Comprehensive Management Plan.

INTRODUCTION/PROCESS

The public scoping for the production of the Ala Kahakai National Historic Trail (NHT) Comprehensive Management Plan/Environmental Impact Statement (CMP/EIS) was conducted to provide a baseline understanding of private landowner and the general public's perceptions of the trail as well as how the trail should be opened and managed. The meetings were held in an "open house" format for six hours on Saturdays to accommodate active weekend schedules. This format allowed attendees to drop in at their leisure, take in information about the trail, provide input to the planning team, and to depart as needed and still be able to fully participate in the process. This was intended to maximize attendance and public exposure to the CMP/EIS process. The Notice of Intent (NOI) for the Ala Kahakai CMP/EIS was published on April 4, 2003, and the scoping period officially ran through May 4, 2003. However, in an effort to outreach as many stakeholders as possible, the scoping period was extended through June 28, 2003 so that meetings could be hosted in several communities along the designated corridor of the Ala Kahakai

Date	Time	Region	Location	Attendees
March 22	9 am to 3 pm	North Kona	Kaloko-Honokohau NHP	12
April 5	9 am to 3 pm	South Kohala	Pu'ukohola NHS	40
April 19	9 am to 3 pm	North Kohala	Hisaoka Gym Mtg. Rm.	40
May 3	9 am to 3 pm	South Kona	Paleaku Peace Gardens	24
May 17	9 am to 3 pm	Kailua Kona	King Kam Hotel	24
May 30	4 pm to 7 pm	Naalehu	Na'alehu Community Ctr.	12
May 31	10 am to 1 pm	Pahala	Pahala Community Center	4
June 21	9 am to 3 pm	Hilo	Lyman House Museum	26
June 28	10 am to 3 pm	Puna/Volcano	Cooper Center	18

NHT. The public scoping schedule proceeded as follows:
Total Hours: 47
Total Attendees: 200

Although Na'alehu and Pahala are generally in the same region, the trail staff was advised to host two separate meetings, which were held on subsequent days. The Puna/Volcano meeting at the Cooper Center began at 10:00 am rather than the usual 9:00 am due to a scheduling conflict.

The meetings were advertised through the mailing of announcements utilizing an address list that included hiking enthusiasts affiliated with *E Mau Na Ala Hele*, a list of relevant legislators, the Kaloko-Honokohau NHP contact list, and other interested individuals, organizations and agencies that provided their contact information to the trail staff. The meeting announcements were sent to the following number of addresses in each region:

Region	# of Mailings
North Kona	198
South Kohala	200
North Kohala	210
South Kona	280
Kailua Kona	360
Naalehu/Pahala	175
Hilo	210
Puna/Volcano	197
Total Mailings:	1,830

Meetings were also advertised in the West Hawaii Today and Hawaii Tribune-Herald, with notices appearing 1-3 days prior to the event. No notice appeared in newspapers for the first open house in North Kona due to logistical difficulties with West Hawaii Today. Large signs were posted on the meeting days in high-visibility areas on adjacent roadways and on buildings where the meetings were held to encourage walk-by and drive-by participation. Meeting announcements also appeared in the Ala Kahakai NHT and E Mau Na Ala Hele newsletters.

The meetings were equipped with eight display boards that covered the following topics: *the Ala Kahakai NHT Act of 2000, Trail Facts, Trail Issues, Planning by Ahupua'a, Community-based Planning, Partnerships, Public Scoping,* and *Project Schedule*. Hand out materials were also available to attendees, including the Ala Kahakai NHT Planning Newsletter, a trail Fact Sheet, a map of the National Trails System, the Ala Kahakai NHT Act, and the *Mana'o Form* survey with stamped, pre-addressed envelopes so attendees could complete the survey at home and mail it in at a later date.

The non-profit trail advocacy group, *E Mau Na Ala Hele*, was represented at all but the Na'alehu and Pahala meetings, and furnished materials relevant to the Ala Kahakai. These materials included photographs of the 1998 hikes along the then-proposed corridor, the hike log book, and various studies. Their presence provided a first hand resource for questions by attendees related to the trail, and they assisted with set-up and break down of the meeting facility. The non-profit Naalehu Main Street organization hosted the meetings in Na'alehu and Pahala.

A presentation in Powerpoint format was delivered at least once at each meeting except for the South Kohala meeting at Pu'ukohloa Heiau NHS, and as many as three times (Kailua-Kona). The presentation covered such topics as the conceptual framework for the trail, the CMP process, and other related items. The presentation instigated verbal input for the plan design and content by attendees.

SUMMARY OF INPUT

Attendance and the flexible meeting format varied between regions, however there was consistency in the input given for the plan and future management alternatives. This section summarizes the verbal input given at each meeting and through consultations:

Planning Process:

- Have students at UHH help with website design
- Contact UHH professors of Geography and Hawaiian Studies
- Meet with the Hawaii Leeward Planning Conference (private landowner organization)
- Meet with all Hawaiian Civic Clubs
- Host meetings away from the National Parks
- Have a set agenda for the next round of meetings, to focus on the issues
- Bring old survey maps
- Put captions/stories with photos in displays
- Show public and private lands on a large scale map
- Put project timeline and other information on the Ala Kahakai website
- Use caution when presenting the culture as a non-Hawaiian

Plan Content

- "Ala Kahakai" carries negative connotations from earlier trail efforts that began in 1970's
- The absence of vehicular access to the trail acts as a buffer, walking to trail has less impact
- Put "preservation of area in National Register"
- Need to understand the past and to not force an effort to establish the trail
- "Plant today to eat tomorrow, not eat today"

- Once development begins, "open & conservation" designation is lost
- Look to the elders in each community
- Need to get strong community support in each area
- Trail needs to be safe to users and adjacent residents
- Designated trail corridor should extend Pololu, to cover area also needing protection
- Kamehameha brought all areas together - need the trail to go around the whole island
- Land grants (Mahele) did not include trail easements, remained public
- There was no trail – "fictitious." Ancient Hawaiians traveled only by canoe in Kohala
- Could not travel by canoe in winter weather – needed to have shoreline trails
- This trail should compensate for access rights that are currently being taken away
- Extend designated corridor to Hilo
- Plan for horses on the trail in appropriate places, has historical and modern use
- Push for larger buffers – some places are too constrained
- Encourage Nature Conservancy, etc., to buy up adjacent lands
- Propose tax incentives for perpetual easements through private lands
- How will ADA be incorporated on a historic trail?
- Need guidelines for camping on the trail
- Focus on development "hot spots"
- View trail as a museum piece vs. active use
- Trail should be along highway north of Kawaihae, through Hawaiian homelands
- Inventory existing open sections of the trail
- Turtle protection allows for more sharks and attacks, reduction in limu kohu, which in turn causes shoreline erosion
- Ala Loa also refers to a mauka-makai trail in Kahuku (south point area)
- Focus on children – offer stewardship trail to students/classes first
- Designate kupuna as point of contact for school groups
- Trail is intact to Kumukahi, Pahoa area
- Foreigners (Filipinos, etc.) only concerned with money, which is sent back to their homeland
- Remove 4WD access to/on trail
- Establish a bag limit to regulate natural resource consumption
- Do not make a toll trail
- Leave the trail better than you found it (users)
- Need appropriate behavior guidelines for trail
- Use impact fees for enforcement officers and monitoring programs
- Need a konohiki system of land management
- Burials require special treatment in the CMP
- "Kuleana," not "stewardship," as stewards can retire, kuleana is permanent responsibility
- Need to establish carrying capacity for the trail
- Need youth involvement
- Need professional active management of trail and resources
- Need a map of all sacred areas on the island
- "Walk" with all senses: notice smells, sights, sounds – where feet cannot go
- Need to respect residents living near trail
- Need to reeducate people about usage of trails
- Teach traditional Hawaiian means of water transport, medicines, cargo, sandals, stepping stone placement, and other aspects of trail use and management
- Use bypasses and permits for some areas that are too sensitive for open use
- Connector (mauka-makai) trails are only for people from that area
- Some aspects of land management were whole-island (like the human body), not just ahupuaʻa
- Different areas tell different stories
- Don't just preserve the culture, but restore it. Can't understand the wind unless one uses it for sailing, for instance
- Create an endowment for volunteer-based maintenance – perpetual funding base for trail improvement projects
- Create a catalog of options to mitigate impacts to and along trail
- Contemporary commercial activities are a European influence, and not indigenous economics
- Need coastal resource monitoring

SURVEY RESULTS

This section summarizes the input received in the *Mana'o Form,* the survey distributed at the scoping meetings. A total of 18 of these forms were received by the completion of the meeting series, however the public is being encouraged to submit comments at any time during the planning process. The number in parentheses indicates the number of times a particular comment was stated, while the entries with no number indicate one occurrence of the statement. The results of the survey are as follows:

Question 1: *What should be the criteria for opening any part of the trail?*

Full consent of landowners affected	(4)
Signage program	(4)
Community outreach with kupuna and locals	(3)
Begin with existing managed areas	(3)
Improve access points	(3)
Funded plan for: safety	(3)
security	(2)
maintenance	(2)
Cultural sites (caves) should be secured	(2)
Flier	(2)
Trail blessing	
Complete historical studies	
Protect natural resources	
Monitoring	
Release property owner from harm	
ADA considerations	
None – open as soon as possible	
None – should remain closed	

Question 2: *Ala Loa only, or include other historic trails?*

Use Ala Loa first, then other trails if necessary	(9)
Use all trails	(6)
Use only Ala Loa	(1)

Question 3: *Strategies for protection?*

Permitted passage	(8)
Guided passaage	(8)
Rerouting/Bypass	(3)
Interpretation/education	(3)
Screening/camouflage	(2)
Seasonal closures	(2)
Outright closure	(2)
Konohiki System	
Monitoring	
Enforcement	
Don't disclose sensitive sites	

Question 4: *Community involvement?*

As much as possible	(6)
Maintenance and repair	(4)
Get their mana'o	(2)
Clean up	(2)
In public sections, or with consent of the landowner	
Community groups under a central council	
Adopt a trail program	
Only appropriate organizations	
Communicate intentions of group to greater community	
As partners on the trail	
Trail users should be actively involved in management as they hike	

Enforcement
Only Native Hawaiians

Question 5: *Government Involvement?*

Organization/coordination/negotiation/legal issues	(9)
To a limited extent, as little as possible, out of the picture	(4)
A lot	(4)
Funding	(3)
Maintain trail, signage	(3)
Enforcement	(3)
Respect culture and community	(2)
Distribute information/education	(2)
Regulate use/Control access	(2)
Whatever is really needed	
Restoration	

Question 6: *Negative & positive effects of NHT?*

Positive

Access/awareness/education for local people	(8)
Potential recreational amenity	(6)
Respect for host culture	(3)
Clear set of rules	(2)
Beautification/restoration	(2)
Better management	(2)
Instill public pride	
Greater conservation ethic	
More funding	

Negative

Decreased security, more looting/vandalism	(7)
Overuse	(6)
More trash/pollution	(5)
Commercialization	(3)
Trespass	(2)
Opposition by locals/property owners	(2)
Problems associated with vehicles	
Decreased safety	

Question 7: *How should cultural resources be protected?*

Realignment/reroute trails/bypasses	(5)
Volunteer watch groups	(5)
Stiff laws, penalties	(4)
Permits/guides	(3)
Education	(3)
Vegetative screening, camouflage, barriers	(3)
Konohiki type management system/kapu	(2)
Appropriate signage/discretion	(2)
Restrict vehicle access	(2)
Video on planes	(2)
Guidebook on behavior	(2)
Fencing/Barred gates over caves	(2)
Surveillance cameras/monitoring	(2)
Boardwalks and handrails	

Question 8: *How should natural resources be protected?*

Limit fishing	(4)
Volunteers from local community	(3)

Interpretation/signage	(2)
Rangers will maintain areas	(2)
Plant Hawaiian plants	(2)
Remove alien species	(2)
No commercial use	(2)
Keep car away from ocean – make people walk	
Need a konohiki type system	
Use a hike log to document users	
Education	
Videos	
Guidebooks	
Preservation areas	
Monitoring/surveillance	
Use Hawaiian Moon calendar	
Native Hawaiian reciprocity	

Question 9: *Pros and cons of managed access?*

Pros:

Participation by public/management presence	(9)
Maintain historic integrity	(2)
Partnerships	(2)
Jobs	
Keep drugs out	
Access w/o 4WD	
Provide recreational opportunities	
Inventory cultural resources	
Stay on trail	

Cons:

Trash	(2)
Trespass	(2)
Accidents	
Minimal	
Clash of cultures	
Increased access into previously inaccessible areas	

NEXT STEPS

Based on the results of the survey and verbal input on the plan and its process, draft management alternatives covering the entire trail and region-specific alternatives will be created. Focus groups will be convened that will include private landowners, relevant government and non-government organizations, and public citizens to further detail the formation of these draft alternatives. After the draft alternatives have been created, the next round of public meetings in each region will be scheduled. The format is anticipated to be somewhat different than the open house events in the first round, so as to elicit specific responses to each proposed alternative. This meeting series is expected to begin in early 2004.

ALA KAHAKAI NATIONAL HISTORIC TRAIL
DRAFT ALTERNATIVE REVIEW MEETINGS

Meeting 1: KONA OUTDOOR CIRCLE

April 17, 2004; 10:00am to Noon

NHT STAFF: Superintendent Aric Arakaki and Mike Donoho, Planner
Facilitator: Dickie Nelson
In Attendance: 12, not counting 2 KOC staff, 3 NHT staff and AP Reporter. Refer attachment for name / address contact information.

Agenda:

- Pule by Kahu Billy Paris
- Introductions
- Guidelines for Discussion
- Power Point Presentation: Overview of progress to date
- Review five alternatives
- Voting for top three preferences

OUTCOMES:

- impact County and State government rules?
- NHT: A collaboration process is being developed.
- Who validates what is historic?
- NHT: The State Historic Preservation Division (SHPD) is the point of reference for preservation; NPS will uphold state Comments:

Alternative A: No comments offered.
Alternative B: The involvement with land owners…would NHT manage?
NHT: Yes.

Alternative C:

- Could we widen the trail? Say 3 –4 person width. Men of old were tall and large men. They were nightwalkers.
  NHT: Good comment – will be taken into consideration. Case by case basis.
  What is the scale inland?
  NHT: Approximate.
- "In favor of C"
- Is it practical for NHT to manage?
  NHT: Every national trail program is supported by a *non-profit organization*. The intent for this project is to create an *npo* as a support group to assist in the management of the trail.
- "Concerned about enforcement capability. A konohiki protocol could be a part of the management/maintenance program".

Alternative D:

- No *pukas (in the trail)* would lead to development
  Preservation orientation…how will this and county mandates. A comprehensive archaeological inventory for Ala Kahakai is under contract with SHPD.

Alternative E: No comments offered.

2. VOTING RESULTS: (Blue=1st choice; Green=2nd choice; Red=3rd choice)

Alternative A:	As presented: 0 With modifications: 0
Alternative B:	As presented: 3 green; 1 blue With modifications: 4 red
Alternative C:	As presented: 8 blue With modifications: 2 blue
Alternative D:	As presented: 5 green; 2 red With modifications: 2 green

Alternative E: As presented: 4 red; 1 green
With modifications: 1 red

3. General comments:
- Land owners who deny access: TMK maps, Realtor assistance, communications with NHT are available as mitigating resources.
- Caves…oiwi disturbances…catalog and seal entrance to cave.
- Cultural protocol regarding ahupua‘a…very strict adherence, very effective stewardship over natural resources. Can this practice be restored?

4. Comments from the Power Point Presentation:
- Have you clarified the length of the trails?

NHT: Which trails are to be a part of Ala Kahakai will be determined through alternative review and certification process.
- Do you have names of people who have information about the trails?
  NHT: The list is growing.
- Will you mark the trails that have been destroyed?
  NHT: Good comment.
- Intensive research is in progress by Kona Outdoor Circle regarding the ahupua‘a it sits on.
  NHT: NHT is committed to assist in the education of this research where applicable.
- NHT should invite families of each ahupua‘a to contribute their mana’o regarding the history (Hannah Reeves).

5. Closing Pule offered by Dickie Nelson

Note: Meeting time extended by ½ hour with permission from those in attendance. Meeting adjourned at 12:30pm.

Meeting 2: HONOKAHAU HARBOR CLUBHOUSE

April 24, 2004; 10:00am to Noon

NHT STAFF: Superintendent Aric Arakaki and Mike Donoho, Planner
Facilitator: Dickie Nelson
In Attendance: 15 excluding 3 NHT staff. Note: one came at 11:22am; 9 left just after 12 Noon.
Agenda:

- Pule offered by Dickie Nelson
- Introductions
- Guidelines for Discussion
- Power Point Presentation
- Review five alternatives
- Voting for top three preferences
- Pule offered by Mikahala Roy

OUTCOMES:

1. Adjustments to the Agenda:
   - The assembly requested and agreed to re-arrange the seating from a theater-style arrangement to a semi-circle format so that participants would be facing each other.
   - While the guidelines suggested the holding of comments until the completion of the power point presentation, the assembly made comments as the presentation was being given. The outcome of these interjections significantly altered the suggested agenda / time allocation.
   - Alternative A was the focus of the balance of the meeting until adjournment at approximately 2:00pm. Alternatives B through E were not discussed.
   - An Alternative "F" was suggested and discussed.
   - Six attendees remained after the noon hour. An in depth discussion on Alternative A ensued. Alternative A and the suggested Alternative F appeared to be favored by those who remained in discussion beyond the noon hour.
   - There was no voting for the top three preferences.
   - There was no distribution of the survey forms [Note: surveys were available to those who took handouts by the sign-in sheet.
2. General Comments:
   - Some who attend these meetings have no background on the (Ala Kahakai) trail.
   - The current (theater format) seating arrangement presents some problems.
   - A request to re-arrange the seating into a "circle" arrangement was suggested. A spot survey was taken and all agreed to re-design the seating into a semi-circle arrangement where all could see each other as well as the presentation screen. One of the attendees later asked that the following comments be added to the general comments: "The trail should not facilitate easy and open access to sensitive historic sites".

3. Power Point Presentation: During the presentation, the attendees commented and asked questions, as they felt inclined to do so.

- Resist (object) to the verbal statement that, "the environment is diminishing" was misheard as "culture is diminishing " . Statement was clarified
- There are some areas where the trail does not exist.
- A committee of Hawaiian consultants is needed.
- There are sidewalks constructed over some portions of the trail.
- Concerned about Federal Regulations (i.e. ADA requirements) when using federal funds. NHT responded: ADA accommodates the preservation of historic integrity of trails.
- Trail – not a right for everyone to use.
- [Some commercial tour operators] disrespect true trails. Can't sell it, there is no dollar value. Native Americans have demonstrated that there are no safeguards to protection of sacred sites.
- Mokupuni o Keawe is the seed of resistance to the Akaka Bill (Federal Recognition) and creation of identifying an "aupuni o Hawaii."
- Integrity of State Historic Preservation Division (SHPD) is in question. A lawsuit is pending between SHPD and a native non-profit organization
- Provide a list of community groups that NHT works with.
- Suggest Mikahala submit a comprehensive letter to NHT regarding her concerns. Mikahala's response: "Can't…see this venue as her opportunity to express her concerns.
- While trail crosses many ahupuaʻa, the Hawaiian protocol (most of the time) stayed within their own ahupuaʻa…there is a 40' public domain setback from the shoreline…it is still in dispute with the commercial charter boats (example: Queen Lilioukalani's shoreline property at Papawai Bay's 40' foot extension under

water clashes with the charter boat floating buoys)

- Mr. Roy stated that we should not be building trails where there historically were none and he said that he had no problem with people laterally accessing the shoreline within prescribed, 40 feet set backs
- NHT: "This is not the only forum for providing information…call, visit, fax, email, etc. our office.
- Hawaiian culture does not act under majority rule
- NHT meetings provide full disclosure to the best of their ability to do so.
- Local people one of the challenges…they have not nurtured their ohana…colonization has had a very negative impact on the younger generation…take all the fish they want…don't care…this includes Hawaiians and non Hawaiians.
- Senator Dan Akaka needs to come to the people, come to these meetings…he is supposed to speak for us, yet he does not represent all Hawaiians.
- Need comfort stations…this calls for added roads to maintain the comfort stations as use of the trail increases…enforcement and good maintenance is a great concern…if the Feds can't fund, leave the trail alone. NHT responded: It will create a non-profit organization to work with smaller segments of the trail. (not all non-profit organizations represent local families). Also: if resources are not available, then certification will not proceed.
- Trail enthusiasts…many do not know of sacred sites along the trail….out of ignorance they desecrate sacred sites.
- Will NHT collaborate with other agencies and non-profits to control desecration acts (of ignorance)? NHT: Yes.
- Keauhou Historic Trail…what happens to it? Kamehameha Schools purchased it from the State of Hawaii. Is Kamehameha Schools aware of the trail area?
- Traditional families of the land (kamaʻaina) very valuable to glean information from regarding the Trail.
- What happens when funding goes away?
- Continue to respect and listen "to the land".
- Kapu signs are not a guarantee to protecting the trails.
- Need to have a plan to control "bad behavior".
- Trail segment suggestions must be from people in each segment area.

Proponents of the Trail tend to benefit from eco tourism programs.

- People who desecrate the trail are from all ethnic groups.
- The King's Trail was for the Alii only. "It is our right!"
- Contact descendents from Kawaihae to Lapakahi…they are very protective of this area…gather valuable information from each of the ahupuaʻa. They provide a deeper understanding of the practices of the past.
- How can we protect the sacred areas?
- Some NP (spell out) groups destroyed three 600-year-old sacred sites at Lapakahi Park. State authorities were notified, but did nothing.
- Signs / procedures don't always work…anticipate similar problems with the 175 miles of Trail…existing trails benefit…non existing trails do not benefit.
- SHPD / families in conflict regarding use of trails at Lapakahi State Park…DOCARE is very difficult to contact.
- Alii land…developers displace Hawaiian population.
- What we decide today will impact those who follow (Hawaiian) in our footsteps.
- Certification: Hawaiian testimony is a higher priority over government / non-profit groups when in conflict…dependency of the land has the highest priority.
- "Hiking" is not traditional practice and there is no equivalent Hawaiian term.
- Hawaiian community is #1 certification step, specifically descendents / kamaʻaina.

4. Alternative A: The following are remarks captured relative to Alternative A:

The remarks that follow are from Chris Nazara of Kau:

- USA has no jurisdiction over the Hawaiian Kingdom.
- I support Alternative A. Also, I do not accept the "Trail Act"…it is a fraud. I gauge my walk by the wisdom of ke Akua.
- Court challenge…palapala disconnected by western law.
- I do not expect any more of these discussions without the proper kamaʻaina's present.
- I have taken the oath to honor the Hawaiian Kingdom. USA has come to *come to me* to discuss land / trail issues. *I AM THE LIGHT, WATER, WAY*. I am also here as a servant.
- The Queen's (Liliʻuokalani) Protest is the legal document that I follow.
- We are all children of God.

[From this point on only six persons remain in the discussion. The others left.]

- "A" is better than the other alternatives…CDUA - contested case requires the plaintiff to use their own money against all government agencies.
- Missing from "A: is serious legal consequences for violations.

- Based on what has been said thus far on Alternative A, there should be another alternative…Alternative F…there should be no red lines. *The Federal Government has no jurisdiction over trails and all lands.* This includes the trails on National Park Lands. The Ala Kahakai National Historic Trail Act is Invalid!
- The 1887 Hawaiian Constitution explains how to reactivate the Kingdom.
- Queen Lilioukalani acted to protect *all* trails.
- Chris: "We shouldn't have to be at this kind of meetings…we are here by permission from our ancestors…my ancestors flow through me".
- NHT: How can Aric and Mike help the trails issue?…"Take what was shared today and communicate this to your superiors.
- Chris: Ala Kahakai NHT staff should continue to work with the community to "malama aina"
- We don't know whom to trust! I've seen what the State has done…now we are in the midst of a Federal initiative regarding the Trails…I don't trust the Feds…yet they have good employees (Aric / Mike) who really care but their superiors overrule them!

5. Facilitator's closing comments: The outcomes from this meeting suggests NHT staff needs to evaluate and suggest possible adjustments to its agenda in preparation for the third meeting, which is to take place at Pu'ukohala on May 8, 2004.

Meeting 3: Pu‘ukohola, Kawaihae

Saturday, May 08, 2000; 09:30am to Noon

NHT STAFF: Mike Donoho, Planner
Facilitator: Dickie Nelson
In Attendance: 6, excluding 3 NHT staff, 1 Ala Na Hele, 1 Pu‘ukohola staff

Agenda:

- Pule offered by Dickie Nelson
- Introductions
- Purpose for this meeting
- Guidelines for Discussion
- Power Point Presentation
- Review five alternatives
- Voting for top three preferences
- Pule offered by Papa Akau

Note: Following the review and acceptance of the agenda and the discussion guidelines, the power point was presentated with instructions that there would be no responses accepted from those in attendance during the pp presentation. There would be ample opportunity *following* the power point presentation.

There were no responses following the pp presentation, therefore the alternative trail models were reviewed with responses from those present. NHT began with Alternative E.

OUTCOMES:
Alternative E:

- More trail can be determined based on Highways Act
- What % is on the corridor? NHT: 60%. (of the trail)
- Weakness – non contiguous
- S. Kohala, DHHL, Queen Lilioukalnai, Parker Ranch
- "High water mark is private lands"
- No such thing as Ala Kahakai (Ala Hele / Ala Loa are the proper identifications)…State not doing good maintenance
- Tell private owners, "they don't own trail (6' width)
- Kauikeaoli – 1847 Constitution
- State, County, Federal working together can accomplish much
- Liloa Alapanui came to Kawaihae to spend time
- Government still owns Kohala – mauka/makai
- Public lands were Crown Lands
- Residents had access only to *their* ahupua‘a
- Commercial use and pig hunting undesirable
- Different group desecrate
- New owners – culture conflict (burials destroyed)
- Law of the Splintered Paddle applies today
- Mauka-makai trail has to have trail that connects to Ala Kahakai
- Eco tourism (non-Hawaiian / Hawaiian owners) have no right entering these trails
- Developer desecrate sacred sites in Kohala…case now in court

Alternative D:

- What is a historic verifiable site? NHT: Testimony by lineal descendent(s) / Kama‘aina; SHPD
- Many sections have gulches
- If canoe routes are added, koa sites in that area may be jeopardized by "outsiders"
- Need much research
- Do not go where you are not welcomed
- People think they can go anywhere
- Community provide level of management
- More access = more problems
- DOCARE needs to be better funded, need effective enforcement – if none, don't do it

- Good alternative, less expensive, no connector trails
- Most are respectful of sites
- Permits, konohiki
- Why do people desecrate sites? Ignorance, looting
- How do we manage? Fines, jail – go back to enforcement – education
- This is a conservation of the U.S. Government insulting the Hawaiian people
- Archeologist misinterpret history of the trails
- Old traditional practices are forgotten or simply not known
- DOECARE needs more funding to maintain trail section
- Canoe corridor opens up possibilities for kayak business
- This is a very good plan (less expensive)
- Whole trail need be permitted – need effective "konohiki" (however defined)
- Dollar fines to those who desecrate
- Dollars to enforcement program
- We Hawaiians see Americans take without permission
- Hawaiians don't recognize State and Federal rules – we follow rules or go jail
- Americans discredit Hawaiians with knowledge of the area because they have no Degree

ALTERNATIVE C:

- More difficult to manage
- Do in my area alone…the rest is single trail…demo in one area to start
- Same as "D" – Tony
- Massive responsibility!…sound management essential
- Use one area as a start to demonstrate the possibility that this is a good program

ALTERNATIVE B:

- This is more manageable – easier to enforce…keep canoe routes out
- "Insulting" B goes for everything
- Why no water routes? Would like to see water routes in this alternative

ALTERNATIVE A:

- No action, does not address problems that society has brought us today. This is not a good alternative
- No action is misleading on the part of the Federal Government – Hawaiians work with the legislature…increase DOCARE involvement
- Not consistent with the Trail Act

VOTING RESULTS: (Blue=1st choice; Green=2nd choice; Red=3rd choice)

Alternative A:	As presented:	2 Blue
	With modifications:	0
Alternative B:	As presented:	0
	With modifications:	2 Green; 3 Red
Alternative C:	As presented:	2 Blue, 1 Green
	With modifications:	1 blue
Alternative D:	As presented:	1 green; 1 red
	With modifications:	1 Blue, 1 Red, 1 Green
Alternative E:	As presented:	0
	With modifications:	0

None of the alternatives: 1Green, 1 Red

Meeting 4, North Kohala Hisaoka Gym Meeting Room

Saturday, May 15, 2004; 9:30am to 12:30pm

NHT STAFF: Mike Donoho, Planner
Facilitator: Dickie Nelson

In Attendance: 9, excluding 3 NHT staff, 1 Ala Na Hele member

Agenda:

- Introductions
- Purpose for this meeting
- Guidelines for Discussion
- Power Point Presentation
- Review five Alternatives
- Voting for top three preferences
- Pule offered by Papa Akau
- In the previous three meetings it was noted that it was difficult to keep the participants focused on the Alternative being discussed. Consequently, those in attendance were asked to respond to the Alternative being considered in the following manner:
    1. If they were supportive of the Alternative, explain why;
    2. If they were not supportive, why;
    3. If, with modifications, they could support the Alternative, they were asked to state their suggested modification(s).

This was inserted as discussion guidelines to minimize if not eliminate lengthy non-related statements to the Alternative being addressed.

While we attempted to focus on Alternative E following the guideline mentioned above, we immediately began to record general comments for a period of time before we really started to focus on Alternative E. Continuing on the balance of the alternatives. It was was very challenging for both Mike and myself to keep the group focused.

GENERAL COMMENTS:

- Regarding Alternative A – modified: What you mean – public lands (State, Federal, County), if sold, what ■ happens to *certification?* (if the new owner uncooperative / unwilling)? NHT: Each case would be reviewed individually.
- Commercialization – should be kept out…we will lose our Culture
- Lineal decedents / kamaʻaina should be consulted per ahupuaʻa.
- Public lands – many being stolen, for alternative C. Brewer in Kau (3,000 acres in litigation)
- People support non Hawaiians

Ala Kahakai National Historic Trail Act:

- Developed by non Hawaiians – Hawaiians not consulted
- Encourage income-generating projects such as eco tourism – big problem –this is the third time this has been mentioned. This should be a part of the decision making (certifying process per corridor) Reference: page 14, item C: "great potential for public recreation) this cannot be done.
- As the trails become accessible, more homeless people will find new resting places – this will call for new security measures
- Deed restriction – at the time of land sale – language should protect the integrity of the trail
- NHT certification process should be based on community input & other factors
- How do we realign the trail damaged / covered by development?

ALTERNATIVE E:

- State thinks they control the water, they know nothing…want to open water for canoes. DBEDT initiate income generating projects.
- The sale of lands – the deed language must protect the integrity of the trail. There are 13,000 landowners.
- Law of 1847 – Ala Loa Trail held in trust by the Federal Government
- Native Hawaiian rights abused (PASH) by Hawaiians and non Hawaiians
- Recommend review of the new and old laws to see what (laws) are appropriate to enact or delete.
- Irrelevant – depends on local manaʻo plus the land owner determines

- Against! Federal / State will exploit based on past government history
- Start with Kawaihae area – many historical events…consult with the kama‘ainas and SHPD
- How can you link a connector trail that does not exist?

ALTERNATIVE D:

- Needs to begin and end with the kama‘aina
- Water routes – no control – the access to the area is a "free for all"
- Don't certify water routes for use – "KAPU"
- Regulations is a plus if it is enforceable
- Strong penalties for non compliant users of trail (mandatory jail time)
- Community watch is effective (use of cameras)
- Communication system essential for an effective enforcement program

ALTERNATIVE C:

- Too difficult to manage
- Many cultural sites – don't want exposed to the public (desecration will increase)
- Against overload
- Easiest alternative to exploit (commercialize)
- Culturally insensitive

ALTERNATIVE B:

- Kama‘aina's determine activation or not
- Unacceptable – non traditional
- No action from Kawaihae to Upolu Point (Support Alternative G)

ALTERNATIVE A:

- Safest! It protects the trail and all of the cultural sites

OPEN COMMENTS:

Regarding the Planning Update Report:

- Opening comments – oppose exploitation of commercialism
- Trail Purpose – remove 3rd bullet
- Page 3 – remove last 2 bullets (mission goals)

VOTING RESULTS: (Blue=1st choice; Green=2nd choice; Red=3rd choice)

Alternative A:	As presented:	6 Blue
	With modifications:	0
Alternative B:	As presented:	0
	With modifications:	0
Alternative C:	As presented:	0
	With modifications:	0
Alternative D:	As presented:	0
	With modifications:	0
Alternative E:	As presented:	0
	With modifications:	0

None of the above: 1 blue, 7 green, 7 red

Meeting 5: COOPER COMMUNITY CENTER, VOLCANO

May 29, 2004; 09:00 – 11:30am

NHT STAFF: Superintendent Aric Arakaki and Mike Donoho, Planner
Facilitator: Dickie Nelson

In Attendance: 2 (a third person arrived at 11:30am) excluding 3 NHT staff.

Agenda:

- Pule offered by Dickie Nelson
- Introductions
- Purpose for meeting
- Guidelines for discussion
- Power Point Presentation
- Discussion on the five alternatives
- Voting for top three preferences
- Survey distributed for completion at home

OUTCOMES

Note: Those in attendance were instructed to respond to the alternatives in one of three ways:

1. Agree – explain
2. Agree with modifications – explain
3. Disagree – explain

This guideline was incorporated in the facilitating to minimize if not eliminate time consuming / non-related responses to the alternative being considered.

General comments:

- "Don't limit yourselves – think big"
- Read the book "*Blue Latitudes*"

Alternative C: Provides a progressive / encompassing picture of trail (corridors) – shoreline trails / mauka makai connectors.
Alternative B: Misrepresentation of the activities of the trail / corridors
Alternative E: Start with public lands – does not apply "faith vs. show me first"

The following responses utilizing the three (3) categories (agree / agree with modifications / disagree) are reflected below:

ALTERNATIVE A:
Disagree (3):
Shoreline should be open to all (1);
Need historic trails connected (2)

ALTERNATIVE B:
Disagree (3):
Misrepresent the purpose of the Act (2)
Too many historical routes eliminated (1)

ALTERNATIVE C:
Agree (3):
Very realistic and historic depiction of trails (of the five alternatives) (3)
Concerned about the huge responsibility – suggest incremental management plan with evaluation clauses / adjust as necessary as it progresses (1)

ALTERNATIVE D:
Disagree (3):
Too limiting – not a complete picture (3)

ALTERNATIVE E:
Disagree (3)
Too limiting (3)

VOTING RESULTS: (Blue=1st choice; Green=2nd choice; Red=3rd choice)

Alternative A:	As presented: 0 With modifications: 0
Alternative B:	As presented: 0 With modifications: 0
Alternative C:	As presented: 3 Blue With modifications: 0
Alternative D:	As presented: 3 Green With modifications: 0
Alternative E:	As presented: 3 Red With modifications: 0

Meeting 6: Lyman Museum, Hilo

May 29, 2004; 1:15 – 4:30pm

NHT STAFF: Superintendent Aric Arakaki and Mike Donoho, Planner
Facilitator: Dickie Nelson

In Attendance: 12, excluding 3 NHT staff.

Agenda:

- Pule offered by Dickie Nelson
- Introductions
- Purpose for meeting
- Guidelines for discussion
- Power Point Presentation
- Discussion on the five alternatives
- Voting for top three preferences
- Survey distributed for completion at home

OUTCOMES:

Note: Those in attendance were instructed to respond to the alternatives in one of three ways:

1. Agree – explain;
2. Agree, with modifications – explain;
3. Disagree – explain.

ALTERNATIVE A:
Disagree (3):
Based on losses of trails (2)
Defeats purpose of establishing historic trails (1)
Agree with modifications (1): Could be workable if all of the other alternatives fail.

ALTERNATIVE B:
Disagree (3)
Believe water routes essential to trail system. Lacks needed protection (1)
Unrealistic – land travel cannot occur in places that are "impassable" (1)
Will not get private owners to cooperate (concerned about liability issues); who are the users? (1)
Agree with modification (1)"Terrific beginning (framework). This response was submitted after the completion of the remarks under "disagree".
The three participants raised a question regarding the use of ADA requirements. NHT stated the ADA requirement would be addressed on a case-by-case basis. Integrity of the trail's historic and cultural value may supercede the requirements to incorporate ADA compliance for a particular trail section.

ALTERNATIVE C:
Agree (1)– travel, like the circulatory system of the human body. Representative of traditional means of travel around the island.
Agree with modification: (6)
Like multiple options, however, the attempt to have it all…need to focus…will be more specific in my survey response (1)
Start with public lands (Alternative E). Can include "Alternative G" into layout (1)
This is for the ultimate hiker (1)
Provides longer / shorter options (1)
Historical value (1)
Provides safety valve…allows options for trail establishment due to intervening variables (1)
Wear and tear on historic trails – good to have alternative routes…a safety issue when only one route, for emergency situations/evacuations (1)

ALTERNATIVE D:
Agree:
Reflects limited historic trail usage(1)
Avoids ADA requirements

Agree with modifications:
Stick to the coastline (1)
Install by increments where appropriate (1)
Disagree:
Concentrated negative impacts on archaeological sites…eliminates needed continuity of trail land / water routes (1)
General Comment:
Keep historical clusters (beautiful ocean scenery / historic sites can detract trail seekers)
Concern: State's relevance regarding the need for ADA compliance. NHT: Consultation is part of the Certification Process.

ALTERNATIVE E:
Agree with modifications: (3)
A good starting point moving towards Alternative C (3)

VOTING RESULTS: (Blue=1st choice; Green=2nd choice; Red=3rd choice)

Alternative A:	As presented: 0 With modifications: 0
Alternative B:	As presented: 1 Green With modifications: 1 Green, 3 Red
Alternative C:	As presented: 3 Blue With modifications: 7 Blue, 1 Green
Alternative D:	As presented: 3 Green, 1 Red With modifications: 1 Green, 3 Red
Alternative E:	As presented: 3 Red With modifications: 3 Green

Meeting 7: Konawaena Elementary Cafeteria

June 5, 2004; 09:30 to 12:30pm

NHT STAFF: Superintendent Aric Arakaki and Mike Donoho, Planner
Facilitator: Dickie Nelson

In Attendance: 5, excluding 3 NHT staff

Agenda:

- Pule offered by Barbara Stancil
- Introductions
- Purpose for meeting
- Guidelines for discussion
- Power Point Presentation
- Discussion on the five alternatives
- Voting for top three preferences
- Survey distributed for completion at home
- Pule offered by Dickie Nelson

GENERAL COMMENTS:

- In the advertisement for the meetings: include / mention "not open house"
- Are State Parks included in these considerations (Na Ala Hele)
- How do you define public lands? NHT: Prior to 1882 if trail existed, it is interpreted as public lands
  - Group asked to review the Trails Act
  - Why is the trail not fully around the island? NHT: Many reasons – Senator Dan Akaka stated the trail needs to be a certain length; the railroad system interrupted the trails on the windward side; other various reasons were discussed.
- Discussed the pros & cons of "commercialization".

RESPONSES TO THE FIVE ALTERNATIVES:

ALTERNATIVE A:
Disagree (4): Already there
Illegal – not in compliance with the Trails Act
Does not address future development – need to act now
Need to see more than what "A" offers
Agree (1) but suspicious of the Federal Government's intentions

Agree with modification:

- Like the wild, openness – no rules
- No developers, the could destroy the trails

ALTERNATIVE B:
Agree (5):

- If feasible
- Continuous trail
- Is attractive as a goal
- Accessible to all
- Protect coastline
- "Dream" to walk where our ancestor's walked
- Need water aspect

ALTERNATIVE C:
Agree: (5):

- Allows most flexibility in certifying the planning
- Like the water routes
- Favorite loops (2)
- Expands constituency
- Most visionary

Disagree: (1)

- I personally agree but our non profit organization that advocates for a private Owner disagrees with "C"
- Increase density

ALTERNATIVE D:

Agree: (1)

- Focus on what we know about the trails

Agree with modifications: (1)

- Allow for connectors

Disagree: (3)

- No continuity
- Not a lot of continuity, difficult to access
- Who defines history?

ALTERNATIVE E:

Disagree: (5)

- Believe in people's right to access the trails

Agree with modification: (1)

- Advantage over "A", improve government lands

Closing comments: Regarding poor turnouts at these meetings, the public has to feel their comments are truly being heard. This group felt they had that freedom to express themselves and that there comments were recorded accurately.

VOTING RESULTS: (Blue=1st choice; Green=2nd choice; Red=3rd choice)

Alternative A:	As presented: 0 With modifications: 0
Alternative B:	As presented: 1 Green, 1 Red With modifications: 1 Blue, 1 Green, 1 Red
Alternative C:	As presented: 4 Blue With modifications: 1 Green
Alternative D:	As presented: 0 With modifications: 1 Green, 1 Red
Alternative E:	As presented: 0 With modifications: 0

None of the above: 1 green, 2 red

Meeting 8: Na‘alehu

Saturday, June 19, 2004; 09:30 – 12:30pm

NHT staff: Superintendent Aric Arakaki and Mike Donoho, Planner
Facilitator: Dickie Nelson

In Attendance: 12, excluding 3 NHT staff. Note: Started meeting with two in attendance who had only ½ hour to stay; balance trickled in over the course of the next hour. Flexibility in the presentation was initiated.

Agenda:

- Introductions
- Purpose for the meeting
- Power Point presentation
- Discussion on the five alternatives
- Voting for the top three preferences

OUTCOMES:

Note: Those in attendance were instructed to respond to the alternatives in one of three ways:

1. Agree – explain
2. Agree with modifications – explain
3. Disagree – explain

ALTERNATIVE A:

General questions / statements:

- Explain liability issue. NHT: private owners have a hazy interpretation of being indemnified.
- Maintenance of the trail? NHT: Provisions for maintenance covered under the Certification Phase that will be explained in the presentation.
- “Adopt a Trail” consideration?
- Environmental issues? NHT: Again, this is covered in the Certification Process.
- How will heiaus and burials be cared for? NHT: This concern would be addressed in the Certification Process.
- The Hawaii Burial Council’s integrity is in question.
- Didn’t the Ala Loa Trail go around the entire island? NHT: In theory, yes. Senator Dan Akaka’s office decided to settle with this corridor proposal.
- NHT hired by National Park Services as a resource component to initiate, monitor and contribute where appropriate to see the project’s goals to its completion.

ALTERNATIVE B:

General statements:

- Making “extensions” will follow Certification Guidelines.
- When “constructing” the trail, it has to be learned / done the old way.

AGREE: - 1

- “Ideal”

ALTERNATIVE C:

General statements:

- The name for the “Trail” differs from ahuapua‘a to ahuapua‘a
- Seems ambitious.
- Local input is critical.

AGREE – 1

- Don’t limit self

ALTERNATIVE D:

General statements:

- “D” is realistic for the short term – C is realistic for the long term.
- Develop an orientation / instructional video for Hotel / Airline industry
- There is no ownership of trails for those who participate.
- No ho‘okupus.

- No grants – volunteer driven.

ALTERNATIVE E:
General questions / statements:
- Will you work with the Sovereign Groups? NHT: yes.
- Lose opportunities to get help for access.
- Is the definition of "Public Lands" subject to change? NHT: The Highways Act of 1892 is the guiding definition.

VOTING RESULTS: (Blue=1st choice; Green=2nd choice; Red=3rd choice)

Alternative A:	As presented: 0 With modifications: 0
Alternative B:	As presented: 2 Red With modifications: 0
Alternative C:	As presented: 1 Blue, 1 Green With modifications: 0
Alternative D:	As presented: 1 Blue With modifications: 0
Alternative E:	As presented: 1 Green With modifications: 0

Meeting 9: Pahala High School Cafeteria

Saturday June 19, 2000; 2:30 – 4:30pm

NHT Staff: Superintendent Aric Arakaki and Mike Donoho, Planner
Facilitator: Dickie Nelson

In Attendance: 3 excluding 3 NHT staff. Note: One person arrived one hour into the presentation. All three were from Na'alehu.

Agenda:

- Introductions
- Purpose for the meeting
- Power Point presentation
- Discussion on the five alternatives
- Voting for the top three preferences

OUTCOMES:

Note: Those in attendance were instructed to respond to the alternatives in one of three ways:

1. Agree – explain
2. Agree w / modifications – explain
3. Disagree - explain

General Comment: ATV vehicles: use on alternative sites rather than on the historic sites.

ALTERNATIVE A:

Disagree – 3

- Trail system, in general, is good
- Developers inquire on a daily basis
- No action means no protection

ALTERNATIVE B:

Disagree – 2

- "Full experience" of all the trails within the corridor will not be experienced

ALTERNATIVE C:

Agree – 3

- We are a "water State"; the water routes completes the trail system
- Don't want to lose the complete system of trails
- Hana (Maui) has a "full trail" system

ALTERNATIVE D:

General comment: "Kind of agree" – it keeps what we have intact (preservation).

Disagree – 1

- It limits the horizons (only getting a piece of the trail experience)

ALTERNATIVE E:

Disagree – 1

- "A bit limiting"

VOTING RESULTS: (Blue=1st choice; Green=2nd choice; Red=3rd choice)

Alternative A:	As presented: 0 With modifications: 0
Alternative B:	As presented: 0 With modifications: 0
Alternative C:	As presented: 2 Blue With modifications: 1 Blue
Alternative D:	As presented: 0 With modifications: 3 Green
Alternative E:	As presented: 2 Red With modifications: 1 Red

Appendix K: Assessment of Consistency with the State of Hawaii Coastal Zone Management Program

The Hawaii Coastal Zone Management Program has ten objectives related to the topic of recreational resources, historic resources, scenic and open space resources, coastal ecosystems, economic uses, coastal hazards, managed development, public participation, beach protection, and marine resources. Each of these topics is discussed below in relation to the *Comprehensive Management Plan/Environmental Impact Statement* (CMP) for the Ala Kahakai NHT. Approximately 40% of the Ala Kahakai NHT corridor is in CZM Special Management Areas. (See map 18.)

Recreational Resources: *Provide coastal recreational opportunities accessible to the public.*

The preferred alternative calls for preserving ancient and historic segments of the coastal *ala loa* and connecting them with more recent trails, jeep roads and sidewalks to create a continuous trail parallel to the shoreline of approximately 175 miles in length. In addition, the alternative is based on an *ahupua'a* approach to trails that incorporates *mauka-makai* trails on public lands and other lateral trails to recognize a traditional system of trails. Since the National Park Service (NPS) owns and manages only 17% of the Ala Kahakai NHT, this vision for the trail will be accomplished segment by segment over several years in close coordination with the Department of Natural Resources Nā Ala Hele Trail and Access Program and the Division of State Parks, Hawaii County, and private landowners, among others.

Some parts of the Ala Kahakai NHT are immediately on the shoreline on sandy trails, and some is removed from the immediate shoreline but parallels it and often beach access is available from the trail. As the trail is completed, it will enhance public access to the shoreline consistent with conservation of natural resources and cultural resources. Even those segments of the trail that are outside of the coastal zone will contribute to public access to the shoreline by providing a continuous trail and by incorporating other lateral trials and *mauka-makai* trails on public lands.

Historic Resources: *Protect, preserve, and where desirable, restore those natural and man-made historic and pre-historic resources in the coastal zone management area that are significant in Hawaiian and American history and cultures.*

The authorized purpose of the Ala Kahakai NHT is to preserve and protect ancient and historic segments of the coastal *ala loa*.

Archeological resources, historic structures, and cultural landscapes would be protected within the agreed upon trail tread and negotiated adjacent protected area as defined in management agreements for each trail segment. National Historic Preservation Act Section 106 consultation with the State Historic Preservation Officer will be initiated early in the process of inventory and development of management agreements. Not all sites along the trail route are known at this time, but the CMP includes a process for completing archeological and other cultural resource inventories. Table 3 lists known sites that would be protected. Not all of these sites are within the coastal zone, but all are significant in Hawaiian and American history and culture. All relevant federal and state cultural resource protection laws would apply to the trail.

Under the preferred alternative C, an *ahupua'a* approach to management would be used in order to enhance the cultural values associated with the trail. Under this alternative, local communities would be encouraged to preserve and protect trail resources. Those with ties to the land would be consulted first and throughout the trail segment planning process. This approach is in keeping with the John Ka'imikaua's comments on stewardship. "[Under the '*aha* councils] the people who lived in the *ahupua'a* had the last say about how their resources would be used…They knew how dependent they were on the environment and they all worked together to make sure that resources were preserved."

The basis of the trail protection program in the preferred alternative is the preservation of cultural features and landscapes that sustain the practice of Hawaiian values. Protection of a system of trails on public lands within an *ahupua'a* context would provide the opportunity for native Hawaiians to pursue traditional cultural, religious, and natural resource stewardship activities that may include sustainable gathering.

Scenic and Open Space Resources: *Protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources.*

No major construction is proposed. Facilities include trail marking and informational, interpretive, and directional signs. Where and when campsite development becomes feasible, composting toilets may be added. With the ahupua'a management approach, there would be opportunities to evaluate and protect scenic resources, especially those associated with Hawaiian stories and values.

To protect visual resources, trail administration would develop sign guidelines and design guidelines for trail and facility development for length of the trail. One source of guidelines is Minerbi (2004, p. 17) which presents a methodology for identifying scenic resources in the coastal zone. It accounts for landscape and topographic features, human perception, observation points, and objects of the observation that can be used to identify significant scenic areas along the Ala Kahakai NHT route, where changes of scenery occur, and where the aesthetic experience (always connected with the *mo'olelo* of the place) is enhanced.

Each trail segment to be incorporated into the Ala Kahakai NHT would receive site-specific planning that would locate improvements in a manner to least affect the area's visual character and views. Every attempt would be made to preserve views to the sea. Signs would be kept to the minimum required to inform trail users of safety, private property rights, and resource protection issues and would be designed to be appropriate to the area.

Coastal Ecosystems: *Protect valuable coastal ecosystems from disruption and minimize adverse impacts on all coastal ecosystems.*

Portions of the Ala Kahakai NHT corridor abut Natural Area Reserves and Marine Management Areas. (See map 19). In addition, portions of the trail pass through or by areas that provide habitat for endangered species of plants, birds, and mammals and areas that include anchialine pools or fish ponds.

Generally, the Ala Kahakai NHT will be managed to ensure that natural systems are not significantly affected. Site-specific biological inventories and assessments developed with each trail segment management plan will provide sufficient information to evaluate options for trail development to help ensure that there are no adverse impacts from development or trail use.

As trail and site development occur and site-specific surveys identify species which have been listed or proposed by the US Fish and Wildlife Service (USFWS) [See Appendix D for a list.], the National Park Service will contact the USFWS to initiate consultation under Section 7 of the Federal Endangered Species Act of 1973, as amended (Act). Potential adverse impacts to listed and proposed species will be eliminated or reduced in compliance with the provisions of the Act. State and county laws will also apply.

'Opaeula, red shrimp, are the single most important factor indicating the health of an anchialine pool. Before a trail segment is officially opened to the public, the presence of red shrimp in trailside pools will be inventoried to provide a baseline of information. Then pools along managed trail segments will be monitored for the visible presence of red shrimp. Protocols for managing and monitoring pools developed at Kaloko-Honokōhau NHP and other pool management plans required as a condition of development will be applied to other pools along the trail route.

Trail administration will establish rules and regulations regarding public use of the pools. Use of the most high value pools could be restricted for traditional, research, educational, and sanctuary purposes. High value pools are those that have (1) an array of native anchialine species, (2) a unique assemblage of euryhaline (species with a wide tolerance to salinity), and/or marine species, or (3) unique cultural features. Assessment of cultural features will be made by an archeologist (Brock and Kam, pp. 51-52). Public education through signs and interpretive exhibits, monitoring, and if necessary, trail use restrictions will be employed to protect pools along the trail route.

Economic Uses: *Provide public or private facilities and improvements important to the State's economy in suitable locations.*

The CMP for the Ala Kahakai NHT recommends using existing buildings and other existing facilities to provide information, interpretation, and education to the local resident and visitors. Other than the potential for additional trail construction, no additional facilities would be located in the coastal zone as a result of this CMP. The preferred alternative does provide for heritage tourism, ecotourism, and geotourism, activities that could contribute to the economic welfare of local communities.

Coastal Hazards: Reduce hazards to life and property from tsunami, storm waves, stream flooding, erosion, and subsidence.

Trail administration would encourage the development of facilities that would address health and safety of visitors to sites and trail segments that are included in the Ala Kahakai NHT.

The user of the Ala Kahakai NHT can encounter a variety of hazards depending upon the location of the trail. As described in chapter 4, these include poor air quality and hot lava due to the continuing eruption of Kīluea, tsunami, poisonous insects, exposure to *leptospirosis*, flash floods, and lack of potable water. Under all alternatives, health and safety issues will be addressed as appropriate for each segment of trail or each site along the trail. Trail visitors can learn of potential dangers and the necessary precautions to take from brochures and other written information, from postings on the trail website, from signs at trailheads or trail sites, and other forms of interpretive media.

Managed Development: *Improve the development review process, communications, and public participation in management of coastal resources and hazards.*

This plan will have little effect on development review process. The management approach relies on public participation in trail planning and plan implementation and therefore will involve the public in management of coastal resources and protections from hazards. Depending upon the trail segment owner and manager, if appropriate, compliance with the County of Hawaii Special Management Area (SMA) permit requirements would be made.

Public Participation: *Stimulate public awareness, education, and participation in coastal management.*

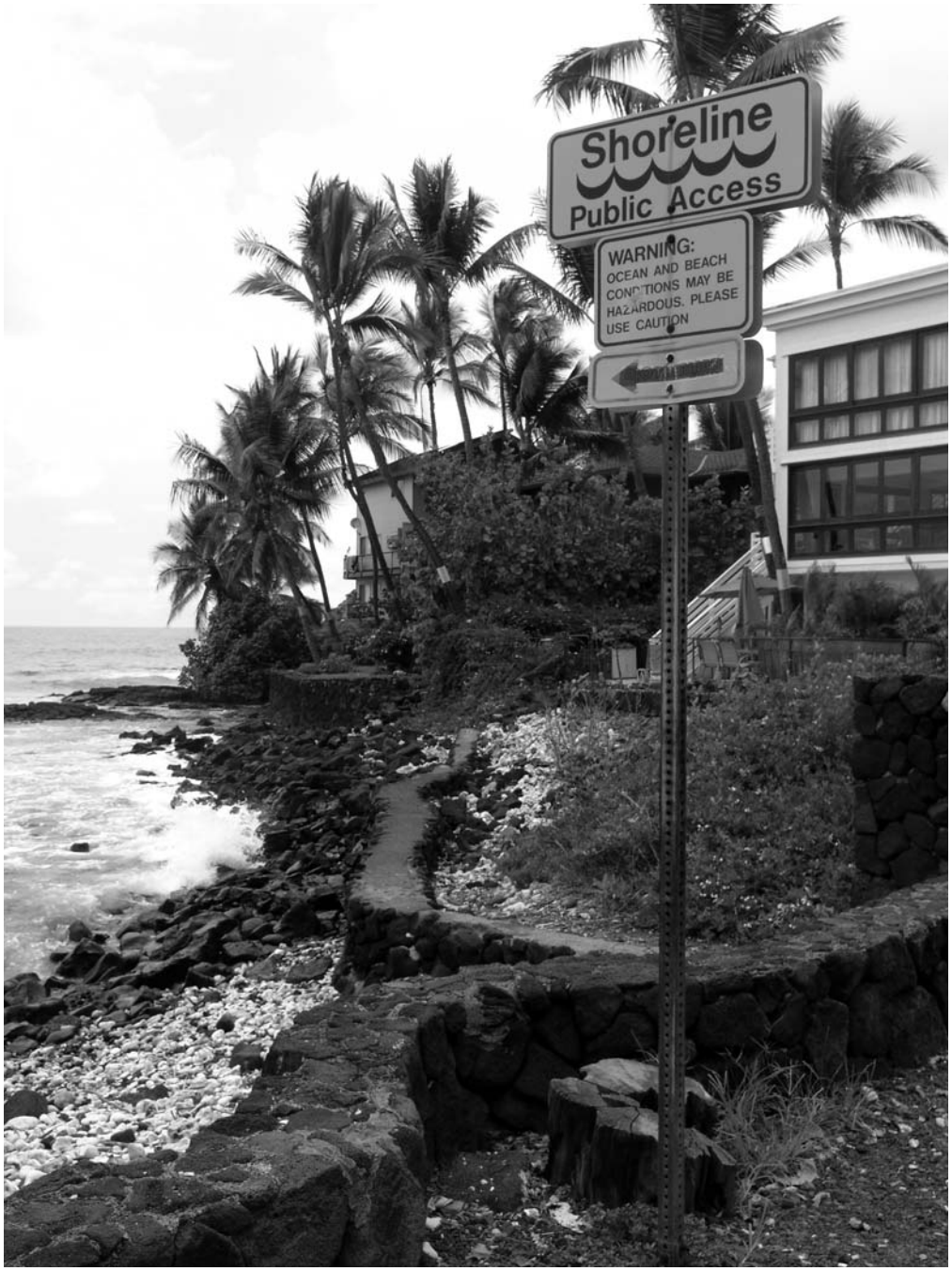
As noted above, trail management will involve local communities as much as possible in managing the trail and in educating the local users and tourists in coastal management.

Beach Protection: Protect beaches for public use and recreation.

For those sections of the trail that are located on sand near the shoreline, trail management would encourage protection of the beaches for public use and recreation. The presence of the trail adjacent to the shoreline may provide, but its very presence, protection of beach resources

Marine Resources: Implement the State's ocean resources management plan.

Trail use may lead people to the shoreline where they could fish or take advantage of other ocean resources. The concern of trail management will be the potential for overharvest of resources important to Native Hawaiian subsistence users of coastal resources. In order to determine the extent of impacts, if any, in areas that will be included in the Ala Kahakai NHT where local fishers and gatherers have expressed concerns, baseline data will be assembled to establish the abundance and diversity of the existing nearshore and reef resources. Once a baseline is established, a monitoring program will determine the significance of the impacts. Local fishers and gatherers will be included in trail planning to provide recommendations for fishery protection and sustainable gathering. This information could also be collected as ethnographic data. Interpretive media and informational materials will convey the limitations on fishing and gathering and encourage appropriate activities.



Shoreline Access Sign, Kailua-Kona, N. Kona, NPS photo

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Introduction

Top left: ʻUpolu, N. Kohala; top right: Captain Cook Monument, Kaʻawaloa, S. Kona; bottom: Mahukona, N. Kohala. NPS photos

Chapter 1: Introduction

Purpose and Need for the Plan

The Ala Kahakai National Historic Trail (NHT) was added to the National Trails System on November 13, 2000. The legislation authorizing the trail identifies an approximately 175-mile portion of prehistoric *ala loa* (long trail) on or parallel to the seacoast extending from ʻUpolu Point on the north tip of Hawaiʻi Island down the west coast of the island around Ka Lae (South Point) to the east boundary of Hawaiʻi Volcanoes National Park. (See Appendix A). A conceptual depiction of the trail as a corridor, "Vicinity Map and Location of the Ala Kahakai," was contained in the January 1998 *Ala Kahakai National Trail Study and Environmental Impact Statement* (*Feasibility Study*) and is represented in map 1. (Map 1 also depicts the priority areas on which focus will be placed for the approximate 15-year life of this plan.) The Ala Kahakai NHT, as authorized by Congress, combines surviving elements of the ancient and historic coastal *ala loa* with segments of later *alanui aupuni* (government trails), that developed on top of or parallel to the traditional trails, and more recent pathways and roads that create links between the historic segments. The National Park Service administers the Ala Kahakai NHT.

Purpose of the Plan

National trail comprehensive management plans are intended to be long-term documents that articulate a vision for the future of the trail, including the management philosophy and the framework to be used for decision-making and problem solving. This comprehensive management plan (CMP) will provide guidance for approximately the next 15 years.

The purpose of this CMP is to establish the administrative objectives, policies, processes, and management guidelines needed to fulfill the preservation and public use goals for the Ala Kahakai National Historic Trail (NHT) in accordance with the National Trails System Act (16 USC 1244, § 5(f)).

This Act requires development of a comprehensive plan "for the acquisition, management, development, and use" of the national historic trail. The Act requires that this plan include the following items:

- Specific objectives and practices to be observed in the management of the trail, including identification of all significant natural, historical, and cultural resources to be preserved, details of anticipated cooperative agreements with government agencies or private interests, a carrying capacity assessment, and a plan for its implementation,
- The process used to implement the marking requirements established in § 7[c] of the Act,
- A protection plan for high potential sites and route segments[9], and
- General and site-specific development plans and their anticipated costs.

In addition, Public Law 106-509, titled "An Act to amend the National Trails System Act to designate the Ala Kahakai Trail as a National Historic Trail," includes these special requirements:

[9] As defined by the Act, high potential historic sites mean "those historic sites related to the route, or sites in close proximity thereto, which provide opportunity to interpret the historic significance of the trail during the period of its major use. Criteria for consideration as high potential sites include historic significance, presence of visible historic remnants, scenic quality, and relative freedom from intrusion."

High potential route segments "means those segments of a trail which would afford high quality recreation experience in a portion of the route having greater than average scenic values or affording an opportunity to vicariously share the experience of the original users of a historic route."

- No land or interest in land outside the exterior boundaries of any federally-administered area may be acquired by the U.S. for the trail without the consent of the owner of the land.
- Communities and owners of land along the trail, Native Hawaiians, and volunteer trail groups are encouraged to participate in the planning, development, and maintenance of the trail.
- Affected federal, state and local agencies, Native Hawaiian groups, and landowners shall be consulted in the administration of the trail.

This CMP complies with the requirements of the National Environmental Policy Act (NEPA) of 1969 and includes a programmatic environmental impact statement (EIS) following from the 1998 *Feasibility Study* prepared by the National Park Service, on which Congress based its decision to establish the trail. The *Feasibility Study* provided a history of the trail, statements of significance and purpose, a vision for the trail, and offered four alternatives for future protection, interpretation, and management of the Ala Kahakai, considered to be part of the *ala loa* system that traditionally passed around the circumference of the Island of Hawai`i (cf. Malo, 1951; I'i, 1959; and Kamakau, 1961). The examined alternatives included a no action alternative, a national historic trail (continuous), a state historic trail, and a national historic trail (discontinuous). The *Feasibility Study* recommended alternative B, National Historic Trail (continuous), as the environmentally preferred alternative. The *Feasibility Study* constituted the first phase of a tiered planning and environmental review process. This CMP, the second phase, remains general and programmatic containing reconnaissance-level information necessary to make broad policy and planning decisions.

The Need for the Plan

This CMP is needed to provide long-term direction for natural and cultural resource preservation, education, and trail user experience along the Ala Kahakai National Historic Trail. It primarily provides a framework for management and a vision to be fulfilled through future, more specific resource studies and site and segment management plans. It was developed in consultation with National Park Service park and program managers and resources staff; state and local government agencies; interested parties including landowners, Native Hawaiian individuals and groups, area residents, trail user organizations, and other individuals; and the general public. A mutually agreed upon plan helps coordinate partners to work together with specific goals in mind.

Kīholo Beach, Pu'u Wa'awa'a, N. Kona, NPS photo

"Ahu", Kaloko-Honokōhau NHP, N. Kona, NPS photo

The CMP represents the commitment by the NPS and its partners to the public on how the national trail will be administered and managed. To meet those ends, the CMP accomplishes the following:

- Confirms the purpose and significance of the trail.
- Defines trail classifications, resource conditions, and visitor uses and experience to be achieved.
- Identifies the necessity of partnerships with others in protecting trail resources and providing appropriate trail user services.
- Provides a framework for NPS administrators and its partners to use when making decisions about such issues as how to best protect resources and values, how to provide quality visitor use and experience, how to manage visitor use, and what kinds of facilities, if any, will be needed to make the visitor experience a positive one.

Federal ownership and management of the Ala Kahakai NHT is limited to portions of the four national parks along its route: Puʻukoholā Heiau National Historic Site (NHS) in the South Kohala district; Kaloko-Honokōhau National Historical Park (NHP) in the North Kona district; Puʻuhonua o Hōnaunau NHP in the South Kona district; and Hawaiʻi Volcanoes National Park in the Puna district. (See map 1.) Approximately 17% of the NHT is within the boundaries of these national parks. With trail authorization these trail segments came under federal jurisdiction in compliance with § 3(a) 3 of the National Trails System Act.

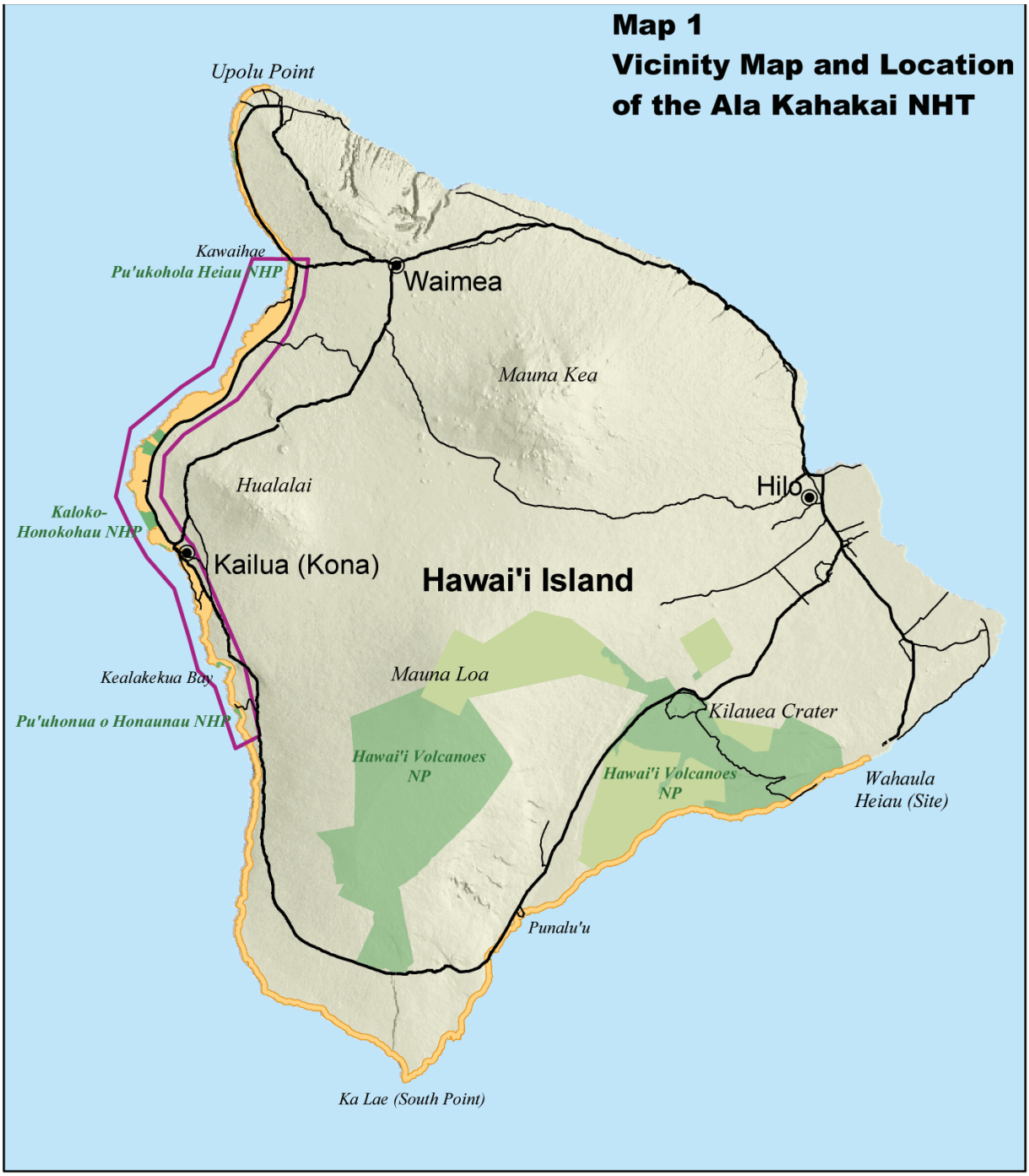
This CMP outlines a process whereby nonfederal trail sites and segments may become official parts of the Ala Kahakai NHT through specific site and trail segment management plans and implementation options. The impacts of each subsequent management plan, construction project, trail program, and various other projects will be considered in compliance with the National Environmental Policy Act (NEPA,) Sections 106 and 110 of the National Historic Preservation Act (NHPA), the implementing regulations set forth in the Code of Federal Regulations (CFR), other federal, state, and county regulations as applicable. In all cases, planning for the trail and trail facilities will be conducted in close consultation with the landowners, the Native Hawaiian community, trail organizations, community interest groups, area residents, and state and local government.

Next Steps and Plan Implementation

A public review and comment period will follow the distribution of the *Draft Comprehensive Management Plan/Environmental Impact Statement*. After this comment period, the NPS planning team will evaluate the comments and make appropriate changes to produce a *Final Comprehensive Management Plan/Environmental Impact Statement* (FEIS). The final plan will include letters from governmental agencies, and substantive comments on the draft plan, and NPS responses to those comments. Following distribution of the FEIS and a 30-day no-action period, a Record of Decision (ROD) approving the final plan will be signed by the NPS Pacific West Regional Director. The ROD documents the NPS selection of an alternative for implementation. With its signing, the plan can be implemented.

The CMP is a long-term plan that NPS administrators and partners would take incremental steps toward reaching its goals. Once the CMP is approved, additional resource studies and more detailed planning and environmental documentation would be completed as part of site and segment management plans.

The implementation of the CMP could take many years. Most components of the plan would require additional funding for implementation. Once the plan is approved, those components will be prioritized and implemented as funding becomes available. The Ala Kahakai NHT staff and its partners would actively seek sources of funding outside of the NPS operations budget, but there is no guarantee that all the components of the plan would be implemented.



Legend

Ala Kahakai NHT Corridor

Roads

Primary

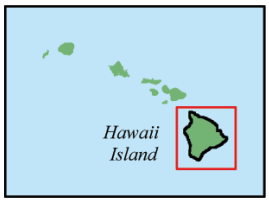
Secondary

Parks

Wilderness

Priority Area for implementing the 15-year planning period for all alternatives.

0 5 10 20 Miles



Ala Kahakai National Historic Trail
Working Map 3/22/07

Historic Overview

An understanding of the Hawaiian land management system, the trail system, and the uses and evolution of the coastal *ala loa* provide a foundation for consideration of management alternatives.

Hawaiian Land Use and Resource Management Practices: Definition of the Ahupua‘a[10]

Over the generations, the ancient Hawaiians developed a sophisticated system of land and resource management which included larger districts and smaller regions. Of all the land divisions, perhaps the most significant management unit was the *ahupua‘a*. These were subdivisions of land usually marked by an altar (*ahu*) with an image or representation of a pig (*pua‘a*) placed upon it, thus the name *ahu-pua‘a* or pig-altar. *Ahupua‘a* may be generally compared to pie-shaped wedges of land that extended from the ocean fisheries (the wide section) fronting the land unit, to the mountains (the narrow section) or some other feature of geological significance such as a valley, hill, or crater. The boundaries of the *ahupua‘a* were generally defined by the topography and cycles and patterns of natural resources occurring within the lands (cf. Lyons, 1875; in "The Islander").

The *ahupua‘a* were divided into smaller manageable parcels of land, controlled by a hierarchy of chiefs with the *konohiki* or lesser chief at the lowest level. Cultivated resources could be grown and natural resources harvested on these smaller parcels. As long as sufficient tribute was offered and *kapu* (restrictions) were observed, the common people, who lived in a given *ahupua‘a,* had access to most of the resources from the mountain slopes to the ocean. These access rights were almost uniformly tied to residency on a particular piece of land, and earned as a result of taking responsibility for stewardship of the natural environment, and

Keopuka, S. Kona, NPS photo

supplying the needs of ones *Ali‘i* (cf. Malo 1951:63-67; Kamakau 1961:372-377; and Boundary Commission Testimonies – ca. 1865-1891). The *ahupua‘a* resources supported not only the people who lived on the land (*maka‘āinana*), but also contributed to the support of the royal community of regional and/or island kingdoms.

In ancient Hawai‘i, access to resources of the *ahupua‘a* was restricted. Generally, only residents of the *ahupua‘a* could use the fisheries of shallow nearshore waters and could gather resources and birds from the forests. Outsiders (for example, related kinsmen or friends) might be allowed by the local chief or by residents to use these community resource areas, but theoretically, permission must have been obtained. Also, residents had their own use rights to specific field plots and house lots. Travelers, thus, could pass through *ahupua‘a* on the *ala loa*, which circumscribed the entire island, but they did not have open access to the resources of the *ahupua‘a*.

With this Hawaiian form of district subdividing as a means of resource management planning, the land provided fruits and vegetables and some meat in the diet, and the ocean provided a wealth of protein resources. Also, in communities with long-term royal residents, divisions of labor

[10] Information on this section provided by Maly, 2005.

Trail at Pu‘uhonua O Honaunau, NPS photo

(with specialists in various occupations on land and in procurement of marine resources) developed and were strictly adhered to.

The Hawaiian Trail System[11]

Throughout the years of late prehistory, A.D. 1400s-1700s, and through much of the 1800s, transportation and communication within the Hawaiian kingdom was by canoe and by major trail systems. The major trails linked the 600 or so *ahupua‘a* of the kingdom’s six districts on Hawai‘i Island. These districts were Kohala, Hamakua, Hilo, Puna, Ka‘ū, and Kona. Today, the ancient districts remain with the exceptions that Kohala, Kona, and Hilo each have two parts, north and south. (See Map 2, Districts of Hawai‘i Island with *Ahupua‘a* and Ancient Royal Centers).

Although the canoe was a principle means of travel in ancient Hawai‘i, extensive cross-country trail networks enabled gathering of food and water and harvesting of materials for shelter, clothing, medicine, religious observances, and other necessities for survival. Ancient trails, those developed before western contact in 1778, facilitated trading between upland and coastal villages and communications between *ahupua‘a* and extended families. These trails were usually narrow, following the topography of the land. Sometimes, over ‘*a*‘ā lava, they were paved with waterworn stones (‘alā or pa‘alā).

Until the 1840s, overland travel was predominantly by foot and followed the traditional trails. By the 1840s, the use of introduced horses, mules and bullocks for transportation was increasing, and many traditional trails—the *ala loa* and *mauka-makai* trails within *ahupua‘a*—were modified by removing the smooth stepping stones that caused the animals to slip. Eventually, wider, straighter trails were constructed to accommodate horsedrawn carts. Unlike the earlier trails, these later trails could not conform to the natural, sometimes steep, terrain. They often by-passed the traditional trails as more remote coastal villages became depopulated due to introduced diseases and the changing economic and social systems. Sometimes, the new corridors were constructed over the alignments of the ancient trails, or totally realigned, thus abandoning—for larger public purposes—the older *ala loa*. In addition to these modifications in trail location and type due to changing uses, trails were also relocated as a result of natural events such as lava flows, *tsunami*, and other occurrences. The Hawaiian trail system was and will remain dynamic.

Traditional Uses of the *Ala Loa*

Community Interaction

Residents of the *ahupua‘a* around the island of Hawai‘i resided at various localities, generally within a quarter mile of the shore, for access to fresh water and fisheries; and in the uplands—to areas near the 3,000 foot elevation—where extensive fields of diverse crops could be cultivated. The *ala loa* connected these land units and settlements, encircling and crossing in-land over the entire island, and providing for economic and social interaction between people of adjacent communities and districts.

[11] The following sections are taken from the *Ala Kahakai: National Trail Study and Final Environmental Impact Statement*, NPS, 1998.

Royal Centers

Nearly all of the royal centers of the kingdom lay along the coastal *ala loa* at Waipiʻo in Hamakua; Hilo Bay in Hilo; at Punaluʻu and Waiʻ Ahukini in Kaʻū; at Hōnaunau, Kealakekua, Kahaluʻu, Holualoa, and Kailua in Kona; and Kawaihae and Puʻuepa (at ʻUpolu Point) in Kohala (Cordy, 1997; 2000). (See map 2 for approximate locations.) In addition to the residences of the king and high chiefs, these centers each had major sacrificial temples (*luakini*), refuge areas (*puʻuhonua*), and sporting grounds, and in two cases royal mausoleums (the Hale o Liloa in Waipiʻo and Hale o Keawe in Hōnaunau). Other large *heiau* were present in some centers. Large populations were focused around these centers which were used steadily over successive generations.

Chiefly Travel

Travel along the *ala loa* was often done for chiefly affairs. Messengers (*kukini*, or swift runners) were sent along the trails or by canoe to call in other chiefs for meetings, to call for tribute, to summon warriors in for battle, to gather in laborers to build public works projects such as temples, and to spy on rival chiefs. Occasionally, the ruler and the court circled the island to check on the state of affairs of production, population, or potential rivals, or to rededicate temples. This circuit might be at a brisk pace, or a leisurely movement from one of the favored royal centers to another over the period of several months. The highest chiefs (*Aliʻi nui*) traveled the *ala loa* to reach their own residences and smaller courts in their own *ahupuaʻa* which they occasionally used when not at the royal court.

Tax Collection

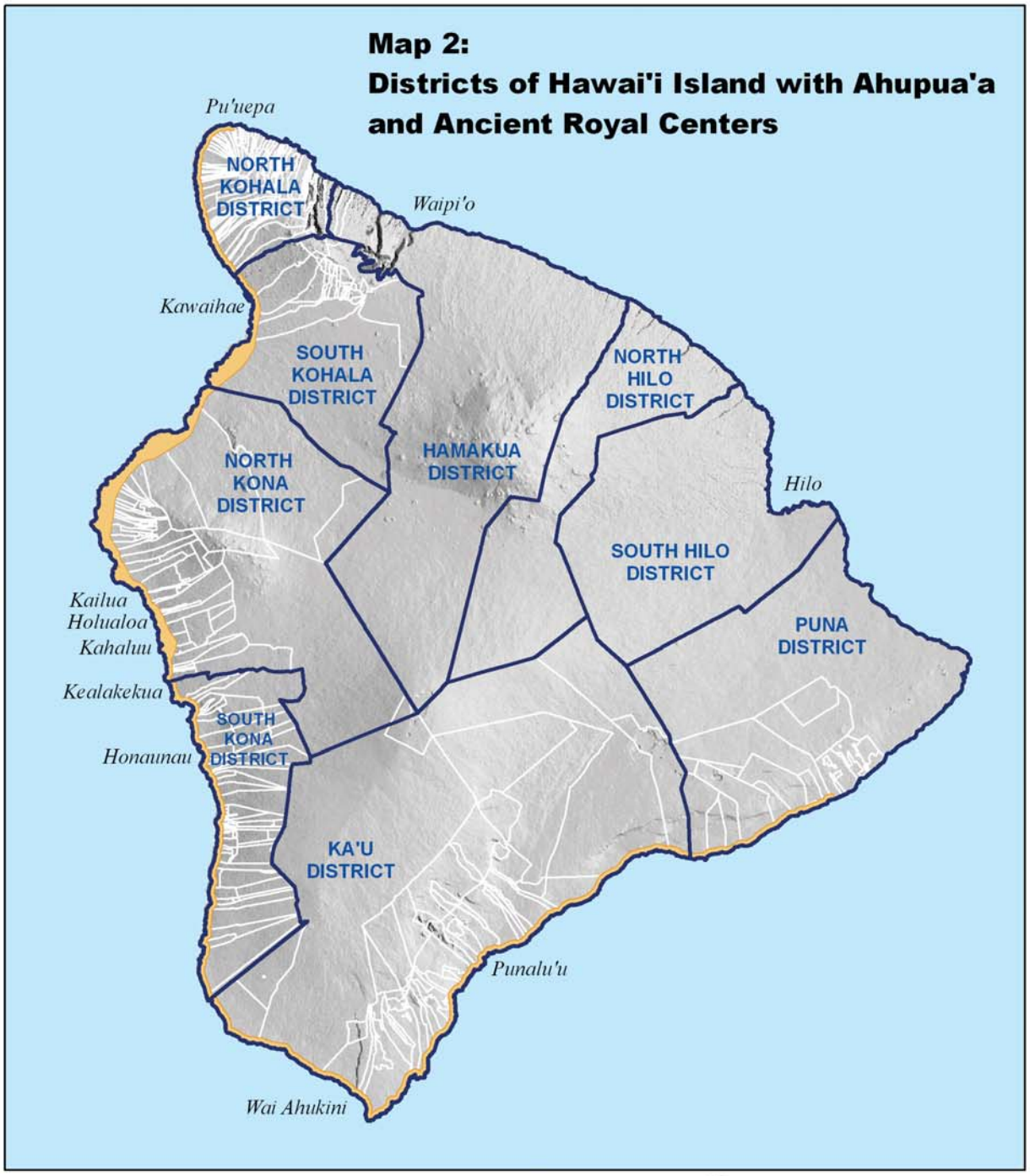
In addition, portions of the coastal *ala loa* were the route for the ruler's tax collectors during the *Makahiki* season, a ritual period spanning approximately four months, from the last month of the dry season through the first three months of the wet season (from October or November to January or February). During this period, worship of Kū, the god of war, ceased. War was prohibited. Ceremonies at the *luakini heiau* were halted. Other religious ceremonies and special sporting events were held honoring Lono, the god of Agriculture. For tax collection, a procession of priests, attendants, and athletes carried a wooden image of Lono clockwise around the island on the *ala loa* in a circuit of 23 days. In theory, the procession halted at the *ahu* or altar of each *ahupuaʻa*, collected tribute, and traveled on. In practice, several of the 600 *ahupuaʻa* most likely gathered their tribute in one place to expedite collection.

Historical narratives by Iʻi (1959) and Kamakau (1961), and in testimonies before the Boundary Commission from 1873 to the 1890s, also record that portions of the *Makahiki* route were inland rather than along the coastal trail through Kona and Kohala. The *mauka* (upland) route roughly coincides with the "*mauka* government road," now the Māmalahoa or "Belt Road."

Warfare

In times of war, travel to battle was either by canoe, the *ala loa*, or other trails. Local chiefs brought their warriors to the king's or high chief's residence, where the forces were gathered. An example of land travel occurred when Lonoikamakahiki gathered his forces to oppose his rebelling brothers, ca. 1640-1660. His Kaʻū forces came up the mountain trail to Ahu aʻUmi where they were met by Lonoikamakahiki and his Kona men. The army then descended into south Kohala and fought a series of battles up the *ala loa* to Kawaihae and up into Waimea, restoring Lonoikamakahiki's control over the island.

Kaʻawaloa Road, S. Kona, NPS photo



0 5 10 20 Miles

Legend

- Ala Kahakai NHT Corridor
- Hawai'i Island Districts
- Ahupua'a

Ala Kahakai National Historic Trail
Working Map 12/21/06

Kamehameha, Island Unification, and the *Ala Loa*

Kamehameha I, high chief of Hawai‘i Island, unified all of the islands of Hawai‘i and reigned as the first king of a monarchy that would rule the Kingdom of Hawai‘i through the reign of Kamehameha V. His life spans the precontact and historic periods.

Major events in Kamehameha’s life occurred along the *ala loa*. He was born near the northern end of the Ala Kahakai NHT at ‘Umiwai Bay near ‘Upolu Point. At the time of Captain Cook’s arrival at Kealakekua Bay in 1779, Kamehameha was a military leader and high-ranking chief in the court of his uncle, Kalani‘opu‘u. After the death of Kalani‘opu‘u in 1782, Kiwala‘o became king, and the Hilo chiefs were granted many of the lands of the kingdom. As a result, with Kamehameha as their leader, the Kona and Kohala chiefs revolted and fought the battle of Mokuohai at which Kiwala‘o was slain. The kingdom broke into three: Kamehameha controlled Kona, Kohala, and Waipi‘o; Keōua Ku‘ahu‘ula (Keōua) controlled Ka‘ū and part of Puna; and their uncle, Keawema‘uhili, controlled all of Hilo, and parts of Hāmākua and Puna (Kamakau, 1961).

For about a decade, Hilo and Ka‘ū were in alliance against Kamehameha. When a falling out occurred, Hilo allied with Kamehameha. While he was off-island battling the Maui kingdom, Keoua invaded Hilo, slew Keawema‘uhili, and expanded his Ka‘ū kingdom to include the former land of the Hilo kingdom (Cordy, 1997).

Kamehameha consolidated his rule of the island when Keoua was killed along the shoreline *ala loa* below Pu‘ukoholā Heiau in 1791. Pu‘ukoholā was Kamehameha’s temple of destiny. Early in the days of his drive for supremacy of Hawai‘i Island, he began a reconstruction of Mailekini Heiau at Kawaihae for consecration to the family god Kuka‘ilimoku, whose favor he sought. However, a great *kahuna* (seer) told him that victory over Keoua and eventual mastery of the Hawaiian Islands would be his if he built an immense temple to the war god at Pu‘ukoholā on the crest of the hill just above Mailekini Heiau (‘I‘i 1959:17).

When the temple was finally completed in 1791, Keoua was among the chiefs invited by Kamehameha to dedicate the temple and to discuss possible joint rule of a unified Hawai‘i kingdom. When Keoua stepped ashore on the beach below Mailekini Heiau, a scuffle ensued, and he and the companions in his canoe were killed. Thus, the body of Keoua Kuahu‘ula became the principal sacrifice on the altar of Pu‘ukoholā. Kamehameha was now the sole ruler of Hawai‘i Island, fulfilling the prophecy that required the building of the great temple. Kamehameha reconquered Maui, Lana‘i and Moloka‘i by 1794, and O‘ahu in 1795. The unification of the Hawaiian Islands was complete in 1810 when Kaua‘i diplomatically ceded to Kamehameha I.

Kamehameha I lived out his final years from 1813-1819 at the chiefly complex of Kamakahonu in Kailua along the *ala loa*.

The *Ala Loa* and Abolition of the Kapu

Kamehameha was succeeded by his son, Liholiho (Kamehameha II), and as co-regent for his short reign, Ka`ahumanu, Kamehameha I’s favorite wife. Six months later the ancient religious system, the *Kapu* was abolished at Kamakahonu. Forty years had passed since the death of Captain Cook at Kealakekua Bay, during which time it became increasingly apparent to the chiefly classes that the *Kapu* system was breaking down; social behavior was changing rapidly and western actions clearly were immune to the ancient Hawaiian *kapu* (taboos). Kamehameha II sent word to the island districts, and to the other islands, that the numerous *heiau* and their images of the gods be destroyed.

The abolition of the *Kapu* in 1819 provoked the last historic battle to be staged along the *ala loa*.

Leading a faction that opposed the overthrow was a high chief, Kekuaokalani, who in December 1819, with his supporters took arms to overthrow Kamehameha II, his government, and to reinstate the *kapu*. The ensuing battle took place at Kuamoʻo and Lekeleke, south of Keauhou Bay. Kamehameha II's forces were victorious and Kekuaokalani was slain. The bodies of those who fell in the battle were interred along the *ala loa* and covered with rocks. The *pūʻoʻa* (stone mounds) remain to the present day.

Evolution of the *Ala Loa*[12]

By the middle 1820s, significant changes in the Hawaiian Kingdom were underway. The missionaries, who arrived in May 1820, selected key stations on the island of Hawaiʻi from which to oversee and instruct the Hawaiian people in matters of the "spirit" and western life—these localities were accessed via the *ala loa* and smaller *ala hele* (paths) from neighboring *ahupuaʻa*. The mission stations generally coincided with the traditional chiefly centers, which by this time, were also developing as trade points with foreign vessels. As a result, and under the tutelage of the missionaries, Governor Kuakini and Chiefess Kapiʻolani, instituted a program of public works on the island of Hawaiʻi. The development of trails to western-style roadways was initiated to facilitate access to mission stations, landings, and to key areas of resource collection.

By the 1830s, the King (Kamehameha III) initiated a program of island-wide improvements on the *ala loa*, and in 1847, a formal program for development of the *alanui aupuni* (government roads) was initiated. By the early 1850s, specific criteria were developed for realigning trails and roadways, including the straightening of alignments and development of causeways and bridges. This system of roadwork, supervised by district overseers, and funded through government appropriations—with labor by prisoners and individuals unable to pay taxes in another way— evolved over the next forty years. With the passing of time, emphasis was given to areas of substantial populations. Because of the on-going decline of the Hawaiian population, and the near abandonment of isolated communities formerly accessed by the *ala loa* and earlier *alanui aupuni*, the later government road between Kohala, Kona and Kaʻū often diverged from, and abandoned, the older alignments.

In the later years of the Hawaiian monarchy, the need to define and protect Hawaiian trails and roadways was recognized, particularly in support of native tenants living in remote locations. Often these native tenants' lands were surrounded by tracts of land held by single, large landowners who challenged rights of access. In 1892, Queen Liliʻuokalani and the Legislature of the Kingdom of Hawaiʻi signed into law an "Act Defining Highways, and Defining and Establishing Certain Routes and Duties in Connection Therewith," to be known as The Highways Act, 1892. The Act reads in part:

> Section 1. This Act may be cited in all public proceedings as "The Highways Act, 1892."
>
> Definition of Public Highway
>
> Section 2. All roads, alleys, streets, ways, lanes, courts, places, trails and bridges in the Hawaiian Islands, whether now or hereafter opened, laid out or built by the Government, or by private parties, and dedicated or abandoned to the public as a highway, are hereby declared to be public highways.
>
> All public highways once established shall continue until abandoned by due process of law… [p. 68]
>
> Ownership of Public Highways in the Government
>
> Section 5. The ownership of all public highways and the land, real estate and property of the same shall be in the

[12] Information on this section provided by Maly, 2005.

> Hawaiian Government in fee simple… [Chapter XLVII. An Act, October 15, 1892:69]

The Highways Act of 1892 is a critical legal tool used by the state to claim public trails, but may be subject to a legal challenge by a private landowner. It is subsumed in Chapter 264-1, HRS. Sections 2b to read

> All trails, and other no vehicular rights-of-way in the State declared to be public rights-of-ways by the highways act of 1892, or opened, laid out, or built by the government or otherwise created or vested as no vehicular public rights-of-way at any time thereafter, or in the future, are declared to be public trails. A public trail is under the jurisdiction of the state board of land and natural resources unless it was created by or dedicated to a particular county, in which case it shall be under the jurisdiction of that county.

Effects of the Highways Act of 1892 on the Ala Kahakai NHT

Much of the Ala Kahakai NHT may prove to be in the public domain due to the Highways Act of 1892. All public accesses that can be verified to have been in existence prior to 1892 continue to be owned in fee simple by the state of Hawaii. This law applies even if the trail is not physically on the ground because in many instances trail segments have been destroyed over time due to various land uses or natural processes.

The burden of proof rests with the state under the Nā Ala Hele Trails & Access Program (See Appendix G for information on this program and on the meaning of the Highways Act of 1892), which conducts an "abstract" of a particular land area or trail to document ownership.

Qualified proof includes archeological reports, historic maps, historic accounts, early surveyor's notes, land deeds, boundary testimonies, cultural impact assessments, or other verifiable sources of information that would lead to a determination of state ownership. Then the historic record must be reconciled with a metes and bounds survey to confirm that the identified trail is the same alignment that was in existence prior to 1892. Through this process, an ancient or historic trail that otherwise runs through private property may be declared property of the state and in some cases is managed for use by the public. However, the research used to document the claim by the government may be legally challenged for a variety of reasons if the claim is adverse to a private landowner. The trail ownership may ultimately be adjudicated in court.

Opening a state trail to the public requires a cultural survey and preservation or construction, management, maintenance, and signage plans. If resources are lacking to open them to public use, often the trails with historic and public value may be "land banked," that is held by the state without a management entity and not open to the public. Several state-owned segments with potential to be components of the Ala Kahakai NHT are land banked at this time. The *Feasibility Study* identified 35 miles of potential state trail crossing private lands eligible for inclusion as part of the Ala Kahakai NHT.

Shoreline Trails, Makalawena, N. Kona, NPS photo

Planning Issues and concerns

The NPS received several hundred ideas and comments during scoping and alternatives review meetings held with the public, government agency representatives, Native Hawaiian groups, trail organizations, and individuals. (See appendix J for a record of public comments.) Other comments came by letter and comment form. Every comment was considered. Several concerns raised about trail management can appropriately be addressed in the CMP, while others are beyond the scope of the CMP or would be better handled at more detailed levels of planning.

Issues Addressed in the Plan

Trail Administration and Operations

The trail is administered by the NPS, but the NPS owns and manages only 17% of the trail corridor. The trail passes through federal, state, county, Hawaiian Homelands, and private lands each with their own regulations for use. Even within state lands, Nā Ala Hele and State Parks operate under different rules. Consistent preservation, development, management, and marking the trail through varying jurisdictions will be a challenge.

Changes to the Historic Scene

Development, weather, and alien plants have significantly impacted the ancient and historic trail in some areas. New trails and jeep roads have taken their place. The plan needs to address how these sections of trail would be incorporated into the Ala Kahakai NHT.

Vulnerability of Cultural and Natural Features

The Ala Kahakai NHT connects hundreds of cultural sites and traditional use areas. Desecration of cultural sites on private and adjacent public lands by persons accessing these sites via coastal trails is an ongoing problem. The plan needs to address how trail management can protect these sites.

Effects on Native Hawaiians

Native Hawaiians have deep concern for protection of natural and cultural resources, which are one and the same to them. For them, the trail is a part of a way of life. It includes not only the pathway but also the network of resources beside the trail. They are concerned that increased public access and use could impact areas of deep spiritual significance and their use of these areas to practice their cultural traditions. They also have concerns for the effect of federal recognition of the trail on their gathering and subsistence rights.

Landowner Concerns

Landowners point out that public access across their properties could lead to trespass, litter, vandalism, and misuse, and that the burden of trail maintenance and protection could fall disproportionately on them. Landowners also have concerns for their liability. Even though they are relieved of liability for public recreational uses through state law, claimants may still file suit in the event of injury. In some cases, the state may defend and indemnify owners from claims made against them by public users of the owner's land. (See Appendix A for the state of Hawaii liability law.) Even if the trail is state-owned and the state becomes liable, there is still the potential for trespass onto private land from the state trail. Finally, landowners are concerned about the potential of added federal oversight of their lands.

Undesirable Trail User Behavior

Private landowners and public land managers have suffered the effects of trespassing, vandalism, theft, littering, unauthorized off-road vehicle use, and illegal dumping due to open and largely unregulated access along and to the shoreline. In some cases, coastal resources such as *'opihi* (limpet), *limu* (seaweeds), fish, stones, sand, wood, and plant materials have been depleted. Access where immediate trail oversight is not present has led to over-harvesting of resources and inappropriate dumping of solid waste in coastal and other areas.

Land Use Decisions

In many cases, cultural and natural resources are threatened or have been lost due to development. At times, state land use designation and county development processes have allowed destruction of both ancient and early historic trails as long as developers provide public access to the shoreline.

Issues Not Addressed in the Plan

Not all issues raised by the public are addressed by the alternatives in the CMP because they are

- already prescribed by law, regulation or policy
- beyond the scope of the CMP
- at a level too detailed for a comprehensive management plan and would be more appropriately addressed in subsequent planning documents.

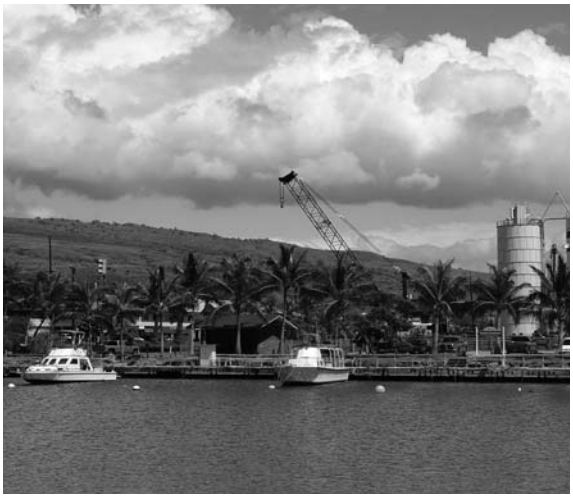
Some comments related to dissatisfaction with the trail name as a made-up word without historic accuracy. The term "*Ala Kahakai,*" meaning "trail or path by the sea," was coined by a planner for a 1973 state trail system proposal and was later used in Senator Daniel Akaka's legislation requesting the *Feasibility Study*. In this way, it became the name of the national trail and a given for the CMP. Some commenters thought *Ala Loa* or *Ala Hele* would be more appropriate names. The name can be changed through an act of Congress as has been done for some other Hawaiian national park sites, but it cannot be changed in the CMP.

Some commenters contended that the national parks on the island of Hawai'i and the Ala Kahakai NHT are not legitimately under the jurisdiction of the federal government, and should be returned to the Kingdom of Hawai'i. Response to this comment is beyond the scope of the CMP to address as are comments such as "Extend the designated corridor to Hilo" or "Need the trail to go around the whole island." Addressing these comments would require further legislation.

Many specific comments raised issues that would more appropriately be addressed by future site and segment specific plans. Suggestions included:

- Encourage Nature Conservancy, etc., to buy up adjacent lands.
- Provide guidelines for camping on the trail.
- Remove 4WD access to/on trail.
- Provide a map of all sacred areas on the island.
- Create an endowment for volunteer-based maintenance.
- Discourage use of all-wheel drive vehicles on the trail south of Spencer Beach.

Although comments like these are not specifically addressed in the CMP, they will be considered in future implementation plans or day-to-day trail administration and management.



Kawaihae Harbor, S. Kohala, NPS photo

Guidance for Planning, Administration and Management

Initial guidance for trail planning, administration, and management is found in the purpose of the trail as established by Congress; the vision for the trail; the national significance of the trail and its fundamental resources and values; the primary interpretive themes that convey the trail's significance; and federal, state, and county legal and policy requirements—the more general body of laws and policies that apply to the Ala Kahakai NHT. This foundation provides the parameters for ensuring that all programs and actions recommended in the comprehensive management plan contribute to achieving the trail's purpose and other mandates.

Purpose of the Trail

A statement of purpose defines why a particular trail or park is recognized. The purpose of the Ala Kahakai NHT, derived from the legislative history, the *Feasibility Study*, and the public CMP scoping process completed in 2005 is to

- preserve, protect, reestablish as necessary, and maintain a substantial portion of the ancient *ala loa* and associated resources and values, along with linking trails on or parallel to the shoreline on Hawai'i Island
- provide for a high quality experience, enjoyment, and education — guided by Native Hawaiian protocol and etiquette — while protecting the trail's natural and cultural heritage and respecting private and community interests

Community Vision for the Trail

The following vision for the trail was developed with the public during the scoping process. The Ala Kahakai NHT will

- preserve ancient and historic trails within the corridor and tell the stories of those who use them
- provide access to practice traditional lifestyles and *mālama 'āina* (care for the land)
- protect sacred sites, historic places, and natural areas
- become a living classroom for educating Hawaii's people and visitors
- offer opportunities for community partnerships based on the ahupua'a concept
- create safe and well-kept places for spiritual, cultural, and recreational practices
- unite local communities around common goals to preserve Hawaii's culture and environment

Significance Statements/Fundamental Resources and Values

Significance statements capture the essence of the trail's importance to the United States' heritage, including those significant to the history of Native Hawaiians. Significance statements describe the distinctiveness of the totality of the trail's resources and place them within a broader context (regional, national, international). Significance statements identify those resources and values that must be preserved to accomplish the trails' purpose. The five significance statements listed below provide a framework for trail interpretation and education. They are derived from the *Feasibility Study*, which was endorsed by the NPS Advisory Board as required in NTSA 5(c), and revised through the CMP public scoping process.

Fundamental resources and values are systems, processes, features, visitor experiences, stories, scenes, and other assets that warrant primary consideration during planning and management because they are critical to achieving the trail's purpose and maintaining its significance. Underlying the discussion below are related Native Hawaiian cultural values that express the relationship of people to the land and its resources such as *kuleana*, responsibility; *laulima*, working together; *malama*, caring for, preserving; *aloha 'aina*, love of the land. These values and others are further described later in

this plan under "Hawaiian Land Management Values" on pages 50 and 51.

Significance Statement 1

The Ala Kahakai NHT contains the oldest and best remaining examples of the ancient *ala loa*, the major land route connecting the reaches of coastal settlement zone[13] of most *ahupua'a* on the island of Hawai'i. The *ala loa* was essential to the movement of early Hawaiian's (*ka po'e kahiko*) from place to place.

Associated Fundamental Resources and Values

- preserved and walkable remnants or preserved alignment of ancient and historic trails
- sites, features, or places of significance situated along or connected by those remnants or along the alignment

Significance Statement 2

The Ala Kahakai NHT protects and provides access to natural, cultural, and recreational resources that together express the Native Hawaiian culture and way of life, past and present. Although the common conception of Hawaiian culture is what existed at the time that Kamehameha I unified the islands after western contact, the trail also recognizes the 1000 to 1500 years of Polynesian settlement before that.

Associated Fundamental Resources and Values

- the trail landscape, comprised of cultural and natural resources that can be accessed by or appreciated from the trail—archeological resources, historic sites structures, cultural landscapes, traditional cultural properties, *wahi pana* (storied and sacred places), and the hundreds of named features[14] such as stone formations geological landscapes, a tree or area of plant growth, *pu'u*, *kipuka*, water sources, and other natural resources.
- stories, *hulas* (dances), and chants associated with places, place names, and sites along the trail
- access to preserved places where spiritual beliefs, customs, social values, subsistence resource gathering, agriculture, trade, and commerce uses are practiced past and present.
- access to recreation areas (water and land-based activities) to practice sustainable recreation activities
- visitor experience of Native Hawaiian ways of living

Significance Statement 3

Along the coastal *ala loa* events took place that are significant to Hawaiian history and culture, from the arrival of Polynesians, to the rise of Kamehameha I and the unification of the islands into the Kingdom of Hawai'i, to the coming of Captain Cook and Christian missionaries.

Associated Fundamental Resources and Values

- places and stories of ancient events along the route (*e.g.* major events such as arrival of Polynesians, establishment of *ahupua'a* system, establishment of *kapu*, but also lesser known events associated with the many chiefs and chiefesses and commoners.)
- places and stories of historic events along the route (e.g. major events such as the rise of Kamahameha I, arrival of Captain Cook, the December 1819 battle, end of the *kapu*, arrival of missionaries as well as lesser known events associated with a specific place or person)

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[13] The coastal settlement zone includes the *kahakai* (nearshore fisheries and shoreline strand) and *kula kai* (shoreward plains). Maly quoted in NPS , 2004b, Part C, page C-8.

[14] Hawaiians gave names to places that signify cultural identity, whether as a resource, a physical landmark, or a marker of a past event.

Significance Statement 4

The Ala Kahakai NHT is a dynamic, living cultural resource reflecting the values of an island people and their continuing responsible relationship with their community, land, and ocean resources.

Associated Fundamental Resources and Values

- stories of stewardship and the cultural heritage of an island people including oral histories, newspaper accounts, diaries, archives, photographs
- remnants of the *ahupua'a* land management system that allowed for cultural and economic self-sufficiency and sustainable abundance
- connection of the *ahupua'a* system and cultural stewardship values and patterns to management of the Ala Kahakai NHT

Significance Statement 5

The Ala Kahakai NHT passes through and provides the opportunity to protect significant natural areas and ecosystems with indigenous and endemic species along its route.

Associated Fundamental Resources and Values

- anchialine pools
- endemic species habitat
- endangered and threatened species
- ecological zones
- lava forms and formations

Jeep Trail, N. Kohala, NPS photo

Primary Interpretive Themes

Interpretive themes are the most important ideas or concepts to be communicated to the public about the Ala Kahakai NHT. Themes elaborate on the primary stories and experiences that are fundamental to the public understanding of the trail's purpose and significance, providing the foundation for comprehensive interpretive planning. Interpretive themes are derived from the significance statements and reflect fundamental resources and values. Interpreters use themes to connect tangible resources to larger ideas, meanings, and values so that the public can develop their own emotional and intellectual connections with trail resources. Interpretation along the Ala Kahakai NHT will include oral traditions and reference to cultural places to create a sense of place. It should introduce real people and events.

Theme statement: Walk in the foot steps of the Hawaiian ancestors along the Ala Kahakai.

Topic: Connections to the Past. The Ala Kahakai NHT contains the oldest and best remaining examples of the ancient *ala loa* and the sites connected by it, including remnants of several other ancient and historic trails, providing outstanding opportunities to explore parts of the Hawaiian trail system and follow in the footsteps of the *ka po'e kahiko* (people of old Hawai'i).

Theme statement: Experience the enduring lifestyles and values of the Hawaiian people.

Topic: Expression of a Unique Culture. The Ala Kahakai NHT links natural, cultural, and recreational resources that express Native Hawaiian culture and provide for practice, perpetuation, understanding, and appreciation of an enduring way of life. Experience of these resources can deepen personal values with respect to Native Hawaiian traditions and life styles.

Theme statement: Hawaiian history comes alive at specific sites along this trail.

Topic: Significant Events. The Ala Kahakai NHT provides the opportunity to experience events of significance to Hawaiian history and culture in the places in which they occurred.

Theme statement: Discover the satisfaction of being a responsible citizen-steward of this trail.

Topic: Stewardship. Management of the Ala Kahakai NHT provides opportunities for an island people to express their continuing *kuleana* (responsible relationship) with their community, land, and ocean resources.

Theme statement: Listen and learn as the landscape speaks its stories.

Topic: Environment. Animal and plant species, anchialine pools, landscapes, geology, ambient sounds, and night skies were essential components or considerations in the culture of early Hawaiians that require understanding and preservation today.

Status of Resources and Values

Although the following discussion approaches cultural and natural resources as discrete categories, to the Native Hawaiian they are bound together. A fish pond may be a natural resource where rare birds feed, but it is also a cultural property, a source of abundant fish which were farmed by their Hawaiian ancestors.

Puhina o Lono Heiau, S. Kona, NPS photo

A lava flow may be a geologic phenomenon, but it is also an expression of Pele, the volcano goddess. The trail's fundamental resources and values reflect the intricacy of this relationship.

Because a limited number of trail resources have been inventoried and protected, the CMP cannot meet the requirement of the National Trail System Act to identify "**all** natural, historical, and cultural resources" of the Ala Kahakai NHT (emphasis added). According to the Hawaii State Department of Land and Natural Resources' Historic Preservation Division (SHPD), although only 5% of the island has been surveyed, an estimated 11,500 archeological and historic sites have been identified on the island of Hawai'i. Some natural resources have been inventoried in the national parks and in development plans, but the surveys are by no means complete or organized in a manner that trail administration and management can use.

Nonetheless, this CMP can suggest the character and scope of resources to be protected along the Ala Kahakai NHT. High potential sites and complexes listed on table 3 indicate the quality, types, and level of recognition of cultural and historical resources along the trail. Natural resources deemed significant to the Ala Kahakai NHT can be described, but the status of these resources at specific sites along the route will not be known until resource studies are complete and management plans are developed for individual trail segments. As these plans for trail segments are developed, more cultural and natural resources will be identified, protected, and interpreted to the public, as appropriate.

The values and resources described below provide the basis for discussion of impacts of the alternative management proposals.

Cultural Resources

There are several ways of categorizing and evaluating cultural resources for the Ala Kahakai NHT Trail: by eligibility to the National Register of Historic Places; by Hawaiian traditional culture; by National Park Service cultural management categories; and by requirements of the National Trails System Act, a mandate of this plan. Each of these systems is a means to ensure that the fundamental resources and values described above are protected, preserved, and made available to the public in appropriate ways. Trail administration and management must consider how each system applies in any given situation.

National Register of Historic Places

In the NPS, cultural resources are generally evaluated and protected through meeting the requirements of the National Historic Preservation Act (NHPA), which authorizes the secretary of the interior to recognize and develop protective strategies for properties with historic significance.[15] Resulting from that act, the National Register of Historic Places (NRHP) is the official list of properties recognized as historically significant. Under section 106 of the NHPA, the NPS, as a federal agency, is obligated to assess the effects of its undertakings on cultural resources. Section 110 of the NHPA requires the NPS to evaluate the eligibility for the national register of historic properties under its direct control or properties on which federal funds are expended. It is further obligated, even pending evaluation, to assure that historic properties are not impacted beyond the point at which they are no longer eligible. The NPS List of Classified Structures (LCS) database includes structures nominated to or eligible for the NRHP in each national park; the Archeological Sites Management Information System (ASMIS) documents information about archeological resources, and the Cultural Landscapes Inventory (CLI) documents cultural landscapes and their associated features including historic structures, sites, and districts. Determining and establishing eligibility of the trail and sites along it is essential for protecting and preserving the Ala Kahakai NHT.

Evaluation for eligibility to the register assesses the quality of significance in American history, architecture, archeology, and culture present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that meet one or more of the following criteria:[16]

A) Association with historic events, or

B) Association with the lives of persons significant in our past, or

C) Embodiment of a distinctive construction style, or

D) Information potential

Several sections of the trail are already on the NRHP as individual properties, or are incorporated as a contributing property of an archeological district. Additional trail segments that still retain integrity of construction and setting would likely be deemed eligible under criterion A, B, C, or D. The trail itself may best be classified as a district because it is a linear property that encompasses a variety of elements and features which are historically and functionally linked by a travel way[17]. Dozens of other cultural sites along the ancient route are already listed on the NRHP as significant under one or more of the register criteria. Most of the National Historic Landmarks associated with the

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[15] The NPS organic act and the National Trails System Act are additional mandates for cultural resource preservation.

[16] See the Glossary under "National Register for Historic Places" for the full NRHP definitions of these criteria.

[17] "Trails and roads require verification that the land nominated is the actual location of the trail. Eligibility requires integrity of setting and location. Boundaries commonly encompass the length and width of the byway and a margin of land, for example, 40 feet, on both sides. … Boundaries may also include land that forms a historically important and intact setting, for example, the hillsides and rock formations rising from an important pass on a frontier trail. Where the continuity of a byway has been interrupted by nonhistoric development, segments retaining significance and integrity can be nominated together in a multiple property submission" (NPS, 1998c).

trail are, in fact, nationally significant under all four of the NRHP criteria. Many prehistoric and historic sites have been determined eligible by the State Historic Preservation Office, but have never been formally nominated to the national register. Still other cultural properties, probably in the hundreds, remain incompletely recorded and not yet evaluated (NPS, 1998c).

Table 3, a listing of known and at least minimally protected sites along the trail route, lists 11 sites on the NRHP, 6 of which are National Historic Landmarks; 1 National Historic Landmark District with several sites; 2 Historic Districts with several NRHP sites; 10 sites on the State Register of Historic Sites; and 5 state preservation areas set aside in historic preservation agreements with the State Historic Preservation Division.

Another class of properties associated with the Ala Kahakai NHT that may be significant under any or all of the NRHP criteria is the traditional cultural property (NPS, 1998b). A traditional cultural property (TCP) is a site or a place, that is eligible for inclusion on the national register because of its association with cultural practices and beliefs that are (1) rooted in the history of a community and passed down through the generations in oral literature or history, and (2) important to maintaining the continuity of the community's traditional beliefs and practices (NPS, 1998a).

Some TCPs along the Ala Kahakai NHT are sacred to the extent that they are worshipped with offerings in the present day. TCPs may include sites with significant legendary associations, associations with ancient religious practices, specialized subsistence gathering areas, and so on. Among Hawai'i Island's better known traditional cultural properties are Mo'okini Heiau, associated with Pa'ao, the legendary priest/navigator from Kahiki, and South Point, a famous fishing ground, marked with a fishing *heiau*, Kalaka, reputedly used by Kamehameha. Mo'okini Heiau and South Point had associations with the *ala loa* (NPS, 1998a).

Hawaiian Traditional Culture

TCPs, because they are identified and evaluated with the NRHP criteria, tend to be physical, bounded places that a land manager can recognize as a kind of historic property. But in Hawaiian culture, intangible resources may be just as important as tangible resources, the small as important as the monumental, and all are sacred. The NPS recognizes that historic properties represent only some aspects of culture, and many other aspects, not necessarily reflected in properties as such, may be of vital importance in maintaining the integrity of a social group. However, the NRHP is not the appropriate vehicle for recognizing cultural values that are purely intangible, nor is there legal authority to address them under section106 of the NRHP, unless they are somehow related to a historic property. Nonetheless, the NPS is committed to ensuring that such resources are fully considered in planning and decision making (NPS, 1998c).

In the Hawaiian culture, *mo'olelo* (traditions and historical narratives) are expressions of native beliefs, customs, practices, and history. In fact, in Hawai'i the very landscape is "storied and filled with *wahi pana*[18] (storied and sacred places) represented in both the tangible and intangible facets of traditional Hawaiian culture, and are

Pelekane and Pu'ukoholā Heiau NHS, S. Kohala, NPS photo

[18] The discussion of *wahi pana* was prepared by Kepā Maly, December 2005.

not always represented by the largest constructions or man-made features. Each Hawaiian place name consists of descriptive words that suggest the presence of gods or their interactions with people, document specific events, or characterize a certain place. Such *wahi pana* stand out in traditions and the recollections of elder *kamaʻāina* (native born). While today many of those *moʻolelo* have been lost, some still remain, and from them we are able to gain insights into the history of the lands and people of the *ʻāina* (land). Along the route of the Ala Kahakai, many *wahi pana* can be viewed or experienced, some near at hand and others at a distance. Some examples of *wahi pana* along the Ala Kahakai NHT from north to south are described below.

Along the coast of Kohala appear the uplands and the noted hills of Pili (Puu Pili) and Kalāhikiola, poetically described as "*nāpuʻu hāele lua o Pili me Kalāhikiola*" (the hills of Pili and Kalāhikiola, which appear to march together across the land). When viewed from the coastal region, these two hills, which mark land divisions of North Kohala, seem to move with the traveler.

From Kohala, the trail enters Kona and the lava lands of Kanikū and Kanimoe. These flows are named for two goddesses who were turned to stone and who are believed to guard the trail to the present day. Continuing further south through Kona, the trail passes the *mauka* section of the ancient "*ke ala a ke akua*" (the pathway of the gods), and now commemorated in the place name, Kealakekua. And further south in Kona, the trail passes through the lands of Kolo and ʻŌlelomoana. The names of these *ahupuaʻa* recall that in ancient times, those who traveled the *ala loa* would sometimes forfeit their lives along the trails when caught by fishermen who were in need of bone for making new fishhooks.

Upon entering the district of Kaʻū, the trail crosses the *ʻūlei* covered flatlands and looks upon the Pali Mōlīlele (cliff from which the albatross flies), but which man must climb to continue the journey into Kaʻū. And drawing near to Kīlauea (abode of the goddess Pele), the trail ascends via the sun-baked plains of Kūkalāʻula, where only the *puʻulena* winds blowing from Puna, could cool the weary traveler.

Upon departing from Kaʻū and entering Puna, the trail passes through the *ahupuaʻa* called Kealakomo (literally, the entry path), the land which from ancient times, marked the end of one district and beginning of another.

Such places are among the thousands of cultural resources and values accessed by the Ala Kahakai. The stories associated with the myriad places along the trail will bring to life the landscape and native experience for residents and visitors alike. (See the Bibliography for a list of studies and reports completed along the trail route that use native and primary sources to detail *wahi pana*, cultural landscapes, and traditional cultural properties.)

To begin to address the significance of the trail to contemporary Native Hawaiians, a cooperative agreement with the University of Hawaii's Department of Urban and Regional Planning (DURP) produced a cultural resource study for North Kohala. This study covered cartographic research on ancient and historic trails, Māhele and land claims, place names, and ethnographic information. The project continues with similar studies being conducted at South Kohala and North Kona. A research project on ancient and historic trails in South Kona and Kaʻū is also being conducted.

NPS Cultural Management Policies

The NPS defines a cultural resource as an aspect of a cultural system that is valued by or significantly representative of a culture or that contains significant information about a culture. To focus attention on management requirements within the NRHP property types, the NPS *Cultural Management Policies* recognizes the following resource types: archeological resources, historic structures, cultural landscapes, places of significance to contemporary cultural groups (ethnographic resources), and museum objects.

While management plans for national parks tend to address cultural resources in these five categories, for the Ala Kahakai NHT the distinctions between these resource categories are often blurred.

Resource categories are useful because they help organize cultural resources into a manageable number of groups based on common attributes. On the other hand, categorization often obscures the interdisciplinary nature of many cultural resources. A *heiau*, for example, may be associated with many artifacts, form the centerpiece of a cultural landscape, and occupy the site of a prehistoric fishing camp. In addition to this type of overlap, cultural resources might also embrace more than one category or classification system. A fish hook can be both an archeological resource and a museum object, just as a wall may be viewed as a discrete structure, the extension of a building, and part of a landscape. Taken a step further, historic districts can be formed by various combinations of cultural landscapes, structures, archeological resources, and resources important to contemporary cultural groups (NPS, 1998c). Nearly always, an individual Hawaiian cultural resource fits into more than one category. Nonetheless, as required by NPS policy, the Existing Environment and Environmental Impacts chapters of this plan address resources using the four categories relevant to the trail: archeological resources, historic structures, cultural landscapes and museum collections. Ethnographic resources are considered by this plan to be incorporated into the other four categories.

National Trails System Act

The National Trails System Act requires that a comprehensive management plan identify high potential trail segments and sites. (See footnote, page 1, or glossary for definition.) Table 3, map 3, and appendices B and C respond to this requirement.

High Potential Trail Segments – Oral traditions and eye-witness accounts recorded in the early 1800s, Māhele land records from 1848 to the mid-1850s, Boundary Commission transcripts from the 1870s to 1890s, and Kingdom maps from the 1880s to the early 1900s provide documentation of the route of the *ala loa* and its companion major trails that cross *ahupua'a* borders.

Generally documentation occurs in Hawai'i when a development or change in land use is proposed and the county requires developers to conduct surveys as a condition of approval. Unmodified remnants of the ancient *ala loa* and segments of historic trails including *alanui aupuni* have been documented in each district that the trail runs through in the general locations illustrated on the alternatives maps and described in Appendix B. Ancient and historic trail segments have been documented in each of the three West Hawai'i national parks (Tomonari-Tuggle, 2004). The maps depict conceptual alignments for these trail segments intended for planning purposes and are not intended for use as trail guides. Over time, as studies are conducted, trail segment locations will be confirmed.

High Potential Trail Sites –To date, no attempt has been made to document the archeology of the entire *ala loa*. As part of the CMP process, the Ala Kahakai NHT office initiated an archeological inventory project with the Hawaii State Historic Preservation Division (SHPD) to compile information from existing archeological reports within the trail corridor. This survey was not completed, and though unavailable for use in preparation of the CMP, its findings will be useful to trail management once the information is organized. High potential cultural sites are listed on table 3 and their general locations shown on map 3. Appendix C describes them further. Included in table 3 and map 3 as high potential sites, along with archeological and historic sites, is a sampling of traditional cultural properties and sites with on-going cultural significance such as *wahi pana* (storied and sacred places).

Table 3: High Potential Cultural Sites and Complexes along the Ala Kahakai NHT

Publicly Known High Potential Site or Complex	Period Exemplified a. Ancient (pre-1778) b. Historic (1779-1892)	Recognition [19]
North Kohala		
Moʻokini Heiau; Kapakai	a,b	NHL, SM, NR
Kamehameha ʻAkāhi, ʻĀina Hānau (Kamehameha I Birthplace)	a	
Lapakāhi State Historical Park preserves remains of a precontact Hawaiian settlement that includes house sites, canoe sheds, shrines, and burial cairns. Agricultural fields are several miles inland.	a	NR, SHP, SR
South Kohala		
Puʻukoholā Heiau, Mailekini Heiau, former Hale o Kapuni Heiau, Pelekāne, Kamehameha's "leaning post," and Pahukanilua (John Young's homestead)	a,b	NHS,NHL, NR
Puakō Petroglyph Archeological Preserve (Mauna Lani Resort)	a	NR, SPA
Kalāhuipuaʼa with its fishponds and small cave shelters (Mauna Lani Resort)	a,b	SPA
Waikōloa Petroglyph Preserve; Ke ahu a Lono (ʻAnaehoʻomalu)	a,b	SPA
*Kahāpapa and Kuʻualiʻi fishponds at ʻAnaehoʻomalu		
North Kona		
*Kapalaoa complex and ponds		SR
*Wainānāliʻi and Kīholo Fishpond complexes: storied traditional places	a.b	SR
*Kalaemanō salt works and habitation features (ceremonial significance)		SR
*Kaʻūpūlehu salt works and petroglyph fields (Kona Village Resort)	a,b	SPA
*Kū kiʻo to Kaulana includes fishponds, anchialine pools, and small clusters of permanent houses, associated graves, small *heiau*, and temporary shelters.	a,b	SR
Keāhole Point to Kaloko Ahupuaʻa includes small clusters of permanent houses, associated graves, small *heiau*, and temporary shelters including Wawaloli-ʻOʻoma habitation cluster.	a,b	
Kaloko-Honokōhau National Historical Park (almost every type of precontact structure is represented along with some historic structures)	a,b	NHP, NHL, NR
Kamakahonu and ʻAhuʻena Heiau, Kailua (NHL) [King Kamahameha Hotel]	a,b	NHL, NR
Hulihe'e Palace	b	NR
*Kamoa-Keolonāhihi Point Complex		
*Laʻaloa		
Kahaluʻu Royal Center (Keʻeku, Hapai Aliʻui, Kapuanoni Heiau, Kuemanu Heiau, walled house lots. Agricultural fields in the uplands)	a,b	SPA
Kamehameha III birthplace, Kauikeaouli stone, Keauhou	b	
Kāneaka, the Keauhou Hōlua Slide	a	NHL, NR
Lekeleke and Kuamoʻo Battle Site and Burial Ground (1819) and features through Honuaʻino.	b	
South Kona		
Kealakekua Bay Historic District, the site of the landing and death of Captain Cook includes Captain Cook Monument (reachable by boat), Hikiau Heiau, Kaʻawaloa, Puhina o Lono (*heiau* at which Captain Cook's body was prepared for burial (Kealakekua Bay State Historical Park)	a,b	NR, SHP, SM
Mokuʻōhai Battleground (1782)	b	
Puʻuhonua o Hōnaunau National Historical Park (place of refuge, ruler's residential area, royal mausoleum, ʻAleʻaleʻa *heiau*, and *hōlua* slides, Alahaka Ramp, and 1871 Trail)	a,b	NHP, NR
*Kapalilua Region: Hoʻokena-Kauhakō, Hoʻopūloa, Miloliʻi, Okoe Bay, Honomalino and Kapuʻa Sites		SR

[19] NHL = National Historic Landmark; NHS = National Historic Site; NHP = National Historical Park; NP = National Park; NR = National Register of Historic Places; SHP = State Historical Park; SM= State Monument; SR = State Register of Historic Places; SPA = state preservation area set aside in historic preservation agreements

Publicly Known High Potential Site or Complex	Period Exemplified a. Ancient (pre-1778) b. Historic (1779-1892)	Recognition
Kaʻū		
*Manukā Bay petroglyphs, habitation complex, hōlua slide		NR, SR
*Kaiakekua and Keawaiki complexes		SR
*Wai ʻAhukini (royal residence)		SR
*Kāʻiliki ʻi-Wai ʻahukini fishing village complex, chiefly center		SR
Heiau o Kalalea; ancient canoe moorings, salt pans, and habitation sites at Ka Lae (the Point) [South Point National Historic Landmark District]	a	NHL District, SR
*Kalalea Heiau		
*Mahana Bay and Kapalaoa archeological district—canoe mooring, salt pans, fishhook manufacturing		
Punaluʻu Ruins (remains include Punaluʻunui heiau, a huge *luakini* temple)	a,b	
Kaʻū-Puna (all sites listed are within the Puna-Kaʻū Historic District in Hawaiʻi Volcanoes NP)		
Kūēʻē Village Ruins, Papalehau Ruins, Kāluʻe Ruins, Halapē Ruins, Halapē House Platform, Keauhou Ruins-Heiau Cave, ʻĀpua Point Ruins, Kealakomo Village, Puʻu Loa Petroglyphs, Laeʻapuki and Kamoamoa Village Ruins (about 85% covered in 1988-95 lava flows), site of Wahaʻula Heiau (covered by 1997 lava flow)	a,b	In NP, NR

Sources: Dunbar, Helene R. *Cultural Resources Assessment, Ala Kahakai, Hawaiʻi Island*, NPS, Pacific Great Basin Support Office, 1997 reviewed, amended with additions of *wahi pana* by Kepā Maly, Kumu Pono Associates LLC, December 2005, noted by an asterisk (*), and additional information from the NPS List of Classified Structures.

Kal Lae (South Point), Kaʻū, NPS photo

Map 3
Location of High Potential Cultural Sites and Complexes
Upolu Point
Mo'okini Heiau
Kamehameha I Birthplace
NORTH KOHALA
Lapakahi State Historical Park
Lahikiola
Puu Pili
Pu'ukohola Heiau NHP
Puako Petroglyph Preserve
SOUTH KOHALA
Anaehoomalu
Kalahuipua'a
Kahapapa Fishpond
Waikaloa Petroglyph Preserve
Kuualii Fishpond
Kapalaoa Complex and Ponds
Kaniku Lava Lands
Kanimoe Lava Lands
HAMAKUA
NORTH HILO
Ka'upulehu Saltworks
Kuki'o
Kaulana
NORTH KONA
Keahole Point
Hilo
Kaloko- Honokohau NHP
NORTH KONA
Kailua (Kona)
Kamakahonu
Hulihe'e Palace State Monument
Kamoa-Keolonahihi Point Complex
Kahalu'u Royal Center
Kamehameha III Birthplace
Holua Slide
Lekeleke/ Burial Ground for Kuamo'o Battle Warriors
SOUTH HILO
Kapapala
PUNA
Kaawaloa
Cooks Monument
Hikiau Heiau
Kealakekua
Moku'ohai Battleground
SOUTH KONA
KA'U
Pu'uhonua o Honaunau NHP
Ho'okena
Kauhako Bay
Hawai'i Volcanoes NP
Lae'apuki
Kealakomo (ahupua'a)
Wahaula Heiau
Kamoamoa (Site)
Hawai'i Volcanoes NP
Pu'u Loa
Kealakomo
Kukala'ula
Lands of Kolo and Olelomoana (ahupua'a)
Ho'opuloa
Miloli'i
Honomalino Bay
Okoe Bay
Kapu'a Bay
Punalu'u
Manuka Bay
Kaiakekua
Keawaiki
Ka'liiki'i (Site)
Pali Molilele
Wai'ahukini Complex
Mahana Bay
Heiau o Kalalea
0 5 10 20 Miles
Legend
Ala Kahakai NHT Corridor
Districts
Parks
Wilderness
Roads
Primary
Secondary
High Potential Cultural Sites and Complexes
Ahupua'a Mentioned in Text
Puna Kau Historic District
Hawaii Island
Ala Kahakai National Historic Trail
Working Map 3/22/07

Natural Resources

The status of the fundamental natural resources and values related to the Ala Kahakai NHT is not determined. Some limited information on these resources exists within the national parks. The *Pacific Island Network Vital Signs Monitoring Plan: Phase III Report* (NPS, 2005) identifies "focal resources" for the Ala Kahakai NHT and assesses their status within the national parks. Focal resources, identified through cultural and local knowledge, scientific research, and judgements of park staff, reflect most of the fundamental natural resources and values identified for the trail. In general, from these sources we know that

- coastal strands, wetlands, anchialine (saline or brackish) pools, and fishponds provide habitat for endangered waterfowl, rare shrimp, native insects, plants, and many organisms that are harvested for food
- threatened and endangered species and habitats occur in several locations along the trail corridor
- nearshore marine areas adjacent to the trail are habitat for coral reefs and associated marine life used for traditional fishing and harvesting
- caves, while cultural resources, often contain unusual species adapted to the environment.

The resources identified in the monitoring plan are listed below with brief descriptions of their status.

Focal Natural Resource Values

- Intertidal areas, beaches, and coastal strand communities
- Coastal lowland plant communities
- Fishponds and anchialine pools
- Traditional subsistence coastal fishing and harvesting[20] and ethnobotanical resources
- Cave resources
- Threatened and endangered species

Intertidal areas, beaches, and coastal strand plant communities — Few sand beaches occur along the route of the Ala Kahakai NHT, and they are highly sought after for recreation, resort, and commercial development. Black and green sand beaches found along the trail route in Ka'u and within Hawai'i Volcanoes National Park are unique resources threatened by unauthorized removal of sand. Endangered sea turtles use beaches for nesting and Hawaiian monk seals (*Monachus schauinslandi*) frequently haul out on them to bask. Coastal strand plant communities are found in many areas along the Ala Kahakai NHT. These communities have aesthetic value and help prevent erosion of beach areas. Located on strips of coral or volcanic sand or limestone or volcanic rock adjacent to the shoreline, the coastal strand ecosystem contains species adapted to salt spray, storm surge and shifting substrate with limited water and nutrients, such as the coconut (*Cocos nucifera*), and various vines, grasses, and shrubs. Strand vegetation tends to be widespread throughout the Pacific [e.g., beach *naupaka* (Scaevola sericea), beach morning glory or *pohuehue* (*Ipomoea pes-caprae*), screw pine or *hala* (*Pandanus tectorius*)], though the Hawaiian Islands have several endemic species. Coastal strand communities have been significantly altered by human activity. Coastal development and the introduction of invasive species have severely restricted the ranges of some endemic strand species, though more cosmopolitan strand species have not been as affected.

Coastal lowland and lowland dry plant communities — Several herbland, grassland, and forest plant communities may occur in the area from sea level to approximately an elevation of

[20] Traditional subsistence fishers are these who engage in limited fishing and gathering activities to feed their extended families indentified with a specific region and associated through bloodlines and friendships which have developed over generations. Traditional fishing or harvesting is a sustainable practice and not a "blank check" for someone claiming Native Hawaiian blood to overharvest or misuse resources.

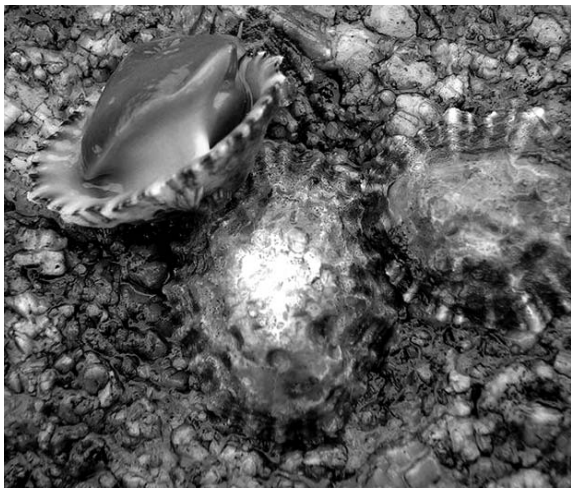
1000 feet within the trail corridor. Many of these native dry coastal and lowland plant communities have been destroyed by urbanization, off-road vehicle activity, fire, grazing, and encroachment by alien plant species. Kiawe (*Prosopis pallida*) has replaced the native flora in many former shrublands, and fountain grass (*Pennisetum setaceum*) poses a substantial threat to native *pili* (Heteropogon) grassland. Fountaingrass is "disrupting the more sparsely vegetated lowland native dry forests and shrublands that contain several endangered and many candidate endangered plant species" (Wagner, 1990).

Fishponds and anchialine pools — Fishponds were constructed by Native Hawaiians to grow and harvest desired fishes in a sustainable manner. Aimakapā and Kaloko fishponds, found within Kaloko-Honokōhau NP in North Kona, are bounded by wetlands that provide critical habitat to two species of endangered waterbirds and several other resident or migrant species. Anchialine pools are standing waters in rocky (lava) basins that vary in salinity and exhibit tidal fluctuations, although in most cases they lack a surface connection to the ocean. Anchialine pools in Hawai'i provide habitat to many endemic organisms and have historically been used for drinking water. Birds, native bees, and damselflies utilize shoreline habitat and rely on many other protected or rare plants and animals associated with anchialine pools and wetland resources. These pools rely on groundwater, primarily supplied by subterranean flow from the mountain slopes to the coast, for their freshwater input. Historic upslope water diversions and more recent real estate development have and continue to deplete these groundwater resources

Traditional coastal fishing and harvesting resources — Shoreline and spear fishing are common marine activities that provide food in addition to gathering of salt, various seaweeds, '*opihi* (limpets) from rocky shorelines, and endemic shrimp from anchialine pools. Tidepools and the coral reef also harbor an assortment reef fish, sea urchins, crustaceans, gastropods (snails), and seaweeds that are harvested for consumption by traditional fishers and others.

Cave resources — Caves are cultural resources and are managed under the Cultural Resource Management program by the national parks on the island of Hawai'i. The lava geology of Hawai'i has resulted in the formation of many caves and lava tubes used in ancient times for refuge, shelter, fresh-water collecting, burials, and other uses. Caves may contain burials and significant archeological resources associated with Native Hawaiian spirituality. Burial sites are sacred and not to be disturbed under traditional beliefs and by law. In the Affected Environment and Environmental Consequences chapter of this

Anchialine Pond, Kaloko-Honokōhau NHP, N. Kona, NPS photo



'Opihi Limpet, NPS photo

CMP, they will be discussed as cultural resources. Nonetheless, they are also treated as natural resources in the NPS Inventory and Monitoring Program. In addition, lava tubes may contain endemic cave-adapted insects and microorganisms, special geologically significant features, or mineral deposits, creating value as natural resources. The Federal Cave Protection Act (1988) requires the NPS to inventory and protect significant cave resources. The Hawai'i Cave Protection Act (2002) sets forth requirements for commercial entry and reporting of burials and provides criminal penalties for destruction or pollution of caves, disturbance of native organisms, and other adverse activities.

Sensitive, Threatened and Endangered Species — The U.S. Fish and Wildlife Service (USFWS) lists as federally endangered one mammal, four birds, two plants, two marine mammals, and one reptile that likely occur along the trail corridor. One reptile is listed as threatened. One damselfly and one anchialine pool shrimp are listed as candidate species for listing. In addition, Hawai'i Volcanoes NP has listed four other threatened and endangered plants that may be found within the trail corridor.

The Hawaii Natural Heritage Program as of 2003 named 32 listed and candidate species, 16 species of concern, 13 natural communities, and 13 designated critical habitats for plants that may occur in the vicinity of the Ala Kahakai NHT. (See Appendix D for lists of species.)

Wilderness

According to the Wilderness Act of 1964, a wilderness is an area retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed to preserve its natural conditions. It has outstanding opportunities for solitude or a primitive and unstuctured type of recreation. Cultural resources must be managed in wilderness areas in accord with various cultural resource and historic preservation laws (NPS Management Policy 6.3.8).

About 14 miles of the Ala Kahakai NHT corridor from the west boundary of Hawaii Volcanoes National Park to Keauhou are within a designated wilderness area and are subject to the Wilderness Act. If any action regarding the NHT is to occur within the wilderness area, according to the Wilderness Act, it must first meet the "minimum requirement" to ensure that it is necessary for preservation of the wilderness resource and does not adversely impact the wilderness character of the area. Should the action be deemed necessary and appropriate, then the "minimum tool" causing the least impact to the physical, cultural, and experiential resources would apply. (See the Glossary for definitions.)

Trail Mapping

Currently, paper and digital maps exist in varying scales. Maps generated for this CMP were digitized into a Geographical Information System (GIS) format from maps in the 1979 County of Hawaii *Inventory of Public Shoreline Access*. This information was augmented by land title abstract information from Nā Ala Hele dated 2003. Even though most of the digitized trail segments have not been verified in the field, this effort constitutes the first attempt to bring together route information for the entire shoreline corridor. The map database generated for this project will be meshed with databases and metadata from other projects to provide one reliable source of information for all trail-related resources.

In addition, Ala Kahakai NHT administration is working with Redlands University Environmental Studies Program to develop a GIS internet mapping site to serve as a tool for community-based trail management. Currently the program is developing a data base for inventory and monitoring of cultural and natural resources occurring within the trail corridor. Eventually, access, safety and interpretive information will be made available to the public via the Ala Kahakai NHT internet mapping site.

This information will be made available to partners and stakeholders, as appropriate.

Continued maintenance and augmentation of the GIS developed for this CMP could be accomplished through an arrangement with the NPS Pacific West Region-Honolulu or an agreement with a university or another agency. The Ala Kahakai NHT administrative office has a computer workstation equipped with the appropriate software to prepare and print maps.

Gaps in Information and Research Needs

Information for the CMP has come from studies available at the four national parks, other readily available publications, and knowledgeable individuals in the public and private sectors. But the fact is that almost none of the trail has been studied systematically, and information that does exist is widely scattered. Much remains to be learned. Many of the required inventories and studies listed below will be completed in phases as trail segments are incorporated into the Ala Kahakai NHT and further NEPA and Section 106 compliance completed. The following list gives an idea of the gaps in knowledge that exist and the research needed to fill the gaps:

- identification of unaltered and verified ancient and historic trail along the entire route
- overview of resources and landscapes of significance to contemporary Hawaiians (a general focus on getting ethnographic data that may include surveys, transect walks, rapid ethnographic assessment procedures, community mapping, focus groups, interviews, and oral histories associated with places along the trail)
- cultural resource overview and assessment (focused on gathering existing information together)
- cultural resource inventories including archeological sites, cultural landscapes, and traditional cultural properties, and national register evaluations
- historic structure inventory and national register evaluation
- natural resource overview and assessment (focused on gathering existing information in one database)
- vegetation inventories
- wildlife inventories
- cave inventory
- anchialine pond inventory
- facility and infrastructure study
- visual survey and analysis to identify scenic resources of the trail corridor
- assessment of needs for fire management in nonfederal areas

Legal and Policy Requirements

Federal

Aside from the National Trails System Act, as amended, other federal laws apply to trail management. All trail resources and opportunities for visitor enjoyment must be managed in compliance with a large body of legal and policy requirements intended to adequately protect the nation's natural and cultural heritage and opportunities for enjoyment of that heritage. Federal laws, regulations and planning direction applicable to this CMP include, but are not limited to the following:

Antiquities Act of 1906 (16 USC 431-433) provides for protection of historic, prehistoric, and scientific features on federal lands, with penalties for unauthorized destruction or appropriation of antiquities; authorizes the President to proclaim national monuments; authorizes scientific investigation of antiquities on federal lands subject to permit and regulations.

Archeological and Historic Preservation Act of 1974 (AHPA, 16 U.S.C.469-469c) provides for the preservation of significant scientific, prehistoric, historic, and archeological materials and data that might be lost or destroyed as a result of federally sponsored projects; provides that up to one percent of project costs could be applied to survey, data recovery, analysis, and publication.

Archeological Resources Protection Act of 1979 (ARPA, 16 USC §470aa), protects archeological resources and sites on federal lands and Indian lands and fosters increased cooperation and exchange of information between governmental authorities, the professional archeological community, and private individuals having collections of archeological resources and data obtained before October 31, 1979.

American Indian Religious Freedom Act of *1978* (AIRFA, 42 USC §1996) recognizes the rights of American Indian, Eskimo, Aleut, and Native Hawaiians to exercise their traditional religions, including limited access to sites, use and possession of sacred objects, and freedom to worship through ceremonials and traditional rites.

Coastal Zone Management Act of 1972 — (CZMA, 16 USC 1451-1464) establishes a voluntary national program within the Department of Commerce to encourage coastal states to develop and implement coastal zone management plans with cost-sharing grants to states to develop their programs. With federal approval of their plans, grants would be awarded for implementation. State plans must define boundaries of the coastal zone, identify uses of the area to be regulated by the state, the mechanism (criteria, standards or regulations) for controlling such uses, and broad guidelines for priorities of uses within the coastal zone. Federal actions must be consistent with each approved state plan. Appendix K contains the assessment of consistency with the State of Hawaii Coastal Zone Management Program for this CMP.

Endangered Species Act of 1973 (16 USC 35) requires identification and promotion of the conservation of all federally listed threatened, endangered, or candidate species and their habitats within federal administrative boundaries. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service are the lead agencies in matters pertaining to federally listed threatened and endangered species. The National Park Service cooperates with those agencies in activities such as the delineation of critical habitat and recovery zones on park lands and participates on recovery teams.

Federal Cave Protection Act of 1988 (16 USC 4301-4310) protects significant caves on federal lands by identifying their location, regulating their use, requiring permits for removal of their resources, and prohibiting destructive acts. The Act requires that caves be considered in the preparation and implementation of land management plans, and allows for cave location to be kept confidential.

National Environmental Policy Act of 1969 (NEPA, 42 USC 5) requires a systematic, interdisciplinary approach to federal actions which will insure the integrated use of natural and social sciences and environmental design arts in planning and in decision-making which may have an impact on man's environment.

National Historic Preservation Act of 1966 (NHPA, 16 USC 470), as amended declares a national policy of historic preservation on federal land, including the encouragement of preservation on the state and private lands; authorizes the secretary of the interior to expand and maintain a National Register of Historic Places including properties of state and local as well as national significance (Section 110); establishes the Advisory Council on Historic Preservation (ACHP); requires federal agencies to consider the effects of their undertakings on national register properties and provide the Advisory Council (ACHP) opportunities to comment (Section 106). Amendments include properties eligible for as well as listed in the national register and emphasize the interests and involvement of Native Americans and Native Hawaiians.

National Park Service Organic Act (16 U.S.C. l 2 3, and 4) created the National Park Service (NPS) within the U.S. Department of the Interior. The Organic Act charges the NPS with a dual mandate to promote and regulate the use of the national parks "by such means and measures as conform to the fundamental purpose to conserve the scenery and the natural and historic objects

and the wild life therein and to provide for the enjoyment for the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

Native American Graves and Repatriation Act of 1990 (25 NAGPRA, USC 3001 *et.seq.*) protects human remains and associated funerary objects on federal lands, and provides a process for museums and federal agencies to return certain cultural items—human remains, funerary objects, sacred objects, and objects of cultural patrimony—to lineal descendants, culturally affiliated Indian tribes, and Native Hawaiian Organizations.

Wilderness Act of 1964 (16 U.S.C. 1131-1136, 78 Stat. 890) provides criteria for determining suitability and establishes restrictions on activities that can be undertaken on a designated area. They are to be managed "for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness..." No roads or structures may be built. Vehicles and other mechanical equipment may not be used.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 1994, requires each federal agency to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

Executive Order 13007, Indian Sacred Sites, 1996, requires federal agencies to (1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites. Where appropriate, agencies shall maintain the confidentiality of sacred sites. (Although this order does not seem to apply to sites considered sacred by Native Hawaiians, it does offer an approach for considering these sites.)

NPS Management Policies 2006 provides policies on how the National Park Service will meet its park management responsibilities under the 1916 NPS Organic Act.

NPS Director's Orders, such as D.O. #12 that guides preparation of Environmental Impact Statements (EIS) and D.O. #28 that guides cultural resource management.

State and County Land Use Regulation[21]

Hawai'i's land tenure, use and access laws are based on and carried over from laws promulgated by the Kingdom of Hawai'i. State land use laws passed in the early 1960s regulate growth. Land use planning and control are exercised at two levels of government: state and county. In addition, federal law requires Army Corps of Engineers permits for uses in coastal areas and wetlands.

State Land Use Regulations

The state of Hawaii controls land use by three means: the Land Use Law, the Hawaii Environmental Impact Statement Law, and the Coastal Zone Management Act (CZMA).

Land Use Law — The State Land Use Commission (LUC) has classified all lands in the state into one of four land use categories: Urban, Rural, Agriculture, and Conservation. The counties are responsible for regulating use in the Urban, Rural, and Agricultural Districts. Jurisdiction over uses in the Agriculture District is shared with the LUC in certain instances. The state, through the Board of Land and Natural Resources (BLNR), regulates land use in the Conservation District, which also includes all nearshore, ocean land below the high water mark. Land use regulation must conform to the state plan according to Act 100. Conformance is difficult to measure because the Act's provisions are general and diverse.

[21] Most information for this section on land use regulation is taken from the *Feasibility Study*, pp. 53-55.

Hawai'i Environmental Impact Statement Law — Chapter 343, Hawaii Revised Statutes (HRS), requires an environmental assessment (EA) or an environmental impact statement (EIS) for developments in the State Conservation District and in the Special Management Area (SMA) and shoreline setback (coastal areas regulated by the counties), for projects using state or county lands or funds, and other specified categories of use. The EA or EIS should include a summary description of the affected environment including any archeological resources present on the property. Any structure, including ancient trails, which are over fifty years old, falls under the definition of "historic property" in chapter 6E, HRS, Hawaii's Historic Preservation Law. The State Historic Preservation Division of DLNR is responsible for evaluating the values of the historic resource and determining whether preservation or protection of the resource is necessary. The land use regulating agency may impose conditions which require the establishment or maintenance of public rights of way through the affected property.

Hawaii Coastal Zone Management Act of 1977— Coastal Zone Management — the national Coastal Zone Management Act (CZMA) requires direct federal activities and development projects to be consistent with approved state coastal programs to the maximum extent practicable. Also, federally-permitted, licensed, or assisted activities occurring in, or affecting, the state's coastal zone must be in agreement with the Hawaii CZM Program's objectives and policies. Federal agencies cannot act without regard for, or in conflict with, state policies and related resource management programs that have been officially incorporated into state CZM programs (Code of Federal Regulations, 15 CFR 930). The counties have the authority to establish the SMA boundaries and adopt permit requirements. Map 18 depicts Special Management Areas along the Ala Kahakai NHT. Appendix K contains the assessment of consistency with the CZMA.

County Land Use Regulations

Hawaii County regulates the private use of land in state land use districts of Agricultural, Rural, and Urban in two primary ways: by zoning, which regulates the intensity and type of use permitted on private land and must conform to the County General Plan; and by subdivision controls, which regulate the intensity of single-family residential development. Through the variance process, developments are often permitted on conservation land.

Other Regulatory Provisions

Overlaying the general state regulatory framework are special laws which apply to coastal and shoreline development, resource protection, or specifically address trails and public access issues. Brief summaries of relevant statutes, administrative rules, and other regulatory considerations are provided below:

Historic Preservation Program (HRS 6E- 3) — establishes within the Department of Land and Natural Resources a division to administer a comprehensive historic preservation program to undertake duties to include the following: develop an on-going program of historical, architectural and archeological research and development; acquire, preserve, restore and administer historic or cultural properties; develop a statewide survey and inventory to identify and document historic properties, aviation artifacts

Ancient Trail, Hōkūli'a Golf Course, S. Kona, NPS photo

and burial sites; prepare information for the Hawaii and national registers of historic places; prepare, review and revise the state historic preservation plan; provide technical and financial assistance to the counties and public and private agencies involved in historic preservation activities; coordinate the evaluation and management of burial sites; acquire burial sites to be held in trust; regulate archeological activities throughout the state; develop and adopt, in consultation with the Office of Hawaiian Affairs native historic preservation council, rules governing permits for access by Native Hawaiians and Hawaiians to cultural, historic and pre-contact sites and monuments. Section 6E-11 establishes penalties for violations of the state preservation law.

Hawaii Administrative Rules (HAR) 13-13-300, Rules of Practice and Procedure Relating to Burial Sites and Human Remains — establishes Island Burial Councils and procedures for proper treatment of Burial sites and human skeletal remains.

Chapter 343, Act 50, *HRS* — prescribes the requirement of assessment of cultural practices and resources in environmental impact statements. The state of Hawaii Office of Environmental Quality Control has developed guidelines and a protocol for evaluating impacts to the practices and beliefs of cultural or ethnic groups (see Appendix A).

Legacy Land Program (HRS 173A-5) — provides for the acquisition of lands including easements for parks, coastal areas, beaches, and ocean access, and cultural and historical sites.

Chapter 205A-41, HRS — contains additional provisions establishing a shoreline setback law for the state. The law authorizes the counties to establish minimum shoreline setback requirements of 20 or 40 feet depending on the size of the parcel. Development and construction proposed within the shoreline setback area are subject to variance procedures administered by the counties. Shoreline setback variance conditions of approval have also been used to obtain public access dedications to and along the shoreline.

Chapter 46-6.5, HRS — mandates that counties adopt ordinances to require the dedication of rights-of-way or easements for pedestrian public access from public roads to beach and mountain recreation areas. This requirement applies to land that is proposed for subdivision into six or more units. The County of Hawaii adopted Ordinance No. 96-17 to comply with this mandate.[22]

Chapter 115, HRS — guarantees the right of public access to the sea, shorelines, and inland recreational areas, and transit along the shorelines and provides for the acquisition of land for the purchase and maintenance of public rights-of-way and public transit corridors. Counties have the primary authority and duty to develop and maintain public access to and along shorelines.

Chapter 198D, HRS — establishes the Hawaii statewide Nā Ala Hele Trail and Access Program. The DLNR is directed to "plan, develop, acquire land or rights for public use of land, construct, and engage in coordination activities to implement the system, in accordance with this chapter." The Nā Ala Hele Trail and Access Program is established in DLNR's Division of Forestry and Wildlife. Trails included in the Nā Ala Hele system must be determined to have a functional value to be included in the system. (See appendix A for Nā Ala Hele legislation.)

Shoreline Protection Act of 1975 — in response to the Coastal Zone Management Act of 1972, a Special Management Area (SMA) program was established. The SMAs extend a minimum of 100 yards inland from the shoreline vegetation or debris line to ensure that proposed developments minimize adverse environmental impacts to

[22] In practice, the county prefers not to accept dedication of easements because that would obligate it to assume the costs of improvements and maintenance.

coastal resources, protect public recreation and wildlife resources, and ensure adequate public access to these areas. County SMA permit conditions have been the primary source of public access easements and dedications that have been added to the public shoreline access inventory. The SMA requirements apply only to those lands proposed for development, and the conditions of permit approval may not be enforced if development does not occur.

The Public Access Shoreline Hawaii (PASH) — this decision, resulting from the implementation of the CZM and the SMA, rendered by the Hawaii Supreme Court in 1995, unanimously upheld the validity of Native Hawaiian gathering rights that were asserted by PASH and other individuals during the SMA permit proceedings before the County of Hawaii Planning Commission. The decision spoke to the standing of Hawaiian gathering rights and the government's duty toward protecting those rights (County of Hawaii, 2001).

Hawai'i County Public Access, Open Space and Natural Resources Preservation Fund — often referred to as the 2% fund, was approved by ballot initiative during the 2006 General Election. It sets aside 2% of property tax collections—around $2.6 million—for purchase of lands deemed by an appointed commission to be worthy of preservation (Command, 2007). Of the 17 properties identified by the commission, 6 are along the route of the Ala Kahakai NHT. These funds were used to help preserve the Honu'apo Fish Pond site.

Relationship to Other Plans

The following plans or planning efforts have influenced the preparation of this Comprehensive Management Plan or may be modified based on the information presented in this plan. The list is not exhaustive.

National Park Service

Archeological Overview and Assessment for the Three West Hawai'i Parks, 2004

Curatorial Facilities Strategy, Cultural Resources, Pacific West Region, May 2006.

Environmental Assessment, Assessment of Effect: Reestablishment of the Historic Scene at Pu'ukoholā Heiau National Historic Site, April 2004

Fire Management Environmental Assessment for Hawai'i Volcanoes NP, November 2004

Fire Management Plan Pu'ukoholā Heiau NHS, September 2006

General Management Plan for Pu'uhonua o Hōnaunau NP, 1977

General Management Plan for Kaloko-Honokōhau NHP, 1994

Ka'ū Coast, Hawai'i Reconnaissance Survey, June 2006

Management Plan for Hawai'i Volcanoes NP (1975). Hawai'i Volcanoes NP is developing a new GMP that can consider plans for the Ala Kahakai NHT.

Native Hawaiian Use of Hawai'i Volcanoes National Park, A Historical and Ethnographic Overview

Pacific Island Network Vital Signs Monitoring Plan, December 2005

Park Museum Collection Plan (servicewide), March 2007.

West Hawai'i Parks Museum Management Plan, Kaloko-Honokōhau, Pu'ukoholā Heiau, Pu'uhonua o Hōnaunau, Ala Kahakai, February 2004.

Wilderness Management Plan Hawai'i Volcanoes National Park (draft), January 2005. The Ala Kahakai NHT could be considered in the final plan.

State

Hapuna State Park Plan: Completed in 2002, this plan calls for an expansion of the current management area. The NHT is recognized in this plan as the state alignment of the Ala Kahakai.

Kekaha Kai State Park Plan: This plan provides the state with management and development guidance over the next several years, acknowledges the Ala Kahakai NHT, and states that a historic route will be negotiated with State Parks division.

Proposed Kīholo State Park: "If established, Kīholo State Park would comprise all public lands *makai* of the Queen Ka'ahumanu Highway within the *ahupua'a* of *Pu'u Anahulu and Pu'u Wa'awa'a*. In addition, a wild coastline park at Kīholo would insure retention of the natural open space and the open coastal views from upland vantage points. This area includes approximately 8.5 miles of undeveloped coastline, 4,357 acres of State-managed coastal lava plain, and 88 acres of private in-holdings" (State of Hawaii, 2003). Establishment of a state park requires a master plan for which the state is seeking funding. In the meantime, the *Management Plan for the Ahupua'a of Pu'u Wa'awa'a and the Makai Lands of Pu'u Anahulu* states several planning and management objectives intended to provide a framework for management of this area for a 10-year period beginning in July 2003.

Statewide Comprehensive Outdoor Recreation Plan (SCORP): identifies statewide recreation demands and issues and presents a strategic plan to address them. It is required by the Land and Water Conservation Fund Act of 1965 to qualify for federal grants for outdoor recreation projects and is to be updated every five years. Hawai'i's last SCORP was approved in 2003.

Private

Kohanaiki Development: Plans for this a private development of the ahupua'a of Kohanaiki *makai* of Queen Ka'ahumanu Highway include residential uses, an 18 hole golf course, a public shoreline park with facilities and camping, and an alignment of the Ala Kahakai NHT as the existing shoreline trail.

O'oma Development: Planning continues for this private development. Adjacent and north of Kohanaiki, it includes residential uses, an 18 hole golf course, a public shoreline park with facilities and camping, and an alignment of the Ala Kahakai NHT as the existing shoreline trail.

Kūki'o Development Plan: Kūki'o is a private residential development that has made accommodation for public access along the shoreline. An alignment for the Ala Kahakai NHT on sand was defined with the use of GPS with representatives from the development. The development preserves other historic trails as well.

Ka'ūpūlehu Development Plan: Affiliated with the Kūki'o development, this private residential development has made accommodation for public access along the shoreline. A route for the Ala Kahakai NHT was required by the county as a development permit condition.

Waikoloa Development Plan: Several projects are planned for this resort community. Kolea is currently under construction and plans for units on land owned by Lonomakua Co.

Mauna Lani Resort Projects: A public pathway exists through these private residences (Kamalani, 49 Black Sand Beach, and Pauoa Bay) and may become part of the Ala Kahakai NHT.

Māhukona Resort Development: Proposed by Surety Kohala in the 1990's, the project

consists of a lodge with about 80 rooms, a restaurant, a spa, swimming pool and golf course. It would also feature between 120-150 condominium units as well as 90 to 120 one-acre lots. The project would include a wastewater treatment facility, a 17-acre historic park, and a shoreline trail.

Impact Topics—Resources and Values at Stake

Impact topics are the resources of special concern that could be affected by the range of management alternatives. Impact topics allow comparison of the environmental consequences of implementing each alternative. The planning team selected topics to focus the environmental discussion based on federal laws and other legal requirements, the Council on Environmental Quality's guidelines for implementing the National Environmental Policy Act, NPS management policies, and most especially on issues and concerns expressed during public scoping and the fundamental resources and values that may be affected. The assessment of consistency with the Coastal Zone Management Act is presented in appendix K. Each impact topic is provided below, followed by a brief justification for dismissing any topics from further consideration.

Impact Topics Addressed and Analyzed

- Cultural Resources
- Cave Resources
- Wetlands (Anchialine Pools and Fishponds)
- Marine Resources Related to Traditional Coastal Harvesting
- Native Ecosystems: Vegetation and Wildlife
- Special Status Species
- Scenic and Visual Resources
- Wilderness Values
- Public Health and Safety
- Visitor Opportunities and Experience
- Socioeconomic Environment (the economy and nearby communities, landownership)
- Trail Operations

At the end of the impacts of each alternative is a brief discussion of unavoidable adverse environmental effects; short-term uses and long-term productivity; and irreversible and irretrievable commitment of resources.

Impact Topics Considered and Dismissed

The following impact topics were considered and determined not relevant to the development of this CMP for the Ala Kahakai NHT because implementing the alternatives would have no effect or a negligible effect on the topic or resource, or the resource does not occur along the trail. The topics dismissed from further evaluation follow:

Air Quality

As described in chapter 3, air quality related to vog (volcanic smog) and laze (clouds of mist formed when hot lava reaches sea water) has potential health impacts on trail users, but trail construction, renovation, relocation, or use would have negligible short and long-term effects on air quality. The potential sources of air quality effects would be development of trail heads and vehicle emissions associated with constructing small parking areas. Each of these sources would be short-term and negligible. The proposed alternative would result in negligible adverse, short-term effects on air quality. Because the impact to air quality would be negligible, the impact topic was dismissed from consideration.

Energy Requirements and Conservation Potential

No facilities with inherent energy needs are proposed in any management alternative. Only composting toilets are proposed. Existing building facilities would be used for visitor orientation and interpretation. Should any of these facilities require remodeling to accommodate the trail, the concepts of

sustainable design would be used. The objectives of sustainability are to minimize adverse effects on natural and cultural values, to reflect the environmental setting, and to require the least amount of nonrenewable fuels or energy. Therefore, this topic is not addressed further.

Environmental Justice

Executive Order 12898, "General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their actions on minorities and low-income populations and communities. The communities in the trail corridor contain a mix of incomes and ethnic backgrounds and are not considered predominately minority or low-income. The proposals in this CMP would not have adverse impacts on minorities and low-income populations and communities; therefore this topic is not addressed further.

Indian Trust Lands and Resources

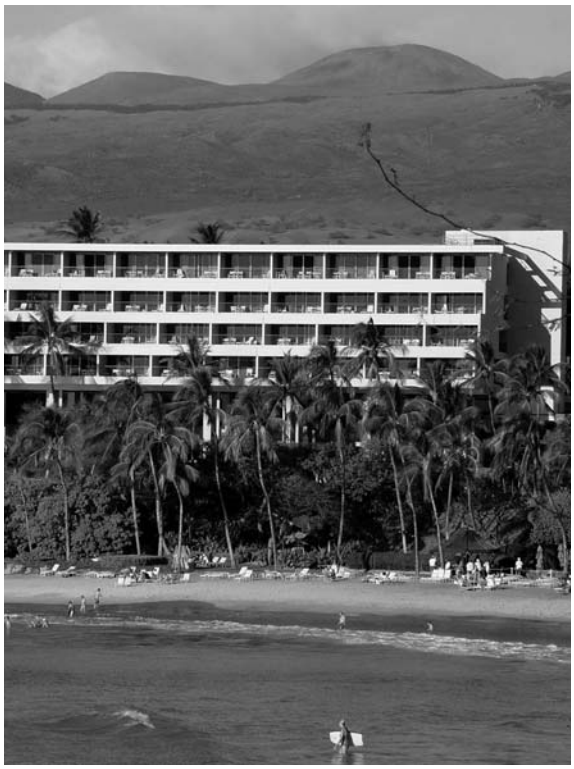
No Indian Trust lands or resources are involved in Hawai'i. Therefore, this topic is not addressed.

Natural or Depletable Resource Requirements and Conservation Potential

None of the alternatives would substantially affect energy requirements either within the national parks or within nonfederal lands along the trail route because any rehabilitated buildings or new facilities (e.g. composting toilets) would take advantage of energy conservation methods and materials. Therefore, this topic is not addressed further.

Prime and Unique Agricultural Lands

Prime farmland is defined as soil that particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland soils produce specialty crops such as specific fruits, vegetables, and nuts. According to maps prepared by the Hawaii State Department of Agriculture based on 1977 data, there are no lands classified as unique farmland within the Ala Kahakai NHT corridor. The same source indicates there is prime farmland on the north of the island from north of Honoipu Landing to 'Upolu Point. This area was once involved in sugar cane production. The portion of this area within the trail corridor is currently owned by the state, Kamehameha Schools, Surety Kohala, and a couple of private landowners. Their plans for the land are not known. In addition, the map denotes approximately 73 acres of prime farmland in three widely separated parcels within the trail corridor near Punalu'u. None of the alternatives propose land use changes and all propose working with local landowners in implementing the trail. Impacts to prime farmlands are expected to be negligible, and therefore, this topic is not addressed further.



Mauna Kea Beach Hotel, S. Kohala, NPS photo

Hāpuna Beach, S. Kohala, NPS photo

Alternatives

Top left: Camp site, N. Kohala; top right: Trail Clearing, Kealakehe HighSchool, O‘oma, N. Kona; bottom: Weliweli, N. Kona. NPS photos.

Chapter 2: Alternatives for Management

Actions Common to All Alternatives

Administration & Management: Definition of Terms

Within the National Trails System, the terms administration and management have specific and separate meanings to distinguish between trailwide coordination (administration) and local, segment by segment, ownership and care (management).

Administration encompasses the tasks performed by the agency assigned by the U.S. Congress to administer the trail. Subject to available funding, the administering agency exercises trail-wide responsibilities under the National Trails System Act for that specific trail. Typically, such responsibilities are to provide technical assistance, oversight, and coordination among and between agencies and partnership organizations in planning, resource preservation and protection, marking and interpretation, agreements (partnership, cooperative, and interagency), and financial assistance to other cooperating government agencies, landowners, interest groups, and individuals.

Under all alternatives, overall administration of the Ala Kahakai NHT rests with the National Park Service Pacific West Region-Honolulu under the Pacific Area Director. The trail superintendent, the administrator of the trail, is located at trail headquarters, established at Koloko-Honokōhau National Historical Park in June 2002.

Management refers to those site-specific tasks carried out by various government, community, and private entities that own, manage, or care for lands along each national trail. Management responsibilities often include inventorying of resources, mapping, planning, and development of trail segments and sites, compliance with federal and state laws, provision of appropriate public access, site interpretation, trail maintenance, marking, resource preservation and protection, viewshed protection, and management of visitor use.

The alternatives offer different management scenarios.

Resource Protection

Although this plan separates resource protection into discrete categories of natural and cultural resources, for the Native Hawaiian these are integrated into a cultural landscape. In Hawaiian culture, the land (*'aina*) is sacred. The natural and cultural worlds are intricately bound together; the spiritual world is not separate from the secular but everything has spiritual power (*mana*). As an example noted before, volcanic activity is a part of geological history, but Kīlauea is also home to Pele, the volcano goddess, and her family. Seen in the flows and other natural phenomena associated with volcanic activity, Pele and her family continue to be a presence in Native Hawaiians' lives.

Trail management will treat these resources holistically as part of a landscape in which culture and nature are one. To the extent feasible and in recognition of the relationships among physical, biological, and social systems, cultural resource management will be integrated with natural resource management, education, and visitor experience as a primary approach of trail management.

Under all alternatives, the NPS will use a similar variety of means to preserve, protect, and interpret all significant resources and fundamental values along the Ala Kahakai NHT. However, the extent of resources protected will differ with each alternative.

Cultural Resources

The trail and its associated resources are best considered as elements within a cultural landscape. The range of cultural resources along the trail includes, but is not limited to, ancient and historic trail fabric; archeological sites, such as shrines (*heiau*, *ahu*), burial sites, petroglyphs, and grinding surfaces, and so forth; caves; named places, features, and landscapes of significance to contemporary Native Hawaiians (*wahi pana*) such as stone formations, geological landscapes, tree or areas of plant growth, water sources, and so forth; and food and fish gathering areas. Protection of these resources and values is fundamental to achieving the trail's purpose and maintaining its significance.

Such resources would be protected within the agreed upon trail right-of-way and adjacent protection areas as defined in management agreements for each trail segment. National Historic Preservation Act Section 106 consultation with the State Historic Preservation Officer will be initiated early in the process of inventory and development of management agreements. Not all sites along the trail route are known at this time, but the CMP includes a process for completing archeological and other cultural resource inventories and assessments. Table 3 (chapter 1) lists known sites that would be protected. Not all of these sites are within the immediate coastal zone, but all are significant in Hawaiian and American history and culture. All relevant federal and state cultural resource protection laws would apply to the trail.

On lands for which NPS has the responsibility for the management and condition of cultural resources, such as the four national parks, the complement of federal laws[23] will apply. Approaches to cultural resource research, planning, and stewardship will follow *NPS-28, Cultural Resource Management Guideline*.

above: Petroglyphs, Anaehoomalu, NPS photo
below: Kaloko-Honokōhau NHP, N. Kona, NPS photo

Although the four national parks along the route have cultural resource management plans and committed funding for resource inventory and stewardship, none of this work is complete and none is focused on the Ala Kahakai NHT. The trail staff will coordinate with the compliance officers of each of the four parks for any action proposed within the park, including sign installation. An environmental assessment may need to be completed for the trail in each park. The trail staff will also work with park staffs to help complete inventories and assessments in order to understand the character and significance of cultural resources along the trail and the needs for protection, stewardship, and monitoring. Trail staff will encourage the parks to embrace the Ala Kahakai NHT and to seek funding for resource inventories related to the trail.

[23] Examples are the Archeological Resources Protection Act of 1979, American Indian Religious Freedom Act of 1978, Federal Cave Protection Act of 1988, National Environmental Policy Act of 1969, National Historic Preservation Act of 1966, Native American Graves and Repatriation Act of 1990 as well as the NPS Management Policies of 2006 and other applicable laws and regulations. See chapter 1 for a complete list.

On federal lands incorporated into the Ala Kahakai NHT, cultural information gained through trail inventories will be added to the following databases as appropriate:

Archeological Sites Management Information System (ASMIS) documents information about archeological resources.

Cultural Landscapes Inventory (CLI) documents cultural landscapes and their associated features including historic structures, sites, and districts.

List of Classified Structures (LCS) documents the inventory and condition of historic structures that are on the National Register of Historic Places.

National Catalog System (NCS) system catalogs artifacts, associated records, and archival material.

NPS Inventory and Monitoring Database

In the event that ethnographic data is or becomes available concerning the contemporary cultural significance of resources listed in any of the above databases, that information will be added to the database entries as appropriate.

For trail segments and sites on the over 80% of the trail route under nonfederal ownership that are added to the Ala Kahakai NHT through agreements with land owners, several protection strategies may be used as suggested below:

Compliance with NEPA and NHPA*:* On non-federal lands as well as federal lands, the National Environmental Policy Act (NEPA) and Sections 106 and 110 of the National Historic Preservation Act (NHPA) will apply. These laws require assessment of impacts of federal actions on cultural resources and assessment of properties for potential eligibility to the National Register of Historic Places (NRHP). [24]

Compliance with state preservation laws*:* The Ala Kahakai NHT will comply with the guidelines set forth by the State Historic Preservation Division (SHPD) including the Burial Sites Program, HRS Section 6E (the State Preservation Law), the Hawaii Cave Protection Law of 2002, and others.

Inventory and assessment*:* Existing information about cultural resources along the route in a variety of repositories will be gathered in one database. The goal will be consistent collection of natural and cultural information and trail data in a trail Geographic Information System (GIS) with full metadata to develop a trail-long profile. For identification of undocumented significant archeological sites, caves, other cultural resources and landscapes, and historic structures, the NPS will develop a single site and feature form consistent with NPS site condition and assessment requirements and the Secretary of the Interior's Standards to be used for inventories on federal and nonfederal lands. As recommended in the *Archeological Overview and Assessment for the Three West Hawai'i Parks* (NPS 2004a), a single numbering system, preferably the system used by the SHPD, should be applied to all sites. Site identification and assignment of site numbers should be carried out within a framework that has a logical structure or rationale.

As feasible, trail staff will coordinate the collection of new information about previously unrecorded sites, assess their significance to determine their eligibility for the NRHP, and cooperate with Native Hawaiians, state land managers, trail

[24] Resource types eligible for the national register include buildings, districts, sites, structures, objects, or traditional cultural properties. However, these categories are not distinct. A cultural landscape might include buildings, structures, and objects and be listed in the national register as either a site or a district. Archeological resources may be listed in all national register categories. Proper national register documentation for the Ala Kahakai NHT requires a multidisciplinary approach to resource evaluation.

associations, trail scholars, and the SHPD in adding, deleting, or modifying the database of trail information. Potential or documented traditional cultural properties (TCPs) and *wahi pana* will be identified through existing literary and cartographic sources and, in large part, through ethnographic interviews with Native Hawaiians. Direct involvement and participation of Native Hawaiians is required, and they determine whether or not TCPs should move forward. As feasible, assessments of traditional cultural significance will be added to existing NRHP nominations. To ensure including TCPs and *wahi pana* in trail management, the inventory process will be based, as feasible, on landscapes or ecosystems rather than on the specific trail right-of-way and negotiated adjacent resource areas.

In some situations, information must be kept confidential for protection of resources and to guarantee privacy to Native Hawaiian families. In response to public requests for information, the Freedom of Information Act and its appropriate exemptions will apply. Information can also be kept confidential under the provisions outlined in the National Parks Omnibus Management Act of 1998, also known as the "Thomas Act" (see Appendix A) and under NPS Management Policies for Cultural Resources section 5.2.3.

Monitoring protocol: A monitoring protocol will be established for the entire trail, based on the consistent inventory and assessment system noted above, so that trail conditions, protection and restoration of natural areas, and protection of cultural resources, human use impacts and violations can be effectively measured and responded to.

Monitoring: Sensitive cultural resource areas will be monitored and maintained at the lowest feasible cost through volunteer and other programs that will have a training component so that the volunteers do not themselves accidentally harm resources. Trail segment management entities, or stewardship groups, will provide for active monitoring and patrolling of sensitive sites and trail segments at a frequency determined in site and segment management plans. Inventory and monitoring activities will be integrated where possible with the NPS inventory and monitoring program.

Participation in planning and implementation of a joint West Hawai'i Parks Museum facility: The trail staff will work together with potential trail partners such as Hawaii State Parks, Bishop Museum, Kona Historical Society, University of Hawaii, West Hawaii Campus, Kamehameha Schools, Office of Hawaiian Affairs and the Department of Hawaiian Home Lands to help make a success of the proposed facility which will preserve and perpetuate Native Hawaiian culture. As described in the *West Hawai'i Parks Museum Management Plan*, the facility will combine traditional museum activities with contemporary cultural activities and bring together Native Hawaiian archeology, ethnography, and natural history of the west Hawai'i area in one centralized location to enhance research and learning opportunities at all levels.

Site and segment-specific management plans: On a segment by segment basis, generally related to *ahupua'a* boundaries but often to ownership, cultural resources associated with the trail will be identified, evaluated, understood in their cultural contexts and managed in light of their values. A management plan for each trail segment or site will address natural and cultural resources, and in compliance with applicable state and federal laws, may include preparation of an environmental assessment (EA). The plan will define, for compliance documentation, the area of potential effect (APE), the size of the area of land adjacent to the trail that should be

surveyed for culturally significant resources. This decision will be made on a case-by-case basis in consultation with the SHPD or by negotiating a programmatic agreement. For cultural resources, the management plan will describe culturally appropriate treatments for burials, sacred sites, and artifact and site feature preservation prepared in close coordination with the SHPD. They will incorporate the expertise of local Native Hawaiians, archeologists, cultural anthropologists, and natural scientists, among others. Each plan will also establish procedures for monitoring that particular trail segment consistent with the overall monitoring protocol.

Phased opening of trail segments: No segment of the trail will be promoted for public use until significant cultural resources and values within that segment are documented, sensitive areas determined, and a segment-specific management plan in place.

Coordination with the Nā Ala Hele Hawaii Island Advisory Council: The Ala Kahakai NHT administration will coordinate with the advisory council on guidelines for protecting historic trails including protection of trail alignments with no physical remnants and recommendations for adjacent areas.[25] (See Appendix H for these guidelines.)

Strategic routing of the trail: As feasible, the trail will be routed to avoid intrusion by trail users into sensitive natural and cultural areas, with special consideration for burial, sacred sites, and caves.

Agreements: Protection on private lands will be accomplished through partnership or cooperative agreements, conservation easements, and land donations or fee simple purchases from willing sellers where lands could be efficiently managed.

Flexible stewardship allowing for limited visitation: Guardianship and curator programs for specific sites may be established by involving concerned Native Hawaiians. Based on management plans for the specific areas, some highly sensitive areas may require a Native Hawaiian guide or trained docent to permit public use, some may require trail rerouting to avoid sensitive sites, and others may be able to bear unrestricted public use. These issues will be addressed in each specific segment management plan for high potential sites and trail segments.

Planning and design: Trail planning and design will carefully consider effects to cultural resources with the goal of creating no adverse effects to them. The attention of visitors will be directed away from burial sites. Visitors will be asked to remain outside of ceremonial sites or other sensitive features. Planning and design will try to anticipate places where visitors might stray from the trail to visit an inviting beach or to get a better view and provide for appropriate access paths, as feasible. Preserving culturally important plants near the trail could provide an opportunity for education about their cultural value without causing visitors to stray from the trail.

Public education: Signs and interpretive exhibits and brochures can inform the public of the need for preservation of cultural resources.

[25] These guidelines note that trail widths vary and may be established through direct observation or through information in archeological studies, land deeds, historic maps, or county permit documents requiring trail easements. The size of adjacent protection areas, called "buffers" in the guidelines, vary also and are determined on a case by case basis with consideration given to the archeological integrity of the specific trail, surrounding environment, land uses, land ownership, and nearby natural and cultural features. Refer to pages 264-266 of this document for an excellent discussion of treatments of buffers and areas outside of defined buffers.

Natural Resources

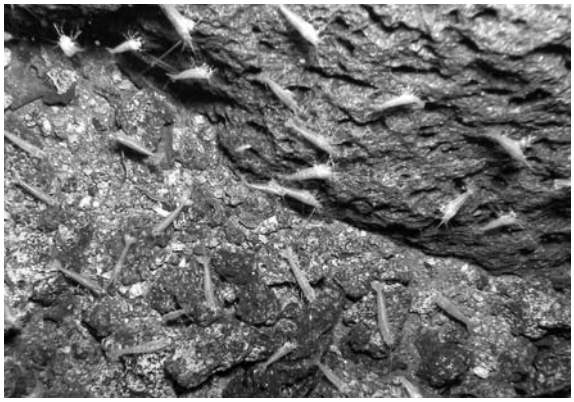
Generally, the Ala Kahakai NHT will be managed to ensure that natural systems are not significantly affected. Site-specific biological inventories and assessments developed with each trail segment management plan will provide sufficient information to evaluate options for trail development to help ensure that there are no adverse impacts from development or trail use. Resources identified as requiring special consideration are native plant and animal communities, anchialine pools, marine resources related to traditional coastal harvesting, cave ecosystems, and sensitive or threatened and endangered species habitat.

Native Plant Communities

The trail corridor encompasses a range of native plant communities, many of which are alien dominated: coastal strand, coast lowland and dry lowland communities, and open dry forest may be encountered. Each trail segment management plan will include an inventory of native plants and invasive species present. As possible, invasive species will be removed or controlled, with special emphasis on eradication of populations that are just beginning establishment. The tread of existing trail will be kept clear of invasive species. If a trail segment requires construction, it will be located so as to avoid trampling of plants and adverse effects on sea turtle or Hawaiian monk seal resting areas. Educational signs and exhibits may help in protection of native plant and animal communities.

Anchialine Pools

'Opae'ula, red shrimp, are the single most important factor indicating the health of an anchialine pool. Before a trail segment is officially opened to the public, the presence of red shrimp in trailside pools will be inventoried to provide a baseline of information. Then pools along managed trail segments will be monitored for the visible presence of red shrimp. Protocols for managing and monitoring pools developed at Waikoloa and Kaloko-Honokōhau NHP and other pool management plans required as a condition of development will be applied to other pools along the trail route. Trail administration will establish rules and regulations regarding public use of the pools. Use of the most high value pools could be restricted for traditional, research, educational, and sanctuary purposes. High value pools are those that have (1) an array of native anchialine species, (2) a unique assemblage of euryhaline (species with a wide tolerance to salinity), and/or marine species, or (3) unique cultural features (Brock and Kam, 1997, pp. 51-52). Assessment of cultural features will be made by Native Hawaiians, preferably with an association to the particular pool, or by an anthropologist/ethnographer. Public education through signs and interpretive exhibits, monitoring, and if necessary, trail use restrictions will be employed to protect pools along the trail route.



'Opaeula, Red shrimp, NPS photo

Koloko Fishpond, Kaloko-Honokohau NHP, N. Kona, NPS photo

Marine Resources Related to Traditional Coastal Harvesting Resources

In order to determine the extent of impacts, if any, in areas along the Ala Kahakai NHT where local fishers and gatherers have expressed concerns, baseline data will be assembled to establish the abundance and diversity of the existing nearshore and reef resources. Once a baseline is established, a monitoring program will determine the significance of the impacts. Local fishers and gatherers will be included in trail planning to provide recommendations for fishery protection and sustainable gathering. This information could also be collected as ethnographic data. Interpretive media and informational materials will convey the limitations on fishing and gathering and encourage appropriate activities.

Cave Ecosystems

Caves are important cultural resources because they contain archeological resources and burials and have significance to contemporary Hawaiian people; however, they are important also for their scientific values related to their biological and geological resources. Under federal law and NPS guidelines, any cave found along the trail on federal land would be considered to be significant and its cultural, biological, and geological resources inventoried. After the inventory, the cave location and resources will not be published or made available to the public, but it may be appropriate to list the resources, without specific location information, in the NPS Inventory and Monitoring database. The preferred treatment is to keep the public out of caves on NPS land.

On nonfederal land along the Ala Kahakai NHT, the Hawaii Cave Protection Law of 2002 would apply. The law limits commercial uses of caves and allows use for educational, Native Hawaiian cultural, or scientific purposes with the written permission of the landowner. If trail segments on nonfederal land have associated caves, the NPS would encourage closure of the cave to public uses other than those permitted by law. The NPS would recommend an inventory of cave resources for any cave adjacent to the trail or accessible by it. In general, the trail will be aligned to move trail users away from caves that may contain significant natural resources, burials, or other culturally sensitive materials without calling attention to the cave itself.

Endangered Plant and Animal Species

As trail and site development occurs and site-specific surveys identify species which have been listed or proposed by the US Fish and Wildlife Service (USFWS) [see Appendix D for a list], the National Park Service will contact the USFWS to initiate consultation under Section 7 of the Federal Endangered Species Act of 1973, as amended (Act). Potential adverse impacts to listed and proposed species will be eliminated or reduced in compliance with the provisions of the Act. State and county laws will also apply.

On state lands, state listed endangered and candidate species will be protected by the state law, "Conservation of Aquatic Life, Wild Life, and Land Plants" (Chapter 195D, HRS). This law is similar to the federal law, except that the state law does not permit mitigation measures (mitigation is described as replacing a habitat in kind in another area to permit its destruction in one area). Also, unlike federal law, Hawaii state law protects endangered plants on private property.

Cave, N. Kona, NPS photo

Fire Management

Within the four national parks, fire management along the Ala Kahakai NHT will follow the recommendations of the parks' completed fire management plans. Hawai'i Volcanoes NP Fire Management Plan is in draft. It is the only national park on the island of Hawai'i with fire fighting resources. Since there are no NPS fire-fighting resources on the western side of the island, the NPS and the County of Hawaii have an MOU for reciprocal fire protection and initial response. The Pacific Island Fire Management Officer acts as the resource advisor for the four national parks.

For nonfederal land incorporated into the Ala Kahakai NHT, a fire management plan will be prepared in coordination with appropriate state and county agencies. Cultural resource specialists will participate in the preparation of the plan, and staff charged with fire management will be informed of significant cultural resource sites whose location is confidential. The plan will incorporate Minimum Impact Tactics (MIT), guidelines that assist fire personnel in the choice of procedures, tools, and equipment used in fire suppression and post-fire rehabilitation to maintain a high standard of caring for the land and resources.

Nonfederal fire responders will be encouraged to use MIT. Agency coordination will be crucial since MIT is not used by all agencies. The plan will consider fire suppression and the potential for low intensity prescribed burns or mechanical thinning projects to prevent larger fires, to reveal overgrown trail fabric or resources, and to stimulate seed production, rejuvenate plant populations, or lessen existing alien plant competition in existing areas of native species. The Pacific Island Fire Management Officer would act as the resource advisor for fires on nonfederal lands incorporated into the Ala Kahakai NHT.

Potential operational impacts to cultural resources along the trail include ground disturbance, vegetation removal, fire retardants, and damage and looting of resources made visible by fire. Impacts caused by fire management operations related to the suppression of wildfires and the execution of prescribed burns and mechanical thinning projects will be addressed. Generally speaking, the former have greater potential to result in significant impacts due to hurried execution.

Wilderness

Trail marking and use within the wilderness area in Hawai'i Volcanoes NP will follow the recommendations of the Wilderness Management Plan for the park. Existing trail fabric and tread will be protected, but trail tread will not be constructed in the wilderness area; rather, wayfinding will be used. Minimal signs may include a small trail logo with a directional arrow. Interpretive exhibits will be kept to trailheads outside of the wilderness area. No facilities such as shelters or restrooms will be constructed within the wilderness area for Ala Kahakai NHT users.

Health and Safety

The user of the Ala Kahakai NHT can encounter a variety of hazards depending upon the location of the trail. The user experience of the trail could be affected by hazards. Trail users could experience adverse impacts to their health from volcanic smog (vog), from volcanic haze (laze), or from heat, dehydration, and exposure if they are unprepared for the rigors of some sections of the trail. Hazards exist in some areas because *'a'ā* lava provides unsure footing. Unexpected earthquakes or tsunami could occur. In addition, parts of the Ala Kahakai NHT offer easy access to the ocean, and visitors unfamiliar with ocean conditions may be tempted to swim in unsafe areas. Segments of the Ala Kahakai NHT not now available to the public, but which may become available, are largely in remote areas far from emergency aid. As a rule, lifeguards, park rangers, or other emergency help would not be present.

As described in chapter 3, health hazards include poor air quality and hot lava due to the continuing eruption of Kīluea, tsunami, poisonous insects, exposure to *leptospirosis*, flash floods, and lack of potable water. Under all alternatives, health and safety issues will be addressed as appropriate for each segment of trail or each site along the trail. Trail visitors will learn of potential dangers and the necessary precautions to take from brochures and other written information, from postings on the trail website, from signs at trailheads or trail sites, and from other forms of interpretive media.

Kuapa (wall), Kaloko Fishpond, N. Kona, NPS photo

Criteria for High Potential Sites and Segments

Based on the National Register of Historic Places and the National Trails System Act, the following criteria will be used to identify high potential sites and segments:

- authenticity of the trail segment or site, based on documentation and archeological research.
- integrity of the physical remains.
- integrity and quality of the setting even if there is no physical trail remnant.
- opportunity for a high-quality recreation historic trail experience.
- opportunity to interpret the historic periods of trail use.

In addition, the following criteria will apply to sites and segments incorporated into the Ala Kahakai NHT:

Legal and policy compliance —Trail sites and segments that are proposed for development or modification must comply with applicable state, local, and federal laws relating to environmental compliance, historic preservation, public health and safety, equal employment opportunity, and accessibility for people with disabilities. Compliance–related actions must be completed prior to an agreement for site or segment use along the Ala Kahakai NHT. The NPS or other qualified entities will provide the technical assistance necessary for compliance. (See the glossary for more information on compliance.)

Public access — Sites and segments must be reasonably available for public use. "Reasonably available" includes areas that are restricted to day use or are available only through guided tours subject to the payment of a fee, or subject to other similar restrictions, as well as areas that are free and open to the public at all times. The degree of public use should be commensurate with the resource value, that is, the more sensitive the resource, the more restricted the access.

Size —Trail segment lengths are determined mainly by *ahupua'a* boundaries which, in many cases, follow current landownership patterns. Each site or segment must be large enough to protect significant resources and to offer opportunities for interpreting some aspect of the trail or retracing the trail route. A trail segment would include the trail tread (legal right-of-way) and negotiated adjacent areas sufficient to protect important resources and the trail setting.

Location — Sites or segments should be within the corridor of the Ala Kahakai NHT.

Management—The managing entity will ensure that the segment will be available for public use and identify how resources will be inventoried, assessed, monitored, and preserved and the trail right–of–way protected and made available for public use. Management objectives for the site or segment will be established and management responsibilities defined in the agreement.

Criteria for Including Interpretive Facilities

National Park Service Visitor Centers

The four NPS units will be encouraged to include the Ala Kahakai NHT in their interpretation programs. These parks might include orientation programs similar at each site (video, film, exhibit, for example) and programs that place each particular trail locality and site in a more precise context based on the place names and stories of the area. Programs will be designed to promote firsthand experiences by motivating visitors to see important trail sites or to travel a segment of the trail.

As units of the national park system, each park will pursue its own development and funding process, and ongoing operational costs will be funded through the normal appropriated funding process for each unit. Ala Kahakai NHT trail administration can provide funds, as available, for site bulletins, wayside exhibits, and other interpretive information.

Complementary Interpretive Facilities

Various agencies and groups, other than the NPS, may have appropriate facilities at which Ala Kahakai NHT interpretation can be presented. The NPS trail staff will coordinate the overall interpretation of the trail. Facilities that meet the criteria outlined below could be recognized as official interpretive components of the trail and use the trail marker on signs and approved materials.

Complementary interpretive facilities should meet the following criteria:

- No significant impacts to the integrity of archeological or historic sites, cultural landscapes, or the environment.
- Environmental and architectural compatibility with the resources and values being interpreted.
- Accurate interpretive information to visitors.
- Accessible to and usable by people with disabilities and meet or exceed federal standards and NPS compliance requirements.
- Open according to a regular schedule for at least 25% of the year.
- Clean, well–maintained, and orderly.
- Meet applicable local, state, and federal regulations for health and safety, equal employment opportunity, and environmental compliance.
- Operating staff that is familiar with the trail history and, as appropriate, personal interpretation techniques.
- A defined system of financial accountability, if the facility sells special publications or other materials that are sponsored or provided by the NPS.

These facilities may receive assistance from the NPS in the categories described below. The NPS will provide assistance on interpretation, including technical assistance, limited financial assistance, and media, but it will not construct or operate facilities.

Category I, State Interpretive and Educational Facilities — these facilities include those constructed, operated, or substantially supported by state agencies. The NPS can provide technical assistance for interpretive planning, design, or curation; allow its publications to be sold; or provide exhibits or other media appropriate for the site.

Category II, Private or Local Nonprofit Interpretive and Educational Facilities — these facilities include those nonprofit facilities run by communities, the county, regional entities, the Ala Kahakai Trail Association, and trail segment management organizations. The NPS can provide technical assistance or, on a cost-share basis, a modular exhibit with a trail overview and local site information. If the site qualifies, NPS–sponsored publications or materials could be sold.

Category III, Off–trail Corridor Facilities— this category includes off-trail corridor interpretive and educational facilities that recognize and interpret the trail. The NPS can provide technical assistance and, if the site qualifies, allow its publications or materials to be sold there. The extent to which media will be provided will depend on future NPS interpretive planning and consideration of the following factors: the site's historical significance to the trail; its outdoor interpretive/recreational values; its resource integrity; its location relative to similar NPS or federal facilities and programs; its ability to convey trail themes and to educate and reach the public; its proximity to trail resources; and its ability to contribute to interpretive balance between different sites.

Management Approach

Description

The NPS will use management agreements for high potential sites and segments, authorized by Section 7(h)(1) of the National Trails System Act, as the chief means of ensuring trail and resource protection and authenticity of interpretation on nonfederal land. These agreements between the NPS and the landowner, land manager, or nonprofit organization seek to

- confirm that features are important to the trail
- include and officially recognize qualifying nonfederal sites and segments on nonfederal lands in a national historic trail
- document the NPS and manager's commitment to resource protection and appropriate public use
- build a uniform and coherent visitor experience and resource protection program end–to–end along the trail

For the Ala Kahakai NHT, trail marking and use of the logo indicate that proper protocols related to the Native Hawaiian descendents and others with deep connections to that specific area have been followed, cultural and natural resources identified and protection measures put in place, trail maintenance clarified, and monitoring procedures applied. Agreements help to ensure that ancient and historic trail segments and associated sites and values meet the basic preservation, interpretation, or recreation functions described in the National Trails System Act, Section 7(h)(1) and any other prescribed criteria. Agreements formalize partnerships with non-federal landowners and stakeholders along portions of the entire trail. (See Appendix G for sample site management agreement.)

Hawaiian Land Management Values

Specific stewardship concepts and values embedded in the Hawaiian culture and expressed in words of the Hawaiian language provide a basis for effective trail management. These concepts will be the foundation for a cultural, community-based trail management approach for the Ala Kahakai NHT. Brief definitions, which do not fully convey the depth and breadth of meaning, are offered below:

'aina	The living earth
aloha	"Sacred breath of life," love, compassion
aloha 'aina	Love of the land, reverence for all living things
ho'okipa	Hospitality
ho'okupu	Tribute as a sign of honor and respect, gift exchange
'ike	Knowledge
kōkua	"Pulling with the back," pitching in to help, volunteering

kuleana	Responsibility, implied reciprocity
laulima	"Many hands working together," cooperation
lōkahi	Unity, balance, harmony
mahalo	Thanks, gratitude
mālama	Take care of, care for, preserve
mana'o'i'o	Respect for nature
pono	Balance, proper, right, just, fair, integrity

Community Planning and Management Team

For each trail segment, generally defined by an *ahupua'a*, with help from the Ala Kahakai NHT administrative office, a planning team will develop a management agreement. Interested individuals from the following categories will be invited to join the team as appropriate for each segment:

- kūpuna or other knowledgeable and concerned Native Hawaiians associated with a particular *ahupua'a*
- kama'aina or persons with historic kinship with or knowledge of the land
- landowners adjacent to the trail segment
- volunteer trail groups with an interest in the trail segment
- community-based organizations interested in the trail segment
- representatives of involved government agencies
- other stakeholders as appropriate for each trail segment
- interdisciplinary resource specialists (a requirement)

This team will assist in the development of a trail segment management plan and help ensure follow-through in the management of the segment.

Once a management plan is in place for a specific site or trail segment, the public will be informed through appropriate trail information programs that the site or segment is available for public use. The agreement can be revoked if parties to it fail to protect natural or cultural resources or fail to meet their agreed-upon obligations. This would result in the removal of the segment from the public inventory, from trail information programs, and the removal of signage. Other actions may also be taken, according to the terms of the management agreement.

Organizational Capacity Building

As appropriate, Ala Kahakai NHT administrative and operational staff will assist and encourage trail segment management groups by offering strategic planning, organizational capacity building services, resource management and other training in order to assure and sustain successful implementation of trail management agreements.

Administrative Focus

Given the length of the trail, its numerous associated resources and values, and the limitations of staff time, the Ala Kahakai NHT administrative staff will initially focus on the 73-mile corridor from Kawaihae through Pu'uhonua o Hōnaunau NHP (see map 1) to develop trail segment management agreements for the following reasons:

- easily identified traditional or historic trails and routes are evident
- the area is impacted by population growth
- landowners in the zone are interested in the trail
- state, county, or national parks are present
- development pressure increases the demand for recreation and the need for trail protection
- communities in the zone want to be involved
- potential projects provide a good demonstration of what the trail can be

Cost estimates are based on completing this section of trail within the planning period of

about 15 years. Nonetheless, other areas at risk will be recognized and protected as possible, even if they cannot be managed for public use immediately. Opportunities initiated by local people that arise in other areas will receive attention also.

Trail Classifications and Management Prescriptions

Management prescriptions are used to specify the desired resource conditions and user experiences that should result from trail management. Trail classifications for the Ala Kahakai NHT relate to the degree of evidence of the *ala loa* or ancient and historic trails. The desired conditions and trail experience relate to the fundamental resources and values discussed in chapter 1 and summarized as follows:

- protection of the original trail fabric or alignment
- protection and provision of access, as appropriate, to protected natural, cultural, and recreational resources related to the Hawaiian culture
- protection of places where prehistoric and historic events associated with the *ala loa* took place and where their associated stories may be told
- provision of opportunities to practice and experience traditional Hawaiian stewardship in an *ahupua'a* context
- protection of significant natural areas and resources

The four trail classifications described below may be found anywhere along the trail route in any of the island districts. These classifications and prescriptions apply to all alternatives, but the extent to which they apply will vary with each alternative. Should these prescriptions conflict in any way with management prescriptions in the management plans of the four national parks, to the extent possible within park purpose and significance, park plans would be amended to accommodate and support the CMP. Prescriptions describe desired conditions in the present tense. Four trail types are described as follows and are noted on the table of trail segments in Appendix B.

Unaltered Trail. The ancient or historic trail retains the essence of its original character with historic fabric in place or original trail tread evident. These trails may be comprised of stepping stones, *'a'ā* lava, *pāhoehoe* lava, curbstone, *'a'ā* lava with stepping stones or with stepping stones removed, or a pathway with defining elements alongside.

Desired Condition*:* The trail tread or fabric, other defining elements, and trail values are preserved and protected in place, rehabilitated, or restored[26] as necessary and appropriate. Ideally, there are few, if any, modern intrusions and the trail is kept free of added development. Adjacent protected areas, negotiated with the landowner, are adequate to maintain the integrity of location, design, setting, materials, workmanship, feeling, and association. Cultural and natural resources are protected and interpreted; however, natural resources are managed to complement cultural resources, while protecting rare and exceptional natural systems. Informational and interpretive signs are well-designed and offered at trail heads away from the trail itself. The special relationship of Native Hawaiians to the trail and associated resources is recognized and integrated into the management program. A national register nomination is completed for the segment. The trail is clean, safe, and appropriately used.

Trail Experience*:* Use is restricted to hiking. The trail user can come into contact with the historic setting, share the experience of the ancient users, and explore Hawaiian culture first hand by walking the trail and learning of its associated

[26] Please refer to the Glossary for definitions of preservation, rehabilitation, and restoration.

Makahiki Festival, Kaloko-Honokōhau NHP, N. Kona, NPS photo

places and stories. Native Hawaiian cultural practitioners find an appropriate setting for their practice. Hawaiians and others with deep ties to the trail setting and its culture are able to enjoy this culture and share the experiences of their ancestors. Trail use may require a relatively high degree of physical exertion and an extended time commitment. Generally, these trail segments offer a moderate to high degree of challenge and adventure. Existing opportunities for solitude, closeness to nature, tranquility, and the application of outdoor skills are protected and enhanced if possible. The trail is perceived by users to be uncrowded with few users at any one time. More users are expected in traditionally high use areas such as beaches, parks, and resorts; crowding is not necessarily perceived in these areas. In many areas there is a low probability of encountering other visitors; within developed areas, other trail users may be encountered, but numbers may be limited through permits, guided tours, or other means as necessary to preserve the desired experience.

Management*:* Management presence is sufficient to protect trail resources. Guidelines prepared by the Nā Ala Hele Hawaii Island Advisory Council apply (see appendix H). Trail relocations are not permitted unless absolutely necessary to avoid burials or other sacred places. If a trail is rerouted to avoid a burial, the original trail fabric or tread that passes the burial is preserved. Hawaiian cultural concepts are the basis of trail management, and traditional practitioners are encouraged to use the trail. Support facilities, if needed, are located away from the trail segment and its associated resources. Conditions allowing cultural practices are maintained. Markers and signs are inconspicuous and may be surface-mounted to avoid digging. In soil areas, marker posts may be installed in the ground if an archeologist is present during the digging. In some cases, wayfinding is used. Cultural and natural resource inventories are complete and monitoring protocols in place. Resource protection is achieved through visitor education, control of numbers as needed in sensitive areas, and regular patrols and enforcement. Some Native Hawaiian or interpreter-led trips may be provided. If landscaping is installed, plants native to Hawai'i and adapted to the locale are used. Invasive plants are tracked and where possible controlled. Incipient alien species are removed from the trail right-of-way and negotiated adjacent areas as feasible.

Verified Trail. The ancient or historic alignment is known, but no trail fabric or trail tread is present. There is a high degree of evidence for the trail, but there may be low physical integrity. It must be an ancient or historic trail alignment as defined by the Highways Act of 1892 and proved through research.

Desired Condition*:* The trail alignment is preserved and protected. Ideally, there is limited intrusive modern development, but it may be present. Adjacent protected areas, negotiated with the landowner, are adequate to maintain the integrity of location, setting, feeling, and association. The trail tread can be restored if the archeological evidence is clear as to construction methods. Otherwise, a trail segment may be constructed on the ancient or historic alignment using the most appropriate materials related to the adjacent ancient or historic segments. Cultural and natural resources are protected and

interpreted; however, natural resources are managed to complement cultural resources, while protecting rare and exceptional natural systems. The special relationship of Native Hawaiians to the trail and associated resources is recognized and integrated into the management program. If appropriate, a national register nomination is completed for the segment. The trail is clean, safe, and appropriately used.

Trail Experience*:* Use is restricted to hiking. The trail user understands that the original trail fabric is no longer there, but also has a sense of what the ancient users experienced. Native Hawaiians and others with deep connections to the land experience the roots of their culture through travel on the trail and appropriate cultural practices. The trail user can explore Hawaiian culture first hand by walking the trail and learning of its associated places and stories. The trail is perceived by users to be uncrowded with few users at any one time. More users are expected in traditionally high use areas such as beaches, parks, and resorts; crowding is not necessarily perceived in these areas. Trail use may require a relatively high degree of physical exertion and an extended time commitment. Generally, the trail offers a moderate to high degree of challenge and adventure. Opportunities for independence, closeness to nature, tranquility, and the application of outdoor skills vary according to trail location.

Management*:* Management presence is sufficient to protect trail resources. Guidelines prepared by the Nā Ala Hele Hawaii Island Advisory Council apply (see appendix H). Trail relocations are not permitted unless absolutely necessary to avoid burials or other sacred places. If a trail is rerouted to avoid a burial, the original trail alignment that passes the burial is preserved. Hawaiian cultural concepts are the basis of trail management, and traditional practitioners are encouraged to use the trail. Support facilities, if needed, are located away from and out of sight of the trail segment or associated resources. Markers and signs are inconspicuous and may be surface mounted to avoid digging. In soil areas, marker posts may be installed in the ground if an archeologist is present during the digging. If necessary to accommodate through-hiking, facilities such as picnic tables, trash cans, composting toilets, potable water, and primitive campsites may be provided in appropriate areas accessible by the trail but away from its view. Cultural and natural resource inventories are complete and a monitoring protocol in place. Non-native plants are removed from the trail right-of-way and negotiated adjacent protected areas. If landscaping is installed, plants native to Hawai‘i and adapted to the locale are used.

Linking Trail. Connects unaltered and verified trail segments on an approximate alignment of the ancient or historic route that may have been obliterated by lava flows, high wave events, tsunami, development, or other human activity. Often the requirement to construct a public trail results from conditions placed on private landowners through land use approvals, such as SMA permits, zoning, and subdivision approvals. In some cases, the accesses that result from permit conditions may be in the same location as those proven to be public under the Highways Acts of 1892. Such trail segments would be managed under this CMP either as unaltered or verified trails.

However, in the cases where the existence of a public trail cannot be proven, the conditions of approval can require a permanent easement and construction of a public trail across private land.[27] Many of these trails already exist in resorts and other private developments. Such trails could become part of the Ala Kahakai NHT as linking trails. In addition, trails may need to be marked or constructed over new lava flows or other areas where a trail no longer exists. In some cases, where highly erodible coastline exists, the trail may need to be sited somewhat

[27] For example, Hawaii County required that Parker Ranch provide over two miles of public access within the 40-foot shoreline setback as a condition of subdivision approval for an area between Puakea Bay Estates and Kapa’a Park.

inland. A linking trail may be a dirt or sand pathway, asphalt or concrete walkway or sidewalk as in resorts or other developed areas, a two-track pathway, or jeep trail.

Desired Condition*:* The trail is walkable, well-designed, and maintained to avoid erosion or resource damage. The trail may pass through or adjacent to developments such as golf courses, housing, and commercial projects where the historic scene no longer exists, but as possible, open areas adjacent to the trail reduce the effect of modern intrusions. Adjacent protected areas, negotiated with the landowner, are adequate to protect some sense of the trail environment. Hawaiian traditional places or cultural resources connected by or associated with the trail are interpreted and their stories told. As feasible, if a new linking trail needs to be built, the most scenic alignment of the trail, one that provides views to the ocean or significant inland features, is selected. If the trail segment leads to or passes significant cultural resources, a national register nomination for those resources is considered.[28] The trail is clean, safe, and appropriately used.

Trail Experience*:* Use is generally restricted to walking, although bicycling or other existing travel modes may be accepted on trail segments that may become part of the Ala Kahakai NHT. Where motorized use is established on jeep trails, it may be restricted to preserve the environment, cultural resources, or the trail user experience. Motorized use is not allowed on newly constructed trail segments. The user generally has a pleasant experience, one perhaps with more shade and surer footing than that provided on unaltered or verified trails, but does not have expectations for experiencing a traditional Hawaiian trail. In developed areas, the linking trail offers little challenge or adventure, but in more remote areas these qualities could be higher. Opportunities for independence, closeness to nature, tranquility, and the application of outdoor skills vary according to trail location, but would be limited in developed areas. The probability of encountering other trail users is high on linking trails in developed areas, but reduced in more remote areas.

Management: Management presence may be high is such places as resorts and less in more remote areas. Best practices guide the layout and construction of new linking trails. Marking is clear and evident but avoids clutter. In soil areas, marker posts may be installed in the ground if an archeologist is present during the digging. Facilities such as picnic tables, trash cans, composting toilets, potable water, and primitive campsites may be provided at appropriate intervals along the trail. Non-native plants may be adjacent to the pathway in developed areas; however, plants native to Hawai‘i and adapted to the locale are encouraged.

Roadway (auto tour route). An auto tour route using existing public roadways and access roads will be marked, and interpreted at appropriate and significant historic sites. Only the seven miles of Ali‘i Drive, the shoreline drive connecting Kailua-Kona to Keauhou, are on the ancient route. The rest of the auto tour route provides automobile access to trail sites and segments. It is comprised of highway and paved or unpaved access roads that can be used by two-wheel drive vehicles. Roads selected for the route meet these criteria and include three overlooks that offer views of the trail route. The auto tour route connects all four national parks. Map 4 depicts existing sites that meet the criteria for the auto tour. At this time Mo‘okini Heiau is not included in the auto tour because the entrance road is basically inaccessible. Once the road is improved, the *heiau* would be eligible to be included in the auto tour.

Desired Condition*:* Well-maintained roads provide access to selected high potential sites and associated trail segments that interpret the fundamental trail resources and values. Access

[28] In some cases, nominations of resources adjacent to a paved trail are already completed, as with the trail through Mauni Lani resort in South Kohala.

roads accommodate two-wheel drive vehicles and have adequate parking areas. The auto tour route and the access points to high potential sites and segments are clearly marked. Trail segments related to the auto tour are clearly defined and users stay on them. (See appendix E for signage suggestions.)

Trail User Experience*:* Visitors use the roadways, trails, and associated developments of the auto route to gain access to the Ala Kahakai NHT and its associated resources, tour the trail, and enjoy scenic overlooks and interpretive media. Visitor attractions are convenient, easily accessible, and well-interpreted. Visitors learn of the history of the trail and its associated places and stories. Observing the natural environment and understanding the cultural history are important activities. Trail segments that lead from parking areas and all facilities on this route are accessible to persons with disabilities and meet ADA requirements. Although buildings, structures, and the signs of people predominate, natural elements are present. There is little need for visitors to strenuously exert themselves, apply outdoor skills, or make a long time commitment to see the area. The probability of encountering other visitors and trail users is very high. Opportunities for adventure are minimal. Many areas along the auto route provide opportunities for social and group experiences, interpretation and educational programs, and compatible recreation activities. Programs incorporate multi-media approaches to meet the needs of all visitors, and facilities incorporate the principles of universal design, as feasible.

Management: The most management presence is provided at sites along the auto tour route to ensure resource protection and public safety. Existing buildings at the national or state parks or other sites are used as trail contact stations. There is regular trail, road, and roadside facility maintenance. Interpretation includes signs, displays, and wayside exhibits. Some interpreter-led programs and tours may also occur at sites along the auto tour route. Development is designed to harmonize with the natural and cultural environment. If landscaping is installed, plants native to Hawai‘i and adapted to the locale are used. As feasible, non-native plants are removed from those sections of trail available to auto tour users. Major interpretive sites and trailheads have rest rooms, trash cans, wayside exhibits, and parking areas designed for traffic flow and safety. New facilities such as shade structures are consistent with the defining elements of the cultural landscape. Onsite controls and restrictions are subtle, such as berms, rocks, or vegetation used to prevent vehicles from leaving the road.

Ali‘i Drive, Kailua, N. Kona, NPS photo

Map 4
Auto Tour Route
Kohala Historical Sites State Monument
Kappa Beach Park
Mahukona Beach Park
Lapakahi State Historical Park
NORTH KOHALA
270
Spencer Beach Park
Pu'ukohola Heiau NHP
19
Hapuna Beach Rec Area
Puako Petroglyph Preserve
SOUTH KOHALA
HAMAKUA
Waikoloa Petroglyph Preserve
NORTH HILO
Kiholo Scenic Lookout
Kekaha Kai St Park
19
NORTH KONA
Hilo
Kaloko- Honokohau NHP
Old Kona Airport St Rec Area
Hulihe'e Palace
Ahuena
Kailua (Kona)
SOUTH HILO
Keolonahihi St Historical Pk
Kamoa
Scenic Lookout
La'aloa
Holua Sled
Lekeleke Kuamo'o
PUNA
Hikiau Heiau
Kealakekua Bay St Historical Pk
Moku'ohai Battleground
SOUTH KONA
Pu'uhonua o Honaunau NHP
KA'U
Hookena Beach Park
11
Hawai'i Volcanoes NP
11
Hilina Pali Rd
Hawai'i Volcanoes NP
Hilina Pali Overlook
Punalu'u Ruins
Punalu'u Beach Pk
Scenic Overlook
Scenic Lookout
South Point Road
Ka Lae (South Point)
Legend
Ala Kahakai NHT Corridor
Districts
Parks
Wilderness
Roads
Primary
Secondary
Auto Tour Route
Auto Tour Sites
11 Highway
0 5 10 20 Miles
Hawaii Island
Ala Kahakai National Historic Trail
Working Map 3/22/07

User Capacity

The National Trails System Act, as amended, requires that carrying capacity be addressed in a CMP. Carrying capacity, now called "user capacity" by the NPS, is defined as the type and level of visitor use that can be accommodated while sustaining the desired resource and social conditions and visitor experiences that complement the purpose of the Ala Kahakai NHT and it desired conditions.

The nature of a national trail like the Ala Kahakai NHT provides a challenge to developing meaningful measures of user capacity. It traverses diverse landscapes, both ancient and modern, urban and rural. Trail boundaries are difficult to determine. Potential trail sites and segments are managed by several agencies and private landowners, often have uncontrolled access, and serve multiple uses. Each site or trail segment's capacity to withstand various types of uses depends on complex combinations of environmental, cultural, and social factors that range from extremely susceptible to remarkably resistant to impacts. Land uses and visitor experiences on specific sites and segments cannot be easily monitored or controlled. Nonetheless, a meaningful strategy is necessary to determine and evaluate sustainable uses and levels for individual sites and segments over time and, thus, to ensure that the full range of the trail's most significant resources are preserved to perpetuate the values and characteristics for which a trail was established as part of the National Trails System.

The premise behind user capacity is that some level of impact invariably accompanies public use; therefore, the public agency must decide what level of impact is acceptable and what actions are needed to keep impacts within acceptable limits. Two important components of user capacity for the national trail are trail-related resource conditions (e.g. condition of the trail surface, integrity of cultural sites, and health of wildlife and plant community populations) and social capacity (e.g. congestion or crowding affecting solitude and opportunities to experience nature on the trail). Ideally, if user capacity in any given area of the trail were exceeded for either of these components, a management action would be elicited.

User capacity methodologies currently employed by most land-managing agencies follow the "limits of acceptable change" process developed by the USDA Forest Service in the mid-1980s. This process involves the following steps:

- develop prescriptions for resource and visitor experience conditions in various land units or zones
- identify indicators (measurable variables) of those conditions that can be monitored over time (*e.g.* number of areas of trail erosion or widening of the trail to twice the width of adjacent sections)
- set standards that represent minimum acceptable conditions (*e.g.* no more than two occurrences in each mile of trail)
- monitor conditions in relation to indicators and standards (*e.g.* annually inspect all trail segments to assess their condition)
- take managements actions to ensure that conditions remain at or above standard (e.g. temporarily close the trail until corrective measures are completed, or redesign the route, or organize and conduct trail work parties, or change the standard.)

With this approach, user capacity is not a set of numbers or limits, but rather a process involving establishing desired conditions, monitoring, and evaluation, followed by actions to manage visitor use to ensure that trail values are protected.

Since no established use patterns exist for the Ala Kahakai NHT, this CMP addresses user capacity as a set of potentialities in the following ways:

- It provides trail classifications and prescriptions (see the previous section) for desired resource conditions, visitor experience opportunities and general levels of

development and management for different types of trail. These are the basis for user capacity decision-making.

- It suggests potential use-related concerns to serve as the foundation for considering indicators for monitoring and needed management strategies.
- It suggests potential indicators, based on the use-related concerns, which could be monitored as needed in the future to help identify unacceptable impacts from public use. In future specific site and segment management plans, when the trail staff selects an indicator to monitor, a corresponding standard will be identified.
- It suggests a general range of management actions that may be taken, as needed, to avoid and minimize unacceptable impacts from public use.
- Finally, it offers an approach to priority setting for monitoring called the "Index of Vulnerability." Monitoring is the last step of user capacity decision-making that continues indefinitely after approval of this CMP.

Potential Use-related Concerns

The NPS and key partners intend to work together to manage, coordinate, and expand trail user opportunities, including interpretation of the important stories of the trail. There is an expectation that public use will increase and the trail will become better known. With this potential for increasing public use, the following summary outlines some concerns that may arise as conditions change, challenging the ability of the NPS and the key partners to manage for the desired conditions outlined above.

- Increased public access and use could impact areas of deep spiritual or cultural significance to Native Hawaiians and their use of these areas to practice their cultural traditions. Trail users might not be respectful of these traditions.
- Cultural landscapes, archeological sites, historic structures, traditional places are the chief resources for interpretation and visitation. The trail, itself a cultural resource, is the major way for users to understand and experience the Hawaiian culture. These resources are particularly sensitive to public use and are non-renewable, so care must be taken in planning and managing use in these areas. In general, impacts from theft and vandalism may affect all classes of cultural resources along the trail. Unaltered trail segments, in particular, would need to be monitored and managed to maintain their integrity with on-going regular visitor use, including the evaluation of soil erosion, vegetation changes, and trail width.
- Informal trail activity, where visitors leave the designated national trail, may be a concern in the future. Informal trails cause vegetation damage, soil erosion and disturbance of wildlife. But more importantly for Ala Kahakai NHT, informal trails may lead people to direct contact (intentionally or unintentionally) with sensitive cultural and natural resources. When access occurs in non-designated areas near the Ala Kahakai NHT in close or direct contact with sensitive resources, a variety of impacts such as trampling damage, erosion, site disturbance, exposure of sensitive materials, and illegal collection may occur. The unearthed archeological resources, sacred sites, elements of the cultural landscape, and rare plants are particularly sensitive to these types of impacts.
- Camping along the trail may affect the cultural and natural environment. Similar to the impacts associated with informal trail activity, this type of use may cause trampling, erosion, site disturbance, exposure of sensitive archeological materials, or damage to other elements of the cultural landscape. If campsites are remote, the difficulty of supervision may lead to intentional or unintentional incidences of site damage, vandalism, and theft.
- Natural resources may also be affected by trail use. Sensitive and rare plants and wildlife

in certain areas may be affected by trampling and site disturbance. As feasible, the trail and interpretive points should be sited away from these resources.

- As the trail becomes a heritage tourism site, existing facilities that support public use could experience unintentional resource damage, visitor crowding, and disturbance of private property owners. In particular, the increasing presence of tour bus activity that is not regulated or pre-arranged may overcrowd sites and create visitor conflicts.
- Increasing public use may degrade visitor experiences by causing visitor crowding at sites along the auto tour. If visitors cannot gain access to an important vantage point or read an interpretive panel due to high volumes and density of use, visitor frustration may occur, along with a lost opportunity for understanding the trail's important stories. Further, visiting historic sites with long wait times may impact the visitor experience resulting in frustration and eventual displacement. Finally, use conflicts or crowding on the trail could be a problem for the local community if the trail becomes heavily used by other visitors.

Potential User Capacity Indicators and Related Management Actions

Based on the potential use-related concerns of the trail, the following section outlines possible resource and visitor experience indicators that may be monitored to address the concerns. A general range of potential management actions is identified for each indicator, but this list may not be inclusive of all management actions that may be considered in the future. Further, some management actions may not be appropriate to all trail classifications. The final selection of any indicators and standards for monitoring purposes or the implementation of any management actions that affect use will comply with National Environmental Policy Act, section 106 of the National Historic Preservation Act, and other laws, regulations and policy, as needed. Potential indicators are listed below along with potential management actions.

- Incidences of effect on Native Hawaiian traditional practice.

  Management actions that may be considered to avoid or minimize these impacts include: educate trail users to Native Hawaiian values and to respectful behavior, direct visitors to alternate locations along the trail when important cultural activities are underway, develop a reservation or permit system to redistribute or limit use, limit use on specific segments to guided tours.

- Incidences of site disturbance, trampling, or damage to elements of the cultural landscape or exposure of cultural material such archeological resources.

  Management actions that may be considered to avoid or minimize these impacts include: institute a policy to restrict off-trail travel or climbing on above-ground cultural resources, provide information on the regulations and the importance of staying on the Ala Kahakai NHT and off resources to protect sites, manage sites to better define appropriate use areas, erect signage to better define appropriate use areas or areas that are off-limits to use, increase enforcement, institute a volunteer watch program, close specific areas, redirect use to alternate areas, rehabilitate sites, reduce use levels.

- Numbers of informal trails or areas of trampling disturbance, especially in close proximity to sensitive natural and cultural resources.

  Management actions that may be considered to avoid or minimize these impacts include: institute a policy to restrict off-trail travel, educate the user to the fragility of the resources, provide information on the regulation for off-trail activity and the importance of staying on Ala Kahakai NHT to protect resources, manage sites to better define appropriate use areas, erect signage to

National Trails Day, Mauna Lani Resort, S. Kohala, NPS photo

better define appropriate use areas or areas that are off-limits to use, increase enforcement, close specific areas, redirect use to alternate areas, rehabilitate sites, reduce use levels.

- Incidences of vandalism or theft of cultural resources

  Management actions that may be considered to avoid or minimize these impacts include: institute a no-collection policy for the public, increase information on the sensitivity and value of the trail's cultural resources and on the no-collection policy, increase patrols and law enforcement in target areas, institute a volunteer watch program, discourage the purchase of archeological resources, direct use away from sensitive cultural resource areas, close areas with sensitive cultural resources.

- Condition of trail tread (e.g., width, incidences of erosion, change in vegetation).

  Management actions that may be considered to avoid or minimize these impacts include: clearly define the trail by keeping the tread clear of weeds or other encumbrances, educate the user to stay on the trail, increase information on the sensitivity and value of the trail's cultural and natural resources, close specific sections of the trail and re-route use, change allowed uses, reduce use levels.

- Condition of campsites (e.g. incidences of erosion, change in vegetation or wildlife patterns, damage to cultural elements of the landscape)

  Management actions that may be considered to avoid or minimize these impacts include: educate the user on the resources of the area and on minimizing the impacts, limit or disallow fires, institute a permit system to manage the site for a specific number of users and duration of use.

- Incidences of disruption to private property owners

  Management actions that may be considered to avoid or minimize these impacts include: educate users on minimizing disturbance to private property owners, sign private property, manage the trail and sites to better define appropriate use areas, focus management on areas where trash dumping or vandalism is occurring, institute a licensed/certified guide program, increase enforcement, close specific areas, redirect use to alternate areas, reduce use levels.

- People at one time at important interpretive sites, markers, or viewpoints (*auto tour route*).

  Management actions that may be considered to avoid or minimize these impacts include: provide advanced planning information to encourage visits to lesser used areas or off-peak times, provide real-time information about parking availability, close areas when full and actively redistribute use to other sites, re-route access points to better distribute use, reduce use levels.

Approach to Priority Setting for Monitoring of Indicators

Once indicators and standards are in place, it is important to set priorities and schedule of monitoring. One method that may be used to highlight priority areas of concern is the "Index of Vulnerability" model[29] proposed in the *Comprehensive Management and Use Plan/Environmental Impact Statement for the Oregon, California, Mormon Pioneer, and Pony Express National Historic Trails* (NPS, 1998c)[30]. This approach proposes to predict specific trail sites and segments that have the highest potential for overuse and related impacts leading to the need for higher levels of management attention (monitoring actions).

Modified for the Ala Kahakai NHT, the index of vulnerability could take into account the following factors related to both resource and visitor experience concerns:

- fragility of the cultural resources (the type of trail fabric, the nature and number of cultural resources, the importance to Native Hawaiians, etc.)
- vulnerability of natural resources (the presence of invasive species, the nearness of nesting areas, the rarity of the plant communities, etc.)
- ease of access (proximity to a highway or access road, condition of the access road)
- proximity to population centers (resorts, tourist attractions, etc.)
- popularity of the sites or trail segment (proximity to popular sand beaches or other attractions)
- degree of unauthorized uses (presence of off road vehicles, for example)
- sensitivity of the user experience (solitude, contemplativeness, traditional use)

During the inventory and assessment of the entire trail, a rating could be assigned for each of the factors along specific trail segments:

1 = little potential for impact

2 = moderate potential for impact

3 = high probability of impact

Each site or segment would receive a composite score or index. Factors could be weighted so that the more important factor for a particular site or segment would receive more weight. Sites or segments receiving a high rating would be more likely to experience heavy visitation and would be least likely to tolerate added intense use without suffering long-term resource or user experience impacts. These sites and segments would be potentially threatened and require frequent and careful monitoring. If their condition showed unacceptable resource impacts or the user experience were compromised, management actions would be required. Until a more adequate strategy for their preservation or other values were developed, the trail segment could be temporarily relocated, interpreted from a distance, or even withdrawn from public use. Special measures should be adopted to prevent further destruction of the cultural, natural, and social resource values of these vulnerable places.

Regular monitoring requires close collaboration between the trail's administering office and the local management units along the trail. Trail conditions should be documented on a regular basis with the frequency determined by the index of vulnerability, by using photography and other means, at fixed points for easy comparison. These findings could be linked to GIS data sets.

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[29] This method was developed by Susan C. Boyle, NPS historian at the Denver Service Center.

[30] The text on the Index of Vulnerability is generally quoted from this plan but modified for the conditions along the Ala Kahakai NHT.

Trail Identification Marker

The logo unique to the Ala Kahakai NHT will be incorporated into the standard triangular shape of the national trails system marker. (See below.) The marker is a unifying emblem representing the trail and all of its partners. Marker use will be restricted to the NPS and its partners for applications that help further the purposes of the trail. This marker is protected against unauthorized uses as a federal insignia, as stipulated in 18 USC 701.

Sign specifications for marking the trail and use of the logo will be provided by the NPS through a sign plan developed in coordination with the Comprehensive Interpretive Plan. This plan will address the design, placement, and use of the logo on a variety of signs, such as highway information and directional signs, entrance signs at parking areas, trailhead information signs, regulatory signs, directional indicators, identity signs that distinguish unaltered and verified trail segments from linking trails, interpretive signs and wayside exhibits, wilderness area marking, private property signs, destinations signs, and trail partner or adopter signs. The sign plan will consider using both the NPS Unigrid standards on federal lands and typical approaches on national historic trails that cross many nonfederal jurisdictions.

To help commemorate the trail's national significance, the official marker will be placed along federal and other managed trail segments and sites in compliance with the sign plan. The NPS will provide the markers, but local managers on nonfederal lands will install them. Markers will be placed on private property only with the consent of the landowner. Markers will help individuals who want to follow the route by showing them the actual trail. Furthermore, by indicating the presence of the trail, markers may help protect the trail landscape from inadvertent destruction or from development.

With the cooperation and assistance of road–managing agencies and in compliance with the sign plan, auto route signs will be placed along state and county roads at appropriate road junctions (consistent with the sign regulations of the managing highway department). Information signs to direct auto users to local sites or segments may also be used.

Ala Kahakai National Historic Trail marker

Signs at Kealakekua Bay State Historical Park and Pu'ukoholā Heiau National Historic Site

Introduction to Alternatives

The planning team gathered the ideas, concerns, and *mana'o* (thoughts) expressed during public scoping meetings, formal and informal community, private landowner, and governmental agency meetings, correspondence, and a survey in order to develop four draft alternatives for administration and management of the Ala Kahakai NHT. After public review of the draft alternatives, the team selected three alternatives for full consideration in the draft CMP: No Action; Single Trail; and Ahupua'a Trail System. The alternatives considered but eliminated from further study are discussed at the end of this chapter.

In all the alternatives, resource protection approaches, as described above, will remain the same although the extent of the resources and values protected may change. Within the limits of resource capability, the alternatives will vary in both what trail user services and experiences are provided and to what extent they are provided.

Decision Points

Decision points are the questions the plan needs to answer in order to provide management direction. These are the issues around which alternatives can be developed. The public, other agencies, and NPS staff raised numerous issues during the scoping period. Several of these issues will be addressed subsequent to the CMP at a more specific level of planning, either in the trail segment management plans or in a comprehensive interpretive plan. The planning team sorted through all of the issues raised to determine which ones could be addressed appropriately in a comprehensive management plan. The team concluded that the following four basic questions needed to be addressed by the alternatives:

- To what degree should the traditional Hawaiian trail system be incorporated in the Ala Kahakai NHT?
- What should be the balance between agency and community management of the trail?
- What range of appropriate recreational, educational, and interpretive opportunities should be accommodated?
- To what degree should the NPS manage as well as administer state-owned segments of trail?

The alternatives address these questions differently, providing a range of actions to consider.

Alternative A: "No Action"

Concept

The "no action" alternative, a requirement of NEPA, is basically a continuation of the present course of action and serves as a baseline for comparison with all other alternatives. It does not mean that no federal action would occur, but that current federal administration would continue as it is with funding at the FY 2007 level. Increases, if any, would be less than the cost of living and no staff would be added.

Following the recommendation of the *Feasibility Study*, the goal of alternative A would be to complete a single continuous trail comprised of ancient and historic portions of the *ala loa* linked as needed by later pre-1892 trails, pathways, and modern connector trails. This alternative emphasizes the linear aspect of travel around the island. It reflects a Euro-American concept of a trail as a linear transportation corridor or a recreational and educational entity. High potential sites associated with the alignment would be incorporated into the trail as feasible. Management agreements would focus on establishment and protection of a single route parallel to or on the shoreline. Only the trail tread (state right-of-way, easements resulting from land use approvals, or other specified trail right-of-way) and negotiated adjacent areas would be included in the trail. Adjacent natural and cultural resources would be identified and protected as feasible along the trail route.

Given the limited staffing and funding under the No Action Alternative, the Ala Kahakai NHT would consist of trail segments within the four

national parks through which it passes and only a few other segments, most likely on state lands and over easements required by land use approvals. While a continuous trail would be a goal, there would be little opportunity to reach the goal even in the very long-term. An auto tour route would be completed that would lead visitors to 18 sites associated with the trail. Recreation along the trail and interpretation of its history and significance would generally be limited to these sites.

This alternative received some stakeholder interest during the public review process. All of the principles of administration and management outlined above in Actions Common to All Alternatives would apply to this alternative, but with the limited available federal funding, the application of the principles would occur only as opportunities arise along the entire route. Generally, current management of ancient and historic trails and public access to them would continue. The map for alternative A appears on page 69.

Alternative A: Administration, Management, and Partnerships

Agency Roles

An NPS trail superintendent and a community planner would help with segment management plans, planning, resource management, trail user experience, or other necessary activities. The superintendent would work closely with the four national parks, the Ala Kahakai Trail Association, Nā Ala Hele Trails and Access Program under the Division of Forestry and Wildlife, Department of Land and Natural Resources, and other community organizations as possible. Additional support services would be provided by the Hawai‘i Island National Parks and the NPS Pacific West Region with offices in Honolulu, Hawai‘i, Oakland, California, and Seattle, Washington.

Nā Ala Hele would continue to protect identified ancient and historic trails within the corridor and make them available as recreational trails to the public as its funding and staff time permits. Most trails identified as ancient or historic by Nā Ala Hele would be land-banked by the state as future elements of the Ala Kahakai NHT, if Nā Ala Hele could not manage them for public use.

Hawaii County would continue to require public access along and to the coastline as part of its land use approval process. An agreement with Nā Ala Hele and the county would allow the NPS to recognize and mark trail segments that meet the criteria set out in this CMP as official components of the national trail. NPS trail administration would work with Nā Ala Hele and the county to recognize the few segments of the Ala Kahakai NHT that have a plan in place for protection of resources.

Community Roles

This alternative would rely heavily on existing local organizations to implement the trail. They could receive minimal funding or technical assistance from the NPS. The superintendent would continue to work to develop the Ala Kahakai Trail Association to support the trail. With the limited federal funding available to assist the association, the nonprofit may not develop the needed capacity as a partner to provide help in managing the trail.

Alternative A: Resource Protection

High Potential Sites and Trail Segments

The four existing national parks protect significant sites and segments related to the Ala Kahakai NHT that would be the focus of this alternative. These would be identified and interpreted to the public as funds permit. It is probable that over time some sites listed in table 3 that are part of the auto tour route would become official components of the Ala Kahakai NHT. Currently, these sites are not recognized as part of the Ala Kahakai NHT. These actions would happen as opportunities arise and not as part of an overall, strategic plan.

Trail alignment

The trail on nonfederal lands would consist of the legal trail right-of-way and negotiated adjacent areas necessary to protect resources or the trail setting. The size of these adjacent areas would differ with each segment. Few studies required to develop segment management plans would be completed. These include resource inventory, assessment, and monitoring protocols. Therefore, few segments of the trail outside of federal lands would be added to the Ala Kahakai NHT. Uneven and slow progress would be made toward developing a continuous trail.

Protection program

The four national parks would become more aware of fundamental resources and values associated with the trail. Increased trail use within the parks could directly or indirectly adversely affect trail resources. The parks could employ a number of methods to protect the resources including inventory and monitoring, user education, national register nominations, or other means detailed in the actions common to all alternatives. Additional protection of the fundamental resources and values associated with the trail would occur as part of the few management agreements that could be completed and would focus on selected high potential sites and segments listed in this plan. Some limited funds might be available to identify additional archeological and historic sites and trail segments, but a comprehensive strategy for research related to the NHT would be limited. Management of non-federal resources along the trail route would continue under the present course of action either through state or county efforts.

Alternative A: Trail User Experience

Due to inadequate staff numbers, opportunities would be very limited for the Ala Kahakai NHT staff to work with state and local agencies, Native Hawaiian families, the Ala Kahakai Trail Association, hiking groups, and landowners to provide a developed, coordinated trail user experience along the trail route.

Cultural Festival, Kaloko-Honokōhau NHP, N. Kona, NPS photo

Traditional users or practitioners

Trail management planning would aim to mitigate negative impacts on traditional cultural practices. Community planning teams for the few segments included in the NHT would seek input and advice from traditional gatherers and other practitioners to assure resource protection and sustainability, access timing, and other protocols.

Recreation

Generally, existing recreational opportunities along the trail would continue to be provided in federal, state, or county parks and facilities along the route. These activities would not necessarily be offered as part of the Ala Kahakai NHT program and would not provide a consistent trail experience. The Ala Kahakai NHT would provide few new trail opportunities since already existing trails on state lands or across resorts would most likely be the first segments to be incorporated into the national trail.

Within the timeframe of this CMP (about 15 years), after several of the ancient and historic sites have been incorporated into the Ala Kahakai NHT, the auto tour route would be marked and an interpretive brochure prepared. Visiting sites along the auto tour route would be the most integrated visitor experience. In the meantime, travelers would continue to drive along the existing highway and visit historic sites

open to the public, but would not necessarily know their connection to the Ala Kahakai NHT.

Current activities commemorating the culture of Native Hawaiians and interpretation of the trail would continue, but would not necessarily be related to or recognized as part of the Ala Kahakai NHT. Due to the limited scope of visitor education, the activities of traditional users in fishing, gathering, visiting shrines or gravesites along the route could be less likely to be respected.

Interpretation and Education

The four national parks would be encouraged to define sub-themes, related to the interpretive themes outlined in chapter 1 and to the character of the trail within their boundaries, and to develop site-specific messages that contribute to a complete trail story. Sub-themes would take advantage of the stories and *wahi pana* of the local area to develop heartfelt connections with the trail and park sites.

Once agreements with sites along the auto tour route are in place, a brochure would be developed incorporating all of the trail themes with emphasis on key events along the route, differing life styles, and daily use in the various areas. Later in the planning period, should an interpretive specialist be hired, a comprehensive interpretive plan could be developed. On the whole, under this alternative, interpretation would tend to be limited to sites that are part of the auto tour and not focused on the trail itself. Facilities and programs currently in place through resorts, landowners, agencies and other organizations would continue.

The NPS would encourage local entities to develop interpretive media and educational programs based on the trail interpretive themes and focused on the sites incorporated into the trail. Interpretation would emphasize the topics of connections to the past and events. Media and programs currently offered to the general public by various agencies or organizations about historic and traditional uses of *ala loa* would continue.

Trail Identification: Marker and Signs

The official marker incorporating the logo developed in this CMP would be used to mark segments of managed trail open to the public and at sites incorporated into the trail along the auto tour route. Over time, the general public would randomly encounter markers and identification signs along some segments of trail or at sites associated with the trail. At trailheads of segments of trail incorporated into the Ala Kahakai NHT, signs would be installed that identify permitted trail uses, directions to relevant public areas, information on safety, and protection of trail users and adjacent private property.

Alternative A: Facility Development

Trail administration could encourage the development of facilities that would enhance public access to auto tour sites and recognized trail segments. Appropriate visitor use facilities for the auto route include wayside exhibits, and signs and markers. Existing access roads, trailhead parking areas, visitor contact and comfort stations would be used. The level of local interest and support would help determine the extent and scope of support facilities. Costs for these facilities would be shared with the state, county, or community groups. Facility development should not impact archeological, historical, or natural resources. Any development should be environmentally and aesthetically compatible with trail resources.

Alternative A: Costs

The Fiscal Year 2007 NPS budget of $259,000 for the Ala Kahakai NHT is assumed to be constant for alternative A. Small increases over the planning period of 10 to 15 years would not be expected to keep up with inflation.

Operations

A staff of two full-time persons is available for alternative A.

Table 4: Alternative A Staff

Superintendent (existing)
Community Planner (funded)

NPS base funding of $259,000 would cover annual operations, including the salary and benefits for the superintendent and planner, travel for routine technical assistance to local groups and inter-island and mainland trips, office equipment, supplies, phone, signs, brochures, and publications.

Studies and One-Time Costs

Table 5 summarizes the total funds that might be available for a limited number of studies and some degree of trail development. Some of this funding could come from NPS base funds, but most would be sought from NPS Challenge Cost Share Program, NPS cultural resource programs, and other sources such as donations. It is estimated that the federal share of these one-time costs would be approximately 60%.[31]

Table 5: Alternative A One-time Trail Costs (cumulative for 15 year period)

Overview studies and inventories	$375,000
Project Costs	$300,000
Total One -Time Costs	**$675,000**
Estimated Federal Share	$405,000

Alternative A: Funding

Administration

Funding for the annual operating costs would be provided by the base operating budget of the NPS. No increases in its base funding to meet the needs outlined in this alternative would be anticipated.

Funds for brochures, other interpretive media, signs, and other needs may be available for mutually beneficial partnership projects through the competitive NPS Challenge Cost Share Program, an appropriation from Congress that may not be available every year. The program requires the partner to provide a minimum 50% matching contribution in the form of funds, equipment, in-kind labor, or supplies from non-federal sources. Partners may include hiking clubs, school groups, individuals, private landowners, non-profit organizations, charitable groups, or state and county government agencies.

It is anticipated that the Ala Kahakai Trail Association will engage in minimal fundraising under alternative A, but could provide volunteer help.

Technical Assistance

Funds and other support for technical assistance projects (planning, design, or preservation) beyond administrative staff capabilities would be requested from the NPS Long Distance Trails Program, the NPS Rivers, Trails, and Conservation Assistance Program, NPS planning funds, the NPS cultural resource preservation program, or other sources.

Development/Preservation

NPS resource preservation funds would be sought to fund cooperative preservation efforts for federal components or established sites and segments. Funds would be used to supplement existing data about high potential sites and to stabilize or otherwise conduct physical activities to conserve resources. Should recreational facilities become feasible, funds to develop them on nonfederal lands would be sought from state or local governments or private groups or individuals, either directly or in partnerships. Funds may be used for contracted services.

[31] As with all national trails, federal project funds are limited and a variety of partners are expected to help with planning, constructing, managing, monitoring, and interpreting the trail with funds and in-kind services. The *Feasibility Study* projected a 50% nonfederal match for one-time costs. Alternative A estimates that the federal share would be approximately 60% because much of the trail work would be limited to the national parks. The approval of alternative A would not guarantee that funding and staffing needed to implement the plan would be forthcoming. Full implementation of alternative A could be many years in the future. These cost estimates suggest the range of federal funds in relation to partnership funds—state, county, nonprofit organizations, private entities, and individuals— required to open segments of the trail to the public.

Legend

- Ala Kahakai NHT Corridor
- Existing Trail
- Potential Trail
- Districts
- Parks
- Wilderness

Roads

- Primary
- Secondary
- Auto Tour Route
- Auto Tour Sites
- 11 Highway

0 5 10 20 Miles

Ala Kahakai National Historic Trail Working Map 12/21/06

Alternative B: Single Trail

Concept

As in alternative A, a single continuous trail would be comprised of unaltered or verified ancient and historic portions of the *ala loa* linked as needed by later pre-1892 trails, pathways, and modern linking trails. This alternative reflects the recommendation in the *Feasibility Study* and emphasizes the linear aspect of travel around the island. High potential sites associated with the alignment would be recognized as part of the trail. Management agreements would focus on recognition and protection of a single route parallel to or on the shoreline. Canoe landings and *mauka-makai* trails that connect with the route could be noted in appropriate areas. Adjacent natural and cultural resources would be protected or restored as feasible along the trail route. Alternative B reflects a Euro-American concept of a trail as a linear transportation corridor or recreational element, while recognizing the need to support traditional uses.

Although alternative B shares the same overall goal of developing a continuous trail as alternative A, with added staff and funding more actions are potential, and in the very long term the goal could be accomplished. Within the planning period of 15 years, the goal would be to complete the linear trail within the priority zone from Kawaihae through Pu'uhonua o Hōnaunau National Park and to protect other segments outside of that area as feasible. The maps for alternative B appear on pages 81-85.

Alternative B: Administration, Management, and Partnerships

Under this alternative, management planning would be community-based, but the NPS would rely on landowners and land managers to manage trail segments under the administrative oversight of the NPS. Trail segments that result from easements required through the land use approval process would be managed by the landowner or a specified management entity. The state of Hawaii[32] would continue to manage state-owned segments of the Ala Kahakai NHT. Segments in county parks would be managed by the county of Hawaii. All trail segments would become components of the Ala Kahakai NHT through a cooperative management agreement between the landowner, the state, or the county and NPS. The Ala Kahakai Trail Association and other non-profit organizations would aid these land managers as possible through fund-raising, volunteer work parties, and other activities.

Agency Roles

The National Park Service would be an active coordinator for administrative oversight taking an active role in promoting and supporting the Ala Kahakai NHT. The NPS would work with community-based planning teams to develop management plans for trail sites and segments and actively work with Native Hawaiians, government and land managing agencies, landowners, trail organizations, and other community groups to develop a single, linear, continuous and unified trail. To achieve the objectives of this alternative, the NPS will develop memoranda of understanding, cooperative and management agreements, or other instruments, as needed and appropriate, with other public agencies, non-profit organizations, and private entities.

The NPS would authorize or undertake all research and cultural and natural resource management planning and monitoring for the trail and provide technical assistance and oversight review of local segment management plans, their updates and revisions, for compliance with NPS policies and standards.

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[32] State agencies that manage trails or lands over which trails pass are the Nā Ala Hele Trails & Access Program for those segments owned by the state identified as ancient or historic consistent with the 1892 Highways Act; State Parks for those segments included within state parks; and the Natural Areas Reserve System (NARS) for lands in the reserves. The DLNR Division of Lands holds land until a management entity is identified.

The NPS would rely on a landowner or land manager or identify a community management entity to manage and steward each segment of trail as part of a management agreement. As an example, the Ala Kahakai NHT superintendent connected Nā Ala Hele with Parker School as a potential manager of the existing trail segment from Spencer Park at ʻŌhaiʻula to Mauna Kea Resort. Parker School would work with the NPS to meet all criteria for trail management. When this trail segment becomes an official component of the Ala Kahakai NHT through an agreement with Nā Ala Hele, Parker School would be named as the trail manager.

As the trail becomes established, the projected NPS staff would include four permanent staff and six shared, temporary, or seasonal positions. The Pacific West Regional Office, Honolulu, would provide administrative and contracting support services, geographic information system (GIS) help, and other assistance. Additional support for planning or technical assistance could be provided from the Pacific West Regional Offices in Oakland, California or Seattle, Washington.

The four national parks may assist in local outreach programs, and they may monitor trail segment status, as feasible, for areas adjacent to their parks (for example, ownership changes, intrusions, site access changes).

The NPS would focus its assistance on state and county parks and Nā Ala Hele which would retain responsibility for management of those segments of trail found to be state-owned. Through individual site and segment management agreements, the NPS would establish protocols and oversee monitoring of resource protection efforts. The NPS would also offer technical assistance and limited financial assistance to private groups working together to accomplish the objectives of the Ala Kahakai NHT. Trail segment managers would be independent of the NPS, but would work cooperatively to help commemorate the national historic trail. The NPS would provide County Planning with information on ancient or historic trail locations so that awareness of the Ala Kahakai NHT can be considered early in the planning process.

The NPS would encourage with limited funds and technical assistance the state and county and other participants in trail management to educate trail users about trail values and stories; protect resources along the route; monitor trail development; solicit funds for technical assistance, publications, and research from other federal agencies, state and local governments and private partners; and undertake a variety of other activities which support the objectives of the trail. As the trail administrator, the Ala Kahakai NHT office would become the central repository for all information related to the administration of the Ala Kahakai NHT and would seek information from the four national parks and all partner agencies and stakeholders. The NPS would add data and metadata to its GIS and provide maps to aid local managers to recognize, mark, and otherwise implement the trail and to help provide trail information for users. The GIS would aid the NPS, local managers and landowners, and others to evaluate development proposals along the trail route for their effects on trail viewplanes[33] and other resources.

Under alternative B, Ala Kahakai NHT would partner with Hawaiʻi Island national parks to link their community involvement programs with community-based efforts of Ala Kahakai NHT management.

The State of Hawaii, under alternative B, would manage all of the state-owned segments of the Ala Kahakai NHT through either Nā Ala Hele or State Parks in cooperation with and under the oversight of the NPS. Nā Ala Hele would work to

[32] The term "viewplane" appears in Hawaii environmental documents and is similar in meaning to "viewshed," a term more familiar to mainland readers. Both words can indicate the entire area an individual can see from a fixed vantage point, but in Hawaii "viewplane" appears to refer to significant landscape elements seen from a public road or trail.

prepare land banked segments of trail for public use through developing inventories and management plans consistent with SHPD and Nā Ala Hele Hawaii Island Advisory Council recommendations. The state owns only the right-of-way, generally about 10 to 30 feet, as described in documents, oral histories, archeological studies, land deeds, by direct observation and other sources. Adjacent areas desired to protect trail related resources are generally outside of state ownership and would have to be negotiated with the landowner to be included in the Ala Kahakai NHT.

The NPS would help find funding and assistance for these state agencies so that they can manage the Ala Kahakai NHT effectively in accordance with the CMP. State ownership of trails removes landowner liability for trail user injury. Even on privately owned trail segments included in the Ala Kahakai NHT, landowners would not have liability for recreational use of trails on their lands through the Hawaii Revised Statutes, Chapter 520. (See appendix A.) Appendix F contains a draft agreement between the NPS, the State of Hawaii, and the county of Hawaii to work together to manage the Ala Kahakai NHT.

The County of Hawaii would continue to enforce, as a condition of land use approvals, county and state laws requiring public access to and along the shoreline that may create potential Ala Kahakai NHT trail segments; encourage private landowners who have public access requirements as conditions of land use approval to include these areas in the NHT, where appropriate; review county-owned public access easements to and along the shoreline for potential incorporation in the NHT; and coordinate the identification of trail segments through county parks. County Planning would include the NPS in the mailing list for the Planning Commission to alert the NPS to possible development affecting the Ala Kahakai NHT.

County Parks would manage segments of the Ala Kahakai NHT within county parks. The NPS would encourage the county to use its Parks Partnership Program with non-profit organizations that want to manage the Ala Kahakai NHT within county parks. Also, through an overall agreement, the state and county would agree to manage their segments of trail consistent with this CMP. (See Appendix F.)

Community Roles

Non-profit organizations, *‘ohana* (family, kin group), private landowners, resort managers, and other local entities would be encouraged to make agreements with the NPS to manage a particular site or help realize a specific objective related to the trail. Any appropriate and legal provision could be included in an agreement. Possible provisions could include trail marking, development and management activities, trail monitoring, support facilities, access and interpretation, right-of-way agreements with private landowners, and fund-raising activities.

Land trust organizations on the island of Hawai‘i would play a critical role in preservation of open spaces that contain ancient or historic trails that could become a part of the Ala Kahakai NHT. These trusts include such groups as the Trust for Public Land, Nature Conservancy of Hawaii, Kona Land Trust, and the “kingdom trusts” of Kamahameha Schools, Queen Emma Foundation, and the Liliuokalani Trust. The acquisition of properties, purchases of conservation easements, or other arrangements could produce important results towards the goals of the Ala Kahakai NHT, as can be seen with the recent purchase of Honu‘apo Fish Pond.

Kawaihae Canoe Club, S. Kohala, NPS photo

Alternative B: Resource Protection

High Potential Sites and Segments

The Ala Kahakai NHT administration would work to recognize with management agreements all of the sites and trail segments identified to date as high potential (See table 3 in chapter 1 and appendix B). The trail administration would continue to inventory and analyze cultural and natural resources along the potential trail alignment to determine appropriate preservation techniques and the capacity to accommodate trail users and interpretation.

Trail Alignment

In the process of conducting land title abstracts for development projects, Nā Ala Hele has identified several ancient and historic trail segments, some of them parallel to each other, with potential to be part of the Ala Kahakai NHT. Some of these segments are land-banked with the Department of Lands and Natural Resources (DLNR) Division of Lands until such time as either the NPS or Nā Ala Hele has the capacity to manage them. Under alternative B, the NPS would work to provide technical assistance and seek funding to help Nā Ala Hele develop the capacity to actively manage these trail segments themselves or with a local partner and recognize them as part of the Ala Kahakai NHT. In addition, easements required through the land approval process often are recorded with the Board of Conveyances, but often no requirements for installation or maintenance exist. In these instances, the NPS would provide technical assistance and seek funding to help local communities manage and maintain these segments.

In order to create a single continuous trail alignment for the Ala Kahakai NHT, trail selection criteria would be applied in the following priority order:

- An unaltered or verified ancient trail remnant with connections to other trail segments on either end and to high potential sites.
- An unaltered or verified historic trail remnant with connections to other trail segments on either end and to high potential sites.
- In the case of several parallel unaltered or verified trail alignments, the remnant representing the earliest trail use that also best provides connections to other trail segments on either end and to high potential sites.
- A connecting footpath
- A connecting jeep trail
- A paved road, preferably with ADA accessible sidewalks

Protection Program

The basis of the trail protection program in alternative B would be the preservation, as feasible, and interpretation of the fundamental resources and values associated with the Ala Kahakai NHT along a single, linear trail route. The protection measures detailed as common to all alternatives would apply to a single trail alignment generally parallel to the coast and potential protection areas on either side of the trail to be specified in each trail segment management agreement. Landownership, geography, land use, vegetation cover, and other determinants could be used to establish an appropriate area for protection of cultural and natural resources associated directly with the trail. The community planning team would help define these areas while participating in development of each segment management agreement. The area of potential effect (APE) for compliance purposes may be larger than the area negotiated to be part of the trail, depending on the resources involved, and would be decided segment by segment. As with all alternatives, no segment of trail will be made available to the public until all resource studies, protection, and compliance measures have been addressed adequately.

The NPS would authorize or undertake all research and cultural and natural resource management planning and monitoring for the trail and provide technical assistance and oversight review of local segment management plans.

In addition, as opportunities arise, the NPS would assist the state in review of records of title to determine the extent of the Ala Kahakai NHT

owned in fee by the state. It is anticipated that much of the trail would prove to be state-owned under the 1892 Highways Act. For the portions of the trail not owned by the county, state, or federal governments, the NPS would encourage state and county government and private entities to obtain cooperative agreements, easements, rights-of-way, and land in fee for the protection and permanency of those portions of the trail. Where other entities are not able to protect the trail right-of-way or resources, the NPS could acquire trail lands through dedications, donation, or purchase from willing sellers.

Alternative B: Trail User Experience

The Ala Kahakai NHT office would facilitate a unified effort by partner agencies, landowners, descendants, trail groups and other stakeholders to provide a high quality, coordinated trail experience along the Ala Kahakai NHT. This experience would promote public understanding and appreciation of cultural and natural resources along the route and of resource protection issues and needs.

Traditional Users

Trail management planning would aim to avoid or mitigate negative impacts on traditional cultural practices and to encourage traditional users in their practice. The community planning team would seek input and advice from traditional gatherers and other practitioners on management planning to assure resource protection and sustainability, access timing and other protocols.

Recreation

Initially, the majority of trail use would be in-and-out single day excursions to portions of the Ala Kahakai NHT. A one-way day trip could occur with vehicles parked at each end of the trail segment. However, the ultimate goal would be to provide for long-distance walking and overnight camping. Strategically placed campsites, at approximate five-mile intervals, and water sources would accommodate long-distance hiking when there is sufficient continuous trail. As feasible, trail visitors would be informed about appropriate behavior practices and protocols to minimize negative impacts to cultural and natural resources within the trail corridor and maximize safety to the trail user and respect for practitioners of traditional subsistence fishing and gathering. Guided tours along the trail could be provided by local trail managers or others with ties to specific trail segments. Specific sections of trail may be temporarily closed to allow for traditional uses.

An auto-tour route using existing public roadways and access roads would be marked and interpreted at appropriate and significant historic sites.

Ala Kahakai NHT administration and its partners would promote special cultural events focused on trail-related resource protection, awareness, and involvement. The official Ala Kahakai NHT logo could be used in association with such events upon receiving written permission from the trail office.

Health and safety would be addressed as described in actions common to all alternatives.

Interpretation and Education

Integrated interpretive and educational programming would be tied to the resources, *mo‘olelo* (stories), and *wahi pana* (storied and sacred places) of each trail segment with the goal of recapturing a sense of place in the landscape of traditional Hawai‘i. As the administrative capacity of the trail office increases and cooperative management is established, there would be an effort to coordinate and enhance current interpretive activities offered by various agencies, organizations, and community groups to create a unified trail program. Additional opportunities would be offered as trail segments and sites become established.

Comprehensive Interpretive Plan

A Comprehensive Interpretive Plan (CIP) would be developed as a priority. The CIP consists of three separate components. The Long-Range Interpretive Plan (LRIP), the centerpiece of the CIP, outlines the vision and goals for the interpretive program for several years and provides the interpretive guide for the trail. The LRIP relies on input and review from stakeholders concerned with the trail. Annual Implementation Plans outline the measurable actions taken yearly to implement the LRIP. The inclusion of annual plans in the CIP allows the LRIP to be dynamic and flexible enough to accommodate changing times and needs along the trail. Finally, the CIP includes an Interpretive Database—an inventory of legislative history, trail plans, trail user surveys, and interpretive media as it is developed for the trail.

Although all interpretive themes stated in chapter 1 would serve as a foundation for developing this coordinated interpretive and educational plan, alternative B would emphasize the linear aspect of the trail and the topics of movement from place to place, connections to the past, and significant events that occurred along the *ala loa*. Site-specific sub-themes would be developed appropriate to each trail segment to reduce users being exposed to repetitive messages. The overall themes would provide the framework for development of any trail interpretation before completion of the CIP.

The LRIP would recommend interpretive media at appropriate locations—national, state, and county parks, resorts, and other locations—to promote resource stewardship and support trail user understanding and awareness of the need to preserve natural and cultural resources and the Hawaiian heritage embodied in the trail and its resources and values. Examples of media types that could be used are publications (including brochures, reports, newsletters, and a typical NPS map and guide), electronic media (including websites, radio broadcasts, cell phone downloads, CD rentals, MP3/ipod downloads), wayside exhibits, audiovisual media, traveling exhibits, and indoor exhibits associated with existing museums and visitor centers. Media and interpretation provided by others would be reviewed by the NPS. Written media should be in English, Hawaiian as feasible, and in the languages of the most numerous visitor groups. Appreciation and protection of the resources depends upon clear communication to visitors.

Until the LRIP is completed, the following three types of media would be a priority for guiding trail users in the interim:

Publications. NPS trail staff and partners could develop a newsletter or other publications to provide an overview of all the trail's interpretive themes. An initial map and guide related to the auto tour route would provide overall orientation and information about the significance and resources of the Ala Kahakai NHT.

Website. The NPS website for the trail at <http://www.nps.gov/alka> could provide updated information about the trail, recognized sites and segments, and discussions about trail-related issues. Specific items available to website visitors would include management documents, maps of managed segments, information on recognized sites, the auto tour route, and special events related the Ala Kahakai NHT.

Wayside Exhibits. Although much better as part of a planned system, development and installation of a few wayside exhibits may become possible and necessary before the CIP is completed. The NPS trail administration could support the installation of a few interpretive wayside exhibits at appropriate places on the Ala Kahakai NHT as long as an overall strategy is in place to promote the development of a consistent wayside exhibit system to blend with existing signs. The use of standardized exhibit design that follows NPS national trail wayside exhibit guidelines and standards (NPS 1998d) and the NPS Unigrid sign standards adopted in 2006 (available at http://www.hfc.nps.gov/uniguide/)

would promote the integration of interpretive messages offered along the route. Nonetheless, signs would reflect the essence of Hawaiian culture.

Educational Programs

Educational Programs along the Ala Kahakai NHT would consist of outreach presentations and a school curriculum. Outreach to local schools and civic organizations would be provided by *kūpuna*, qualified historians or others with accurate knowledge of Hawaiian culture, and would emphasize the role and uses of the coastal *ala loa* and the events that occurred along it. Ala Kahakai NHT staff would coordinate with existing programs to ensure that they contribute to knowledge of the Ala Kahakai NHT as a single entity. A school curriculum based on all of the trail's themes and meeting the State of Hawaii teaching standards would be developed. The website would feature these materials as they are developed.

Heritage Tourism

Heritage tourism entails traveling to historic and cultural attractions to learn about the past in an enjoyable manner, but ensures the sustainability of the resources that attract trail users in the first place. Heritage tourism would be conducted with an emphasis on cultural and environmental sensitivity and on Hawaiian cultural values. Due to access issues and the need for parking to accommodate groups, heritage tourism would be focused on those sites and trail segments available through the auto tour route.

NPS trail administration, in cooperation with the state department of tourism, would encourage and assist trail management organizations and local communities in becoming involved in the Ala Kahakai NHT heritage tourism program.

Ecotourism

Ecotourism is defined as nature-based tourism that involves education and interpretation of the natural environment and is managed to be ecologically sustainable. For the Ala Kahakai NHT, ecotourism would encourage an ethic of trail use based on Hawaiian concepts: If you use the trail, you give back; leave the land in better shape than you found it; think of the next person to come along. *Malama* includes taking care, not littering, and maintaining the trail or site.

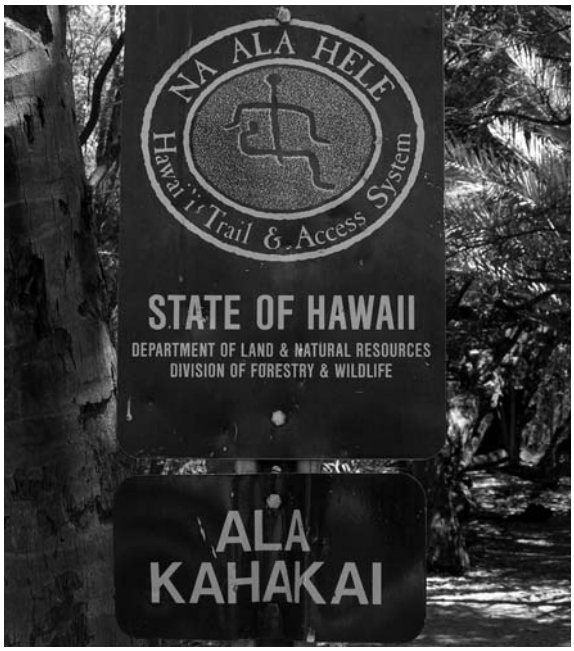
Ecotourism would be considered a permitted use of the Ala Kahakai NHT as long as tour operators are registered with the NPS administrative office, which will institute a commercial user reservation and fee collections system that addresses user impact issues and revenue generation. Any revenue would be returned to the trail.

Trail Identification: Marker and Signs

A single, linear trail would be marked with the official trail marker and logo. (See title page of this document for a draft marker.) Marker posts could also identify the *ahupua'a* associated with the trail segment, although this kind of recognition would best be made at a trailhead entrance. Efforts would be made to use the marker to guide users of the trail but not to clutter the landscape unnecessarily. In areas in which wayfinding is appropriate, a smaller, low-key version of the marker could be developed to indicate the trail route. At trailheads of segments of trail incorporated into the Ala Kahakai NHT, signs would be installed that identify permitted trail uses, directions to relevant public areas, information on safety, and protection of trail users and adjacent private property. Trail signs should be in English and Hawaiian, as feasible. For place names and site identification, the Hawaiian would appear first or at the top of a sign with the English translation underneath. Informational signs such as restroom locations, mileage, safety and resource protection messages, property delineations, and so forth would be in English, Hawaiian, and the most common visitor language, as feasible and appropriate.

Alternative B: Facility Development

Facility needs would be determined in the management agreement for specific sites or trail segments and periodically as a result of the monitoring of trail or shoreline use impacts. Trail administration may encourage the development



Trail Marker, Nā Ala Hele Program, State of Hawaii, NPS photo

of facilities that would enhance public access to recognized sites and segments. Appropriate visitor use facilities for the auto route include wayside exhibits, signs and markers. No new buildings or visitor centers would be built. Existing access roads, trailhead parking areas, and comfort stations may be upgraded. The level of local interest and support would help determine the extent and scope of support facilities. Facility development should not impact archeological, historical, or natural resources. Any development should be environmentally and aesthetically compatible with trail resources.

In accordance with trail segment management plans, the NPS would encourage trailheads and staging areas for hikers to expedite both long distance travel and day use. Supportive development for trail users could include wayside exhibits, signs and markers, potable water sources, campsites with composting toilets and shade shelters, and stiles or gates so that fence lines can be crossed without releasing livestock. At trailheads and parking areas, orientation signs and trail maps would be needed. Fences or barriers along the trail edge would not be encouraged in order to preserve the continuity of the cultural setting of the trail.

To protect visual resources, NPS trail staff would develop design guidelines for trail and facility development for the length of the trail. One source of guidelines is Minerbi (2004: 17) which presents a methodology for identifying scenic resources in the coastal zone. It accounts for landscape and topographic features, human perception, observation points, and objects of the observation that can be used to identify significant scenic areas along the Ala Kahakai NHT route, where changes of scenery occur, and where the aesthetic experience (always connected with the *mo'olelo* of the place) is enhanced.

Each trail segment to be incorporated into the Ala Kahakai NHT would receive site-specific planning that would locate improvements in a manner to least affect the area's visual character and views. Signs would be kept to the minimum required to inform trail users of safety, private property rights, and resource protection issues, and would be designed to be appropriate to the area.

An interpretive exhibit plan for the entire trail would be developed and wayside exhibits and signs would be installed along the trail only at those sites that require interpretation for user safety, understanding, and enjoyment. Intersections of *mauka makai* trails and canoe landings with the Ala Kahakai NHT could be marked and interpreted as appropriate.

Any development outside federally-owned areas would be funded generally by state or local governments or private groups, although the NPS may provide seed money, cost sharing incentives to private or non-federal entities, or technical assistance for planning, design, and legal and policy compliance. Cost share incentives could include, among others, design, construction, repair, rehabilitation of facilities, cultural and natural resource protection or restoration, and data collection on public and private properties. The NPS and partners would provide interpretive media, where appropriate, and assistance in helping to obtain funding for needed development, including the solicitation of donations and grants.

Alternative B: Costs

Completing the trail as proposed in alternative B will be incremental, based on available federal funding, the degree of state and county participation, support of local organizations and individuals, and the fundraising capacity of the Ala Kahakai Trail Association and other partners. No segment of trail will be included in the Ala Kahakai NHT until an appropriate and sustainable management agreement is in place.

This cost estimate is based on completing the 73-mile section of trail from Kawaihae (Puʻukoholā Heiau NHS) through Puʻuhonua o Hōnaunau NHP by the end of the approximate 15-year life of the CMP. National parks account for 8 miles of this section. Other segments include sections of the state Ala Kahakai, several state parks, a county park, 7 miles of Aliʻi Drive, resorts, and other private lands. It is anticipated that trail staff will be able to respond to needs in other areas of the trail corridor and protect them as possible even if these trail segments cannot be managed immediately for public use. Although the Ala Kahakai NHT is authorized to acquire land from willing sellers, no land acquisition through purchase is anticipated, and no land acquisition costs are included. All costs are in 2006 dollars.

Operations

Alternative B calls for a core of four full-time staff to carry out the operational responsibility of the trail as shown in table 6. The positions of interpretive specialist and volunteer coordinator/trainer would be added to the two currently funded positions as NPS funds allow. Other needed disciplines (administrative assistant, archeologist, ethnographer, cultural landscape specialist, GIS specialist, trail management/maintenance coordinator) would be shared with other federal or state parks or provided through the Ala Kahakai Trail Association. It is also possible that the community planner or interpretive specialist might have GIS skills or be an archeologist. These cost estimates suggest the range of federal funds in relation to partnership funds—state, county, nonprofit organizations, private entities, and individuals— required to open to the public the section of trail from Kawaihae through Puʻuhonua o Hōnaunau in 15 years and to protect other sections of trail in that time period.

Table 6: Alternative B, Staffing Goals

Core full-Time Staff
Superintendent (funded)
Community Planner (funded)
Interpretive Specialist
Volunteer Coordinator/ Trainer
Other Needed Disciplines
Administrative Assistant
GIS Specialist
Archeologist
Anthropologist/Ethnographer
Cultural Landscape Specialist
Trail Management/Maintenance Coordinator

It must be noted that the implementation of alternative B will depend not only on future NPS funding and service-wide priorities, but also on partnership funds, time, and effort. The approval of alternative B would not guarantee that funding and staffing needed to implement the plan would be forthcoming. Full implementation of alternative B, should it be selected as the CMP, could be many years in the future.

As shown in table 7, operational costs include staff salary and benefits, travel to sites and to assist support groups along the route; technical assistance; trail markers, brochure production, newsletter, publications, and interpretive media; and partner support. For cost estimating, the other needed disciplines are estimated at 20% of a full-time employee although some disciplines may be needed for longer and others shorter periods of time.

Table 7: Alternative B Annual Operations Costs

Item	Estimated Range of Costs
Staff salaries and benefits (4 core staff)	$288,000 – 352,000
Staff salaries and benefits (6 shared, part-time, or seasonal)	$81,000 – 99,000
Office: rental, equipment, supplies, phones	$48,000 – 66,000
Travel (including cars, interisland, and mainland travel)	$26,000 – 36,000
Brochures, interpretive materials, signs	$20,000 – 30,000
Support to Partners	$30,000 – 50,000
Total Annual Operation Costs	**$493,000 – 633,000**

One-Time Costs

Studies

Trail preservation, management, and interpretation will require basic information provided by overview and assessment studies comprised of literature and research reviews of existing information about the trail corridor. These include environmental impact statements and other studies for projects along the coast, photographs and images, maps, oral history interviews, and other information available in libraries and archives. These costs are shown on table 8.

Table 8: Alternative B One-Time Costs

Studies of the Entire Trail Route	Estimated Range of Costs
Archeological Overview and Assessment	$40,000 – 100,000
Ethnographic Overview and Assessment	$50,000 – 75,000
Historical Overview and Assessment	$40,000 – 50,000
Natural Resource Overview and Assessment	$50,000 – 100,000
Facility and infrastructure study (roads, water, emergency services, etc)	$40,000 – 50,000
Subtotal: Studies	**$220,000 – 375,000**
Project	
Trail segment reconnaissance	$115,000 – 140,000
Trail segment analysis and planning (incl. resource inventories and assessments)	$500,000 – 750,000
Metes and bounds surveys	$121,000 – 495,000
Trail restoration/construction (16 miles)	$480,000 – 640,000
Trailhead improvements (4)	$710,000 – 1,020,000
Campsite development (2)	$84,000 – 168,000
Facility planning (25 % of construction)	$198,000 – 297,000
Special projects	$50,000 – 75,000
Subtotal: Project Costs	**$2,368,000 – 3,860,000**
Total One -Time Costs (studies + projects)	**$2,588,000 – $4,235,000**
Total Estimated Federal Share	$1,035,200 – $2,177,500

Projects

One-time costs include activities such as trail segment reconnaissance, cultural and natural resource studies, and management planning; boundary surveys; trail construction and restoration; trailhead and campsite development; and special projects such as video production and mapping. Any development outside federally-owned areas would be funded generally by state or local governments or private groups, although the NPS may provide seed money, cost sharing incentives to private or non-federal entities, or technical assistance for planning, design, and legal and policy compliance. Cost share incentives could include, among others, design, construction, repair, rehabilitation of facilities, cultural and natural resource protection or restoration, and data collection on public and private properties. The NPS, the Ala Kahakai Trail Association, and other partners would provide interpretive media, where appropriate, and assistance in obtaining funding for needed development, including the solicitation of donations, grant, and in-kind services.

Table 8 estimates the funds needed to complete the 73-mile portion of the Ala Kahakai NHT within the 15-year period of this plan in FY 2007 dollars. It is estimated that the federal share of these one-time costs would range from 40% to no more than 50% of the total one-time costs.[34]

Alternative B: Funding

Administration

Funding for the annual operating costs would be provided by the base operating budget of the NPS. Ala Kahakai NHT administration would seek increases in its base funding to meet the needs outlined in this alternative.

Funds for brochures, other interpretive media, signs, and other needs may be available for mutually beneficial partnership projects through the NPS Challenge Cost Share Program, an appropriation from the U.S. Congress that may not be available every year. The program requires the partner to provide a minimum 50% matching contribution in the form of funds, equipment, in-kind labor, or supplies from non-federal sources. Partners may include hiking clubs, school groups, individuals, private landowners, non-profit organizations, charitable groups, or state and county government agencies.

It is anticipated that the Ala Kahakai Trail Association and other partners will engage in effective fundraising and volunteerism to help meet the goals for trail management planning, interpretive programs, and events proposed in alternative B. If this anticipation is not met, the projects and programs proposed under alternative B may be only partially realized.

Technical Assistance

Funds and other support for major technical assistance projects (large–scale planning, design, or preservation) beyond administrative staff capabilities would be requested from the NPS Long Distance Trails Program, the NPS Rivers, Trails, and Conservation Assistance Program, NPS planning funds, the NPS cultural resource preservation program, or other sources.

Development/Preservation

NPS resource preservation funds would be sought to fund cooperative preservation efforts for federal components or established sites and segments. Funds would be used to supplement existing data about high potential sites and to stabilize or otherwise conduct physical activities to conserve resources. Funds to develop recreational facilities on nonfederal lands would be sought from state or local governments or private groups or individuals, either directly or in partnerships. Funds may be used for contracted services.

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[34] As with all national trails, federal project funds are limited and a variety of partners are expected to help with planning, constructing, managing, monitoring, and interpreting the trail with funds and in-kind services. The *Feasibility Study* projected a 50% nonfederal match for one-time costs. Alternative B estimates that the federal share on the low estimate (anticipating greater partner involvement and fundraising) would be approximately 40% and on the high estimate, 50%. The approval of alternative B would not guarantee that funding and staffing needed to implement the plan would be forthcoming. Full implementation of alternative B could be many years in the future. These cost estimates suggest the range of federal funds in relation to partnership funds—state, county, nonprofit organizations, private entities, and individuals— required to open segments of the trail to the public.

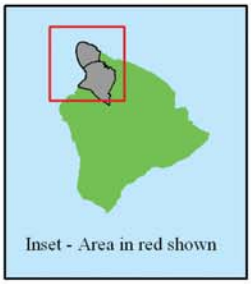
Ala Kahakai NHT Corridor
Parks
STATE DISTRICTS

Existing Trails
Ala Kahakai NHT (NPS Parks)
Na Ala Hele Jurisdiction

Potential Trails
Na Ala Hele Inventory
Possible Lateral Trail (1978 Inventory)

Land Ownership
DHHL
Govt. County
Govt. State
Govt. Federal
Other ownership

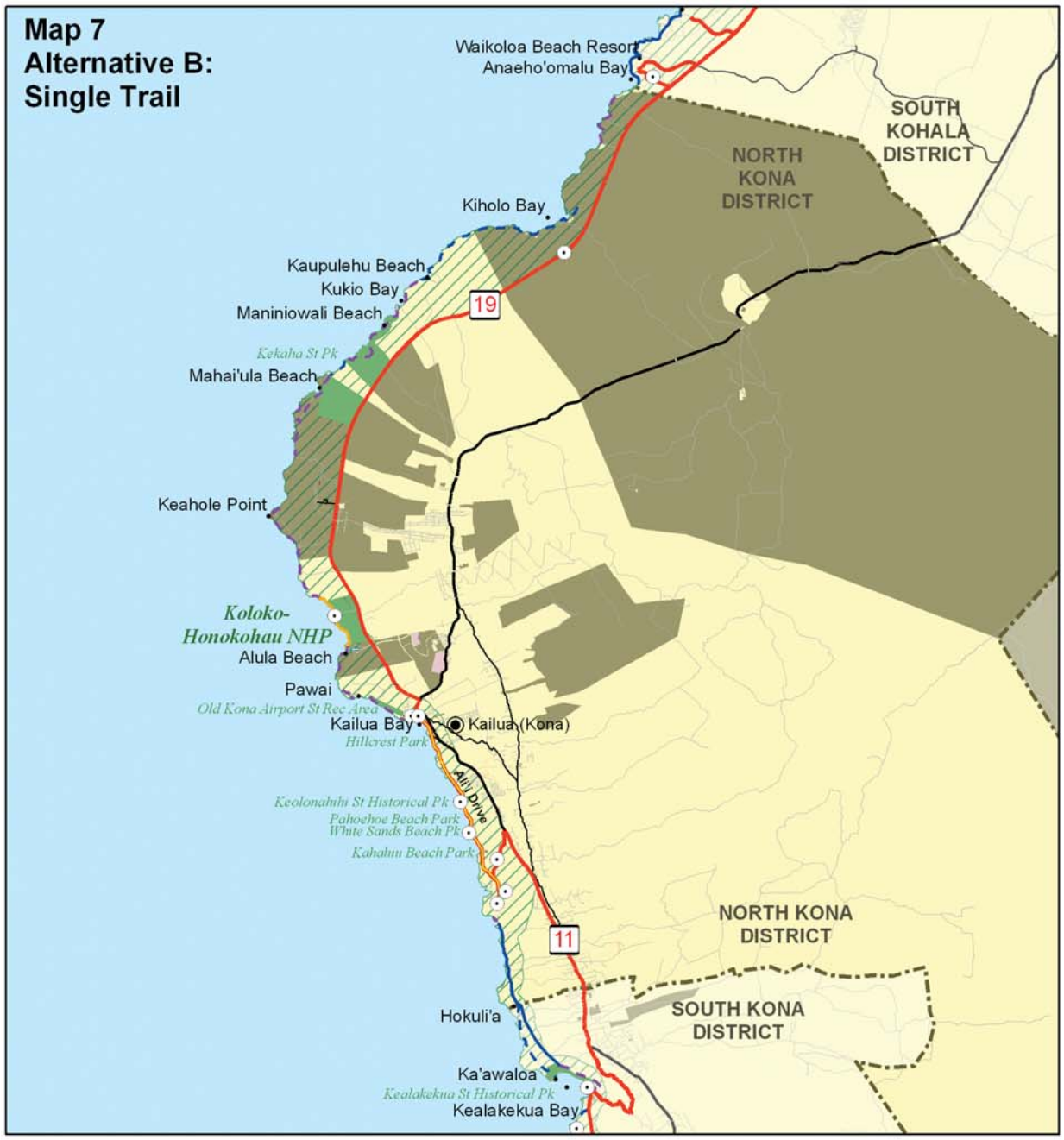
Roads
19 Highway
Auto Tour Stops
Auto Tour Route
Primary
Secondary
Other road types



0 1.25 2.5 5 Miles

ALTERNATIVE B
North Kohala and South Kohala Districts
Ala Kahakai National Historic Trail Working Map 12/21/06

Note: This map is a planning tool. Many of the trail segments shown are proposed and not open to the public for any purpose. This map does not convey any rights to the public to use any of the trail segments shown; nor does it exempt any person from trespassing charges. For information on trail segments available for public use, contact Na Ala Hele or the Ala Kahakai NHT administrative office.



Ala Kahakai NHT Corridor
Parks
STATE DISTRICTS

Existing Trails
Ala Kahakai NHT (NPS Parks)
Ali'i Drive
Na Ala Hele Jurisdiction

Potential Trails
Na Ala Hele Inventory
Possible Lateral Trail (1978 Inventory)

Land Ownership
DHHL
Govt. County
Govt. State
Govt. Federal
Other ownership

Roads
19 Highway
Auto Tour Stops
Auto Tour Route
Primary
Secondary
Other road types

0 1 2 4 Miles

ALTERNATIVE B
North Kona District
Ala Kahakai National Historic Trail
Working Map 12/21/06

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Ala Kahakai NHT Corridor
Parks
STATE DISTRICTS

Existing Trails
Ala Kahakai NHT (NPS Parks)
Na Ala Hele Jurisdiction

Potential Trails
Na Ala Hele Inventory
Possible Lateral Trail (1978 Inventory)

Land Ownership
DHHL
Govt. County
Govt. State
Govt. Federal
Other ownership

19 Highway
Auto Tour Stops
Auto Tour Route
Primary
Secondary
Other road types

0 1.25 2.5 5 Miles

ALTERNATIVE B
South Kona District
Ala Kahakai National Historic Trail
Working Map 12/21/06

Note: This map is a planning tool. Many of the trail segments shown are proposed and not open to the public for any purpose. This map does not convey any rights to the public to use any of the trail segments shown; nor does it exempt any person from trespassing charges. For information on trail segments available for public use, contact Na Ala Hele or the Ala Kahakai NHT administrative office.

Ala Kahakai NHT Corridor

Parks

STATE DISTRICTS

Potential Trails

Na Ala Hele Inventory

Possible Lateral Trail (1978 Inventory)

Land Ownership

DHHL

Govt. County

Govt. State

Govt. Federal

Other ownership

Roads

19 Highway

Auto Tour Stops

Auto Tour Route

Primary

Secondary

Other road types

0 1.25 2.5 5 Miles

ALTERNATIVE B

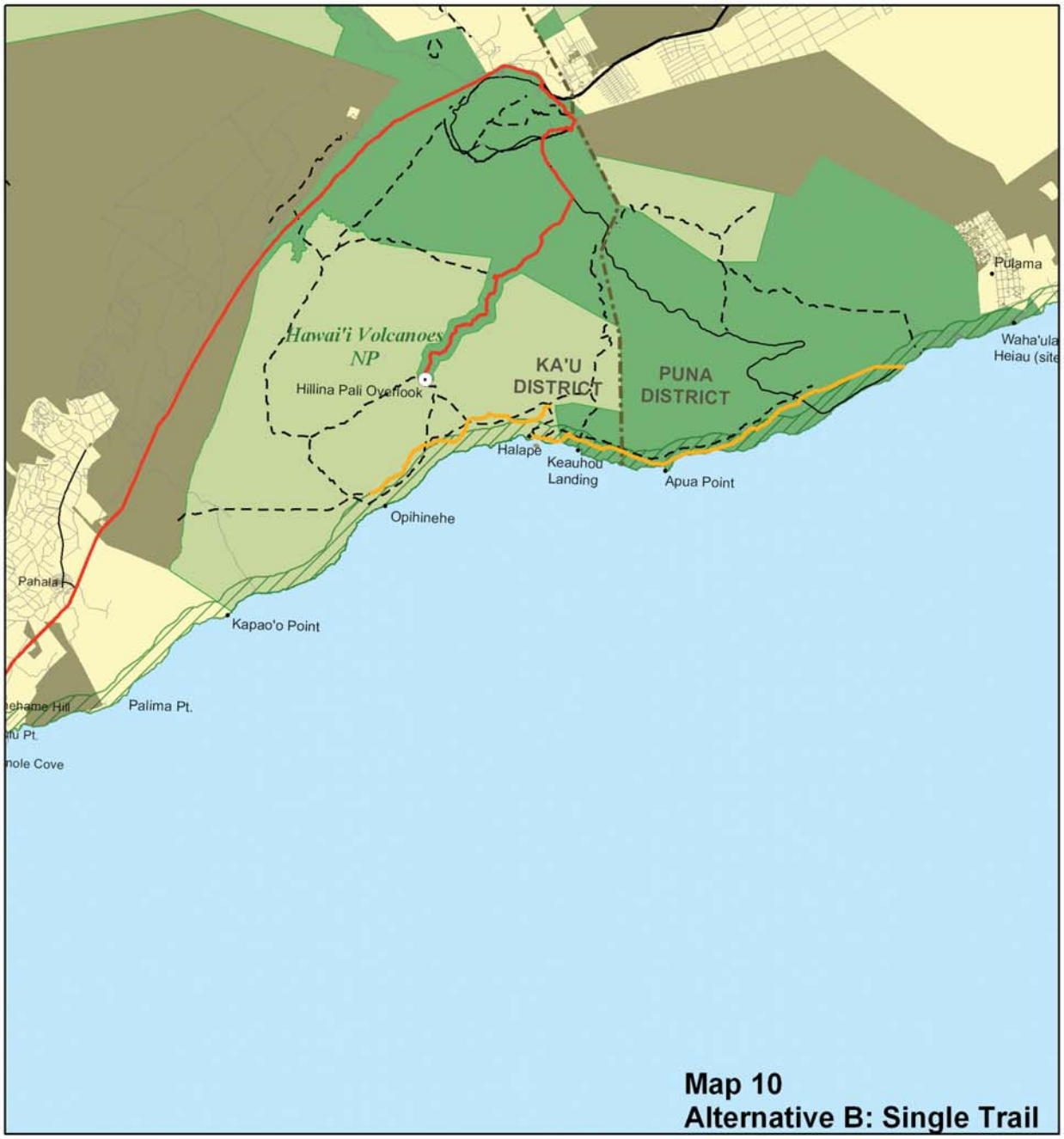
Kau District

(Manuka Bay to Palima Pt.)

Ala Kahakai National Historic Trail

Working Map 12/21/06

Note: This map is a planning tool. Many of the trail segments shown are proposed and not open to the public for any purpose. This map does not convey any rights to the public to use any of the trail segments shown; nor does it exempt any person from trespassing charges. For information on trail segments available for public use, contact Na Ala Hele or the Ala Kahakai NHT administrative office.



Ala Kahakai NHT Corridor
Parks
Wilderness
STATE DISTRICTS

Existing Trails
Ala Kahakai NHT (NPS Parks)
Hawai'i Volcanoes NP Trails

Land Ownership
DHHL
Govt. County
Govt. State
Govt. Federal
Other ownership

Roads
19 Highway
Auto Tour Stops
Auto Tour Route
Primary
Secondary
Other road types

0 1.25 2.5 5 Miles

ALTERNATIVE B
Ka'u and Puna Districts
(Palima Pt. to Hakuma Pt.)
Ala Kahakai National Historic Trail
Working Map 12/21/06

Note: This map is a planning tool. Many of the trail segments shown are proposed and not open to the public for any purpose. This map does not convey any rights to the public to use any of the trail segments shown; nor does it exempt any person from trespassing charges. For information on trail segments available for public use, contact Na Ala Hele or the Ala Kahakai NHT administrative office.

Alternative C: Ahupua‘a Trail System (Preferred Alternative)

Concept

In addition to the single trail concept of alternatives A and B, alternative C validates the existence and importance of multiple trail alignments in traditional land use and stewardship in Hawai‘i by using the authority of the National Trails System Act, as amended, for connecting and side trails[35] (Section 6 [16USC1245]). It reflects the public's vision, developed in the alternatives review process, for the administration and management of the trail. Thus, all ancient and historic trails lateral to the shoreline within the Ala Kahakai NHT corridor would be recognized as significant rather than recognizing only a single trail. These alignments include inland portions of the *ala loa* or other historic trails that run lateral to the shoreline and would be connected to ancient or historic *mauka-makai* trails that would have traditionally been part of the *ahupua‘a* system. These connections may provide opportunities for loop trail experiences. Alternative C reflects a Hawaiian concept of trails as a network of trails connecting places of importance to Native Hawaiian people.

These multiple alignments would occur on public lands only, unless a private landowner expressed an interest in recognizing more than a single linear Ala Kahakai NHT. Canoe landings that reflect the traditional use of canoes in long-distance travel would be included, as feasible. A continuous linear trail would be included in this alternative as in alternatives A and B. Initial focus would lie in those public lands containing multiple alignments, both lateral and *mauka-makai*.

Under alternative C, the NPS would not only administer but would consider managing those segments of trail owned by the state through the Highways Act of 1892, including multiple alignments. A viable, effective, and robust Ala Kahakai Trail Association is envisioned for alternative C, one that would function as a full partner with the NPS in community-based protection of cultural sites and landscape. It is envisioned that these sites and landscapes would be large enough to provide the setting for cultural conservation through the on-site practice and preservation of Hawaiian values. The maps for alternative C appear on pages 99-103.

Alternative C: Administration, Management, and Partnerships

Agency Roles

The National Park Service through the Ala Kahakai NHT office, as in alternative B, would provide overall administration, coordination, and oversight of the Ala Kahakai NHT as directed by Congress, with an emphasis on ensuring consistency of preservation efforts, trail management operations, development and maintenance standards, and conformance with applicable laws, regulations, and policies. In addition, the NPS would consider management of state-owned trail segments other than those in the state parks. The state owns only the right-of-way, generally about 10 to 30 feet, as described in documents, oral histories, archeological studies, land deeds, by direct observation and other sources. Adjacent areas desired to protect trail related resources are generally outside of state ownership and would have to be negotiated with the landowner to be included in the Ala Kahakai NHT.

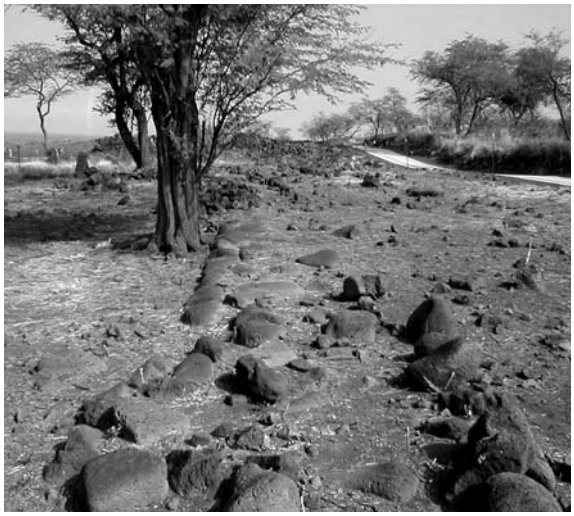
If a trail segment is identified by the state as state-owned and found appropriate for inclusion in the Ala Kahakai NHT, it could be transferred to the NPS for management under an agreement with the state; however, the NPS would not own the trail. These trail segments would then become federal

[35] Connecting or side trails may be established, designated and marked as components of a national historic trail on federal lands by the Secretary of the Interior. They may also be located across lands administered by state or local government agencies with their consent or on privately owned lands with the consent of landowners. Applications for designation of such trails are submitted to the Secretary of the Interior and do not have to be approved by Congress. (See Appendix A, National Trails System Act, § 6.)

components with similar protections as the national parks along the route. However, NPS management would encourage the local communities of the *ahupua'a* to take responsibility for the trail in cooperation with the NPS.

As opportunities arise, the NPS would assist in state review of records of title to determine the extent of trails within the Ala Kahakai NHT corridor, outside of state parks, owned by the state. Federal management of the state-owned trail segments would allow for more consistent management of the trail as a unified entity and enforcement of federal protection laws under 36 CFR-Parts 1-5. All relevant federal laws would apply to the trail right-of-way of these trail sections. State laws for resource protection would continue to apply to the Ala Kahakai NHT if more stringent than the federal laws.

For the portions of the trail not owned or managed by the county, state, or federal government, the NPS would encourage local governments and private entities to enter into agreements, easements, rights-of-way, and landownership for the protection and permanency of the portions of the trail outside of federal jurisdiction. Where other entities are not able to protect the trail right-of-way or resources and values, the NPS could acquire trail lands through dedications, donations, or purchase from willing sellers. Before considering land acquisition, the NPS would encourage agreements with landowners to recognize trail segments and resources as a part of the national trail while they maintain ownership.


Ancient Trail remnant, S. Kona, NPS photo

To achieve the objectives of this alternative, the NPS would enter into management agreements, partnership agreements, and other instruments as needed with government and non-governmental organizations in the implementation of this plan.

The NPS would authorize or undertake all research and cultural and natural resource management planning and monitoring for the trail and provide technical assistance and oversight review of local segment management plans, their updates and revisions, for compliance with NPS policies and standards.

The NPS, along with the Ala Kahakai Trail Association, would provide management planning, coordination, technical assistance and capacity building to landowners and trail management entities. They would work closely with the community management teams, other nonprofit associations, and other partners to develop a strategic plan to better secure implementation of this CMP.

As the center for trail administration, the Ala Kahakai NHT office would become the central repository for all information related to the administration of the Ala Kahakai NHT and would seek information from the four national parks and all partner agencies and stakeholders. The NPS would add data and metadata to its geographic information system (GIS) and provide maps to aid local managers to recognize, mark, and otherwise implement the trail and to help provide trail information for users. The GIS would aid the NPS, local managers and landowners, and others to evaluate development proposals along the trail route for their effects on trail viewplanes and other resources. The office would make these materials available upon request. When resource threats become known, information would be shared with all federal, state, and county

agencies, Native Hawaiian groups, and others involved in community-based management.

Under alternative C, Ala Kahakai NHT would partner with the four national parks to link their community involvement programs with community-based efforts of Ala Kahakai NHT management. The trail office would work with other Pacific area national parks to develop cross cultural community educational programs and interpretive materials on linking ocean and land trails with island cultures in the Pacific, provided that these programs are mutually beneficial and relevant to these park units.

The State of Hawaii would play a major role in the establishment of the trail. State Parks, the Nā Ala Hele Trails and Access Program, and other divisions within DLNR will be key partners with the NPS in implementing this CMP. Currently a draft memorandum of understanding (MOU) for the Ala Kahakai NHT between the NPS and the state and county administrations describes coordinated working relationships, shared resources, and support for community management of the trail and shoreline areas. Under alternative C, the MOU could be amended to permit the NPS to take less-than-fee interest in the Ala Kahakai NHT on state-owned segments and to define those rights the state will pass to the NPS for management of the trail. (See Appendix F for a draft MOU.)

The County of Hawaii would continue to enforce, as a condition of land use approvals, county and state laws requiring public access to and along the shoreline that may create potential Ala Kahakai NHT trail segments; encourage private landowners who have public access requirements as conditions of land use approval to include these areas in the NHT, where appropriate; review county-owned public access easements to and along the shoreline for potential incorporation in the NHT; and coordinate the identification of trail segments through county parks. County Planning would include the NPS in the mailing list for the Planning Commission to alert the NPS to possible development affecting the Ala Kahakai NHT.

The county has no provisions to assume the costs of improvements and maintenance of easements it requires through the land use approval process and, therefore, generally does not accept dedication of easements. Although the easement is recorded on the final subdivision map with the Bureau of Conveyances and subsequently noted on Tax Maps, often no entity is responsible to build or maintain it. In these cases, if the easement is eligible to be included in the Ala Kahakai NHT, the NPS would identify entities to construct the trail and manage and maintain the easement as part of the management agreement for the trail segment.

County Parks would manage segments of the Ala Kahakai NHT within the county parks. The NPS would encourage the county to use its Parks Partnership Program with non-profit organizations that want to manage the Ala Kahakai NHT within county parks. Also, through an overall agreement, the state and county would agree to manage their segments of trail consistent with this CMP. (See Appendix F for a draft MOU.)

Community Roles

Ala Kahakai Trail Association would work in close partnership with the Ala Kahakai NHT administration in the management of the trail with the goal of preserving a trail network and associated sites as places of cultural conservation. Under alternative C, the association would develop and implement a strategic approach to communications, membership, product development, marketing, and fund raising strategies for projects, project management, and staffing. If the capacity of the organization does not develop as anticipated, then the projects and programs proposed under alternative C may not be realized.

Together, the Ala Kahakai NHT office and the non-profit association would

- keep the vision of cultural conservation and community building through stewardship of the trail

- develop principles, policies and protocols to ensure authenticity and integrity through work with *kūpuna* (elders), descendants, those with deep ties to the *ahupua'a* and others in the community
- monitor progress and provide technical and cultural assistance to landowners and trail segment managers in the development and implementation of trail segment management plans
- establish partnerships and build capacity to develop curricula for education, culture, history, nature, science and trail management with a link to career paths and job opportunities for trail, associated resource management and visitor experiences
- ensure that the Hawaiian community benefits from contributions to the trail through development of the legal framework for the protection of cultural and intellectual properties, thus assuring that these assets remain with the community and the proceeds returned to trail management programs

The Ala Kahakai Trail Association would serve to unite the community and to build positive, broad-based local, national and international support for the shared vision and goals stated in the CMP.

Community Trail Segment Managers may be existing non-profit organizations whose mission, values and goals are consistent with this plan. Landowners, lessees, and managers would be encouraged to involve the local community in managing their segment of the trail. Ala Kahakai NHT and the Ala Kahakai Trail Association would work with public and private landowners, resort managers, schools, and other groups on innovative community involvement approaches and would help train and build capacity of these community managers.

The Ala Kahakai NHT trail office and the Ala Kahakai Trail Association would develop and maintain capacity to perform or obtain on-the-ground trail segment management in the event that the community manager is unable to continue management.

Non-governmental Organization Partners, such as hiking, sports, educational, residential community, and cultural organizations would be encouraged to partner with trail segment management organizations, and the Ala Kahakai Trail Association as part of community-based management.

Land trust organizations on the island of Hawai'i could play a critical role in preservation of open spaces that contain traditional or historic trails that could become a part of the Ala Kahakai NHT. These trusts include such groups as the Trust for Public Land, Nature Conservancy of Hawaii, Kona Land Trust, and the "kingdom trusts" of Kamahameha Schools, Queen Emma Foundation, and the Liliuokalani Trust. The acquisition of properties, purchases of conservation easements, or other arrangements could produce important results towards the goals of the Ala Kahakai NHT, as demonstrated by the recent protection of Honu'apo Fish Pond.

Alternative C: Resource Protection

High potential sites and segments

Trail marking would include unaltered or verified ancient and historic trails on or parallel to the shoreline, selected unaltered or verified ancient and historic *mauka-makai* trails on public lands or required easements, and historic canoe landing areas, as feasible. Sites that meet the criteria for high potential sites along these additional trail segments would also be eligible to be recognized as part of the Ala Kahakai NHT. Resource protections provided by national trail status would be extended to these trail sites and segments. Full federal protections would apply to the trail right-of-way for those trail segments that the NPS receives for management, in less than fee, from the state. Although these multiple alignments have not been inventoried, the types of resources added might include caves, *heiau*, habitation sites, shelters, petroglyphs, quarries, many traditional cultural properties, and *wahi pana*.

Trail Alignment

Under alternative C, ancient and historic trail segments parallel to the shoreline within the trail corridor and connecting *mauka-makai* trails within the trail corridor on public lands would be included. *Mauka-makai* trails crossing private lands but identified by Nā Ala Hele as state-owned could become part of the Ala Kahakai NHT. The adjacent landowner would be consulted regarding areas adjacent to the trail right-of-way that require protection of associated resources and other potential concerns. Shoreline lateral access trails that are required as a development permit condition by the county could also become a part of the Ala Kahakai NHT under this alternative. In addition, easements required through the land approval process often are recorded with the Board of Conveyances, but often no requirements for installation or maintenance exist. In these instances, the NPS would provide technical assistance and seek funding to help local communities manage and maintain these segments. The goal is to recreate a traditional system of trails to enhance the trail experience for Native Hawaiians, local residents, and other visitors and to support cultural conservation.

Protection Program

Preservation approaches described under "Actions Common to all Alternatives" would apply to alternative C. Protection of the fundamental resources and values associated with the Ala Kahakai NHT would extend not only to a single trail alignment as in alternative B, but also to those multiple lateral trail alignments and *mauka-makai* trails deemed suitable to be federally protected components or to be included in the Ala Kahakai NHT. The goal of the trail protection program in alternative C is the preservation of cultural features and landscapes that sustain the practice of Hawaiian values. Protection of a system of trails on public lands within an *ahupua'a* context would provide the opportunity for Native Hawaiians to pursue traditional cultural, religious, and natural

Jeep Trail, N. Kohala, NPS photo

resource stewardship activities which may include sustainable gathering. The *ahupua'a* trail system approach would allow on public lands an inventory process based on landscapes or ecosystems rather than on the specific trail right-of-way and immediately adjacent resources.

Alternative C also includes preservation and, as needed, stabilization of traditional and historic features including but not limited to *ahupua'a* boundary cairns, *heiau* (shrines), *hauhale* (dwellings), *loko'ia* (fishponds), *mala* (planting area), *hale wa'a* (canoe sheds), canoe landings, and historic structures, as appropriate.

The purpose of this program is to support cultural conservation efforts. It is designed to

- enhance the trail's relationship to the Native Hawaiian culture, descendants of those whose ancestors were the stewards of the trail's cultural and natural landscapes, and other with kinship connections to the land
- provide the setting for all to learn from the descendants and other practitioners about traditional stewardship practices, which includes sustainable gathering, and provide all with an opportunity to become involved in stewardship in a real and meaningful way
- provide a setting for the integration of traditional knowledge and stewardship practices with contemporary science

- provide for increased learning, skill building, livelihood and career track development
- offer a platform to launch culturally appropriate non-profit entrepreneurial or concession opportunities related to education, product and services development, cultural heritage and recreational activities for residents and visitors. These activities could produce revenue to fund trail resource management activities aimed at cultural and natural resource conservation or generate local employment
- promote a greater sense of belonging, understanding, respect and reverence thus enhancing enforcement efforts through prevention, self-regulation and the presence of active managers
- provide for a deeper and more meaningful trail user experience that preserves the dignity, beliefs, values and lifestyles of the Hawaiian culture
- provide greater reason and purpose to environmental protection and restoration efforts
- create a model of partnership, stewardship, viability, and education

The Ala Kahakai NHT office and its key partners would work to inventory and analyze cultural and natural resources along trail segments eligible to be part of the national trail, both lateral and *mauka-makai*, to determine appropriate preservation techniques and the potential to accommodate trail use and interpretation. Emphasis in this alternative would be placed on those areas on public lands in which a traditional trail system is apparent, containing both lateral and *mauka-makai* trails.

Resource protection would be integrated into interpretive messages to provide an incentive for the trail user to protect precious resources.

Alternative C: Trail User Experience

Trail experience would be focused on understanding and appreciating Hawaiian values and cultural practice as found along a traditional system of trails. The experience would be comprised of activities and programs emphasizing the trail's significance and history and the use of trail systems in Hawai'i Island for access to subsistence resources and *wahi pana*.

Traditional users or practitioners

Trail management planning would seek to avoid or mitigate negative impacts on traditional cultural practices and facilitate use by traditional practitioners. The community planning teams will seek input and advice from traditional gathers and other practitioners on management planning to assure resource protection and sustainability, access timing and other protocols.

Recreation

This alternative may provide the opportunity for loop trail experiences on the Ala Kahakai NHT, increasing the time spent in one *ahupua'a* and enhancing the opportunity to understand the range of traditional Hawaiian land values. Emphasis would be placed on the particular area's history, stewardship opportunities, and cultural experiences. Also possible would be in-and-out excursions following a linear trail. As sufficient continuous trail is managed and marked, strategically placed campsites and water sources would accommodate long-distance hiking. All trail users would be informed through written and interpretive materials, signs, and exhibits about appropriate behavior practices and protocols to minimize negative impacts to cultural and natural resources within the trail corridor and to maximize safety to the trail user.

The auto-tour route using existing public roadways and access roads would be marked, and interpreted at appropriate and significant historic sites. Loop trails could increase the potential for auto route users to have a trail experience.

Ala Kahakai NHT administration would encourage special cultural events sponsored by the Ala Kahakai Trail Association or local community groups and focused on trail-related resource protection, awareness, and involvement. The official Ala Kahakai NHT logo could be used in association with such events as predetermined in a partnership agreement.

Interpretation and Education

The Ala Kahakai NHT office would launch a collaborative effort with trail segment management entities, Native Hawaiian families and groups, state and county agencies, private landowners, and trail support groups to increase resident and visitor understanding of the significance of the Ala Kahakai NHT as a trail system with associated resources and values. Integrated interpretive and educational programming would be tied to on-the-ground resources, *mo'olelo* (stories), and *wahi pana* (storied and sacred places) of each trail segment. Trail users would be able to participate in coordinated programs that bring themed interpretation and education together with trail resources and landscapes along the NHT at federal protection components, recognized sites, marked trail segments, and interpretive facilities. Partnerships within the community management system would increase the availability and number of options for trail-related facilities, media, and interpretive and education programs.

Although all interpretive themes described in chapter 1 would be incorporated in trail interpretation, the emphasis in alternative C would be on the topics of connections to the past, expression of a unique culture, stewardship, and the environment. Use of a wide range of media, to include oral histories, would be encouraged to engage trail users and stimulate interest in the Ala Kahakai NHT, its history, and its part in the system of Hawaiian trails. Interpretive media would be distributed at the four existing national parks within the corridor and at trail sites and segments throughout the corridor where appropriate.

A Comprehensive Interpretive Plan (CIP)

The CIP would be a priority of the interpretive program. It consists of three separate components. The Long-Range Interpretive Plan (LRIP), the centerpiece of the CIP, outlines the vision and goals for the interpretive program for several years and provides the interpretive guide for the trail. The LRIP relies on input and review from stakeholders concerned with the trail. The non-profit support organization would play a key role in developing the LRIP. Annual Implementation Plans outline the measurable actions taken yearly to implement the LRIP. The inclusion of annual plans in the CIP allows the LRIP to be dynamic and flexible enough to accommodate changing times and needs along the trail. Finally, the CIP includes an Interpretive Database, an inventory of legislative history, trail plans, visitor surveys, and interpretive media as it is developed for the trail.

Interpretive themes stated in chapter 1 that illustrate the significance and meaning of the Ala Kahakai NHT would serve as a foundation for developing this coordinated interpretive and educational plan. These themes provide the framework for development of any trail interpretation before completion of the CIP.

Interpretive Media. Media would be recommended in the LRIP for appropriate locations—national, state, and county parks, resorts, and other locations—to promote resource stewardship and support trail user safety, understanding and awareness of the need to preserve cultural and natural resources and the Hawaiian heritage embodied in the trail and its resources. Examples of media types that could be used are publications (including brochures, reports, newsletters, and a typical NPS map and guide), electronic media (including websites, radio broadcasts, cell phone downloads, CD rentals, MP3/ipod downloads), wayside exhibits, audiovisual media, traveling exhibits, and indoor exhibits associated with existing museums and visitor centers. Media and interpretation provided by others would be reviewed by the NPS. Written

media should be in English, Hawaiian as feasible, and in the languages of the most numerous visitor groups. Appreciation and protection of the resources depends upon clear communication to visitors.

Until the LRIP is completed, the following three types of media would be a priority for guiding trail users and visitors in the interim.

Publications. Administration and partners could develop a newsletter or other publication. These would provide an overview of the all the trail's interpretive themes. Administration would develop an initial official map and guide to provide overall orientation and information about the significance and resources of the Ala Kahakai NHT.

Website. The National Park Service website at <http://www.nps.gov/alka> would continue to provide updated information about the trail, certification of sites and segments, and discussions about trail-related issues. Specific items available to visitors to the website include management documents, maps of certified segments, information on certified sites, the auto tour route, and special events related the Ala Kahakai NHT.

Wayside exhibits. Although much better as part of a planned system, development and installation of a few wayside exhibits may become possible before the CIP is completed. Administration could support the installation of a few interpretive wayside exhibits at appropriate places on the Ala Kahakai NHT as long as an overall strategy is in place to promote the development of a consistent wayside exhibit system to blend with existing signs. Generally, wayside exhibits would be used in the more urban, developed areas rather than in remote trail locations. In more remote areas, a system of smaller signs that blend interpretation, resource protection, and safety could be placed at key features. The use of standardized exhibit design (following NPS wayside exhibit guidelines and standards) would reflect the essence of Hawaiian culture and would promote the integration of interpretive messages offered along the route. Care would be taken to ensure that waysides do not invite use of outlying cultural and natural resources without protection from vandalism and other adverse impacts.

Educational Programs

Programs would promote a hands-on application, understanding, and appreciation of conservation values and ethics. They would provide a setting where people can learn from *kūpuna* or other traditional practitioners and share that knowledge with others. Opportunities would be available for communities to engage in an array of natural and cultural resource management activities as part of a continuum from early education to higher education and community or adult education programs. The trail would become an outdoor classroom, providing a land-based setting in which to learn school curriculum. These educational experiences along the Ala Kahakai NHT could serve as the basis for the creation of career and employment opportunities in the fields of culture, environment and sustainable economic development in which cultural conservation, building healthy communities, and environmental restoration are the goals.

Outreach presentations at local schools and civic organizations by qualified historians or others with accurate knowledge of Hawaiian culture, the role trails play in it, and the *ala loa* itself, would also be provided. Oral history would be emphasized. A school curriculum based on all of the trail's themes meeting the state of Hawaii's Department of Education's teaching standards and guidelines would be developed. The Ala Kahakai NHT website would feature these curriculum materials as they are developed.

Geotourism[36]

Given the broader interpretive goals of alternative C, a broader approach to tourism called "geotourism" is recommended.

Geotourism is defined as tourism that sustains or enhances the geographical character of a place—its environment, culture, aesthetics, heritage and well-being of its residents. The geotourism approach is all-inclusive, focusing not only on the environment but also on the diversity of the cultural, historic and scenic assets of the trail corridor. It encourages residents and visitors to get involved rather that remain as spectators. It encourages local small businesses and civic groups to build partnerships to promote and provide a distinctive, honest and authentic visitor experience and market their locales effectively and help community-based businesses to develop approaches to tourism that build on the area's nature, history and culture including food and drink, artisanry, performance arts, and so forth. Geotourism:

- encourages businesses to sustain natural habitats, heritage sites, aesthetic appeal, and local culture
- prevents degradation by keeping volumes of tourists within maximum acceptable limits
- seeks business models that can operate profitably within those limits

As applied to this plan, the Ala Kahakai NHT and its partners will work on initiatives to build local capacity for community-based economic development and revenue generating activities that incorporate geotourism principles.

Trail Identification: Marker, and Signs

Managed segments of a linear trail, parallel lateral trails, and *mauka-makai* trails would be marked. Efforts would be made to use the marker to guide users of the trail but not to clutter the landscape unnecessarily. In areas, such as wilderness areas, in which wayfinding is appropriate, low key substitutes for the markers might be developed to indicate the trail route. The role of partners in achieving the goals of the Ala Kahakai NHT could be recognized with signs at trailhead areas. At trailheads of segments of trail incorporated into the Ala Kahakai NHT, signs would be installed that identify permitted trail uses, directions to relevant public areas, information on safety, and protection of trail users and adjacent private property. Trail signs should be in English and Hawaiian, as feasible. For place names and site identification, the Hawaiian would appear first or at the top of a sign with the English translation underneath. Informational signs such as restroom locations, mileage, safety messages, property delineations, and so forth would be in English, Hawaiian, and other common visitor languages, as feasible and appropriate.

Alternative C: Facility Development

Trail administration would encourage the development of facilities that would address the health and safety of visitors to sites and trail segments that are included in the Ala Kahakai NHT. Appropriate visitor use facilities for the auto route include wayside exhibits, signs and markers, access roads, trailhead parking areas, and comfort stations, as necessary. The level of local interest and support would help determine the extent and scope of support facilities. Facility development should not impact archeological, historical, or natural resources. Any development should be environmentally and aesthetically compatible with trail resources.

The NPS would encourage development of trailheads and staging areas, as needed, for hikers to expedite both long distance travel and day use. Supportive development for trail users could include wayside exhibits, signs and markers, emergency contact sites and procedures for back country and wilderness use, potable water

[36] Information on geotourism is taken from the National Geographic Center for Sustainable Destinations at http://www.nationalgeographic.com/travel/sustainable/about_geotourism.html

sources, campsites with composting toilets and shade shelters, and stiles or gates so that fence lines can be crossed without releasing livestock. At trailheads and parking areas, orientation signs and trail maps would be needed.

To protect visual resources, trail administration would develop design guidelines for trail and facility development for length of the trail. One source of guidelines is Minerbi (2004, p. 17) which presents a methodology for identifying scenic resources in the coastal zone. It accounts for landscape and topographic features, human perception, observation points, and objects of the observation that can be used to identify significant scenic areas along the Ala Kahakai NHT route, where scenery changes occur, and where the aesthetic experience (always connected with the *mo'olelo* of the place) is enhanced.

Each trail segment to be incorporated into the Ala Kahakai NHT would receive site-specific planning that would locate improvements in a manner to least affect the area's visual character and views. Every attempt would be made to preserve views to the sea. Signs would be kept to the minimum required to inform trail users of safety, private property rights, and resource protection issues and would be designed to be appropriate to the area.

An interpretive exhibit plan for the entire trail would be developed and wayside exhibits and signs would be installed along the trail only at those sites that require interpretation for user safety, understanding, and enjoyment. *Mauka makai* trails and canoe landings with the Ala Kahakai NHT could be marked and interpreted as appropriate.

Any development outside of federal trail components would be funded by state or local governments or private groups, although the NPS may provide seed money, cost sharing incentives to private or non-federal entities, or technical assistance for planning, design, and legal and policy compliance. Cost share incentives could include, among others, design, construction, repair, and rehabilitation of historic facilities or non-historic facilities to serve as interpretive sites, visitor centers, partnership hubs, cultural and natural resource protection or restoration, and data collection on public and private properties. The NPS would provide interpretive media, where appropriate, and assistance in helping to obtain funding for needed development, including the solicitation of donations and grants.

Alternative C: Costs

Completing the trail will be incremental, based on available federal funding, the degree of state and county participation, support of local organizations and individuals, and the fundraising capacity of the Ala Kahakai Trail Association. No segment of trail will be included in the Ala Kahakai NHT until an appropriate and sustainable management plan is in place. The implementation of alternative C will depend not only on future NPS funding and service-wide priorities, but also on partnership funds, time, and effort. The approval of alternative C would not guarantee that funding and staffing needed to implement the plan would be forthcoming. Full implementation of alternative C, should it be selected as the CMP, could be many years in the future.

This cost estimate is based on completing, by the end of the approximately 15-year life of this CMP, 88 miles of trail: the 73-mile linear section of trail from Kawaihae (Pu'ukoholā Heiau NHS) through Pu'uhonua o Hōnaunau NHP and 15 miles of *mauka-makai* trails on federal or state lands. This area includes three national parks, sections of the state Ala Kahakai trail, several state parks, a county park, seven miles of Aliÿi Drive, resorts, and other private lands. It is anticipated that trail staff will be able to respond to needs in other areas of the trail corridor and protect them as possible even if they cannot be managed immediately for public use. Although the Ala Kahakai NHT is authorized to acquire land from willing sellers, no land acquisition through purchase is anticipated, and no land acquisition costs are included. All costs are in 2007 dollars.

Operations

Alternative C calls for a core of five full-time staff to carry out the operational responsibility of the trail. The positions of interpretive specialist and volunteer coordinator/trainer would be added to the two currently funded positions as NPS funds allow. A law enforcement/interpretive ranger would be added in the event that the NPS takes over management of a significant number of state-owned trail segments. Other needed disciplines (administrative assistant, GIS specialist, trail management/maintenance coordinator, archeologist, anthropologist/ethnographer, cultural landscape specialist, ecologist, and trail crew) would be shared with other federal or state parks or provided with help from the Ala Kahakai Trail Association or other partners. It is also possible that core staff may have other skills needed such as GIS capability, archeology, anthropology, or ecology. Staffing goals are shown on table 9.

Table 9: Alternative C Staffing Goals

Core Staff
Superintendent (funded)
Community Planner (funded)
Interpretive Specialist
Volunteer Coordinator/ Trainer
Law Enforcement/ Interpretive Ranger
Other needed disciplines
Administrative Assistant
GIS Specialist
Trail Management Coordinator
Archeologist
Anthropologist/Ethnographer
Cultural Landscape Specialist
Ecologist
Trail Maintenance Crew(2)

As shown on table 10, operational costs include staff salary and benefits, travel to sites and to assist support groups along the route; technical assistance; trail markers, brochure production, newsletter, publications, and interpretive media; and partner support. For cost estimating, the other needed disciplines are estimated at an average of 20% of a full-time employee although each discipline may be needed for longer and others shorter periods of time. Costs are based on FY 2007 dollars.

Table 10: Alternative C Annual Operations Costs

Item	Estimated Range of Costs
Salaries And Benefits (Core Staff)	$419,000 – 513,000
Salaries And Benefits (Shared, part-time, or seasonal staff)	$121,000 – 148,000
Office: Space Rental, Equipment, Supplies, Phones, Etc.	$64,000 – 88,000
Travel (Including Cars, Interisland, and Mainland Travel)	$28,000 – 38,000
Brochures, Interpretive Materials, Signs	$30,000 – 40,000
Support to Partners	$40,000 – 60,000
Total Annual Operation Costs	**$702,000 – 887,000**

One-Time Costs

Studies

Trail preservation, management, and interpretation will require basic information provided by overview and assessment studies comprised of literature reviews of existing information and other research about the trail corridor including environmental impact statements and other studies for projects along the coast, photographs and images, maps, oral history interviews, and other information available in libraries and archives. Costs for studies conducted over the 15-year period are shown on table 11.

Projects

One-time project costs include activities such as trail segment reconnaissance, cultural and natural resource reports, and management planning; boundary surveys; trail construction and restoration; trailhead and campsite development; and special projects such as video production and mapping.

Table 11: Alternative C One-time Costs

STUDIES OF THE ENTIRE TRAIL ROUTE	ESTIMATED RANGE OF COSTS
Archeological Overview and Assessment	$60,000 – 120,000
Ethnographic Overview and Assessment	$75,000 – 100,000
Historical Overview and Assessment	$50,000 – 75,000
Natural Resource Overview and Assessment	$75,000 – 130,000
Facility and Infrastructure Study (roads, water, emergency services, etc)	$50,000 – 60,000
Subtotal: Studies over 15 Years	**$310,000 – 485,000**
PROJECTS	
Trail Segment Reconnaissance	$140,000 – 160,000
Trail Segment Analysis and Planning (incl. resource inventories and assessments)	$920,000 – 1,490,000
Metes And Bounds Surveys	$121,000 – 495,000
Trail Restoration/Construction	$675,000 – 900,000
Trailhead Improvement (4)	$710,000 – 1,020,000
Campsite Development (2)	$84,000 – 168,000
Facility Planning (25 % Of Construction)	$363,800 – 573,000
Subtotal: Total Project Costs over 15 Years	**$2,848,000 – 4,530,000**
Total One -Time Costs (Studies + Projects)	**$3,158,000 - $5,015,000**
Estimated Federal Share	$1,263,200 - $2,507,500

Alternative C contains the potential for the NPS to consider managing trail segments owned by the state through the 1892 Highways Act and managed by the Nā Ala Hele Trails and Access program. Within the 73-mile sections of trail, Nā Ala Hele owns 21 miles. Should the NPS take over on-the-ground management of these trail segments, they would become federal management entities. It is assumed for cost estimating purposes that funding sources beyond NPS base funding would be in place to help with the protection, interpretation, and management of these segments before the NPS would accept responsibility for them.

Any development outside of federal trail components would be funded by state or local governments or private groups, although the NPS may provide seed money, cost sharing incentives to private or non-federal entities, or technical assistance for planning, design, and legal and policy compliance. Cost share incentives could include, among others, design, construction, repair, and rehabilitation of historic facilities or non-historic facilities to serve as interpretive sites, visitor centers, partnership hubs, cultural and natural resource protection or restoration, and data collection on public and private properties. The NPS would provide interpretive media, where appropriate, and assistance in helping to obtain funding for needed development, including the solicitation of donations and grants.

Table 11 estimates the funds needed to complete the 73-mile portion of the Ala Kahakai NHT along with 13 miles of *mauka-makai* trails within the 15-year period of this plan in FY 2006

dollars. It is assumed that the federal share of one-time costs would range from 40% to no more than 50%.[37]

Alternative C: Funding

Administration

Funding for the annual staff costs and some other operations costs would be provided by the base operating budget of the NPS. Ala Kahakai NHT administration would seek increases in its base funding to meet some of the needs outlined in this alternative. However, alternative C places major emphasis on partnerships, civic engagement, and *ahupua'a* management opportunities to address issues and meet administrative and management needs. Additional avenues for funding and other resources for plan implementation and annual operating costs would be explored.

It is anticipated that the Ala Kahakai Trail Association and other partners, in cooperation with the NPS, would be able to raise supplementary funds necessary to fulfill the goals of this plan. If this anticipation is not met, the projects and programs projected under alternative B may be only partially realized.

Funds for brochures, other interpretive media, signs, and other needs may be available for mutually beneficial partnership projects through the NPS Challenge Cost Share Program, an appropriation from the U.S. Congress that may not be available every year. The competitive program requires the partner to provide a minimum 50% matching contribution in the form of funds, equipment, in-kind labor, or supplies from non-federal sources. Partners may include hiking clubs, school groups, individuals, private landowners, non-profit organizations, charitable groups, or state and county government agencies.

Technical Assistance

Funds for major technical assistance projects (large–scale planning, design, or preservation) beyond administrative staff capabilities would be requested from the NPS long distance trails program, the NPS Rivers, Trails, and Conservation Assistance Program, the NPS cultural resource preservation program, or other sources.

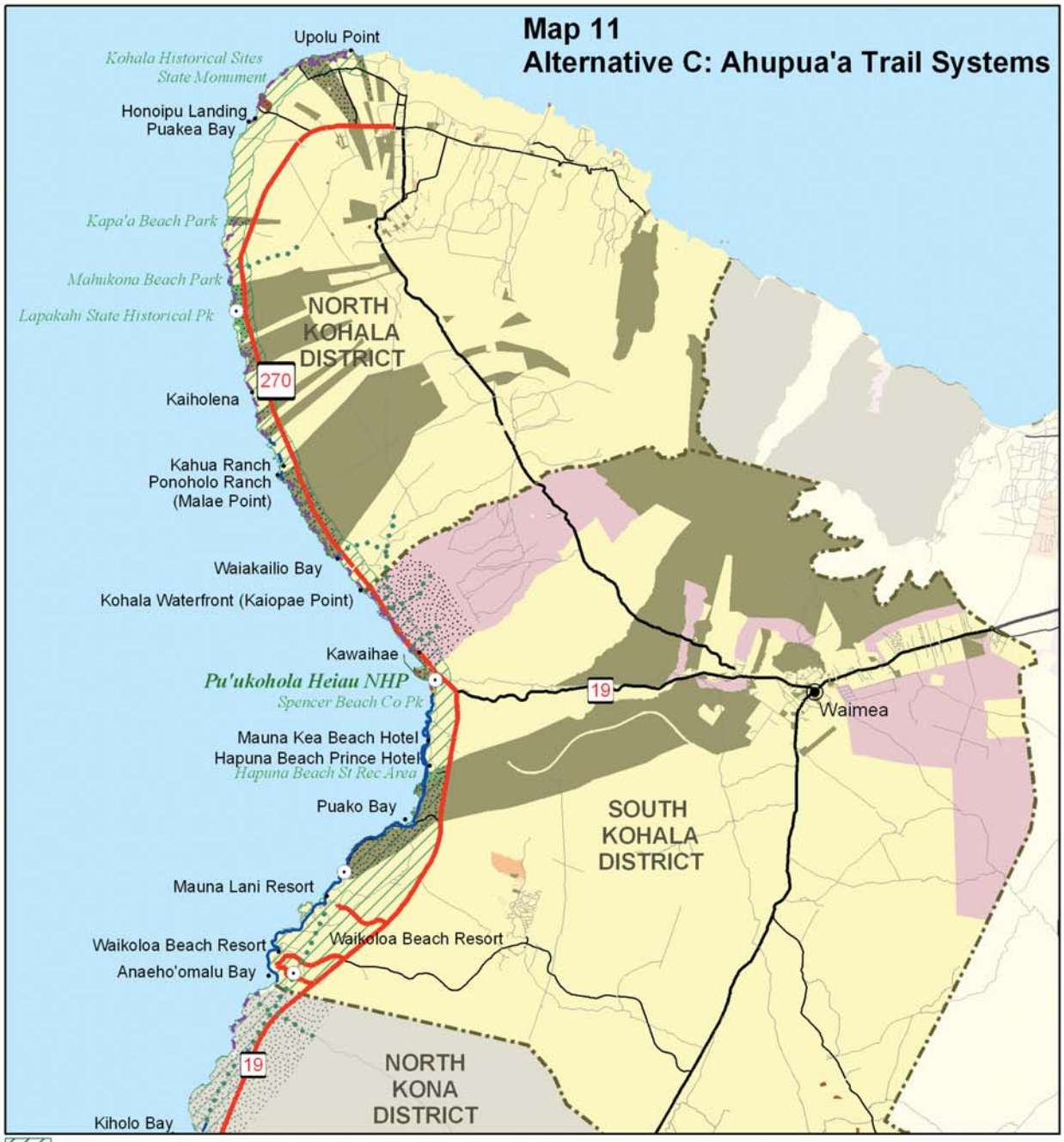
Development/Preservation

Funds to develop recreational facilities on nonfederal lands would be sought from state or local governments or private groups or individuals, sponsorships, or federal or state highway and enhancement programs either directly or in partnerships. Funds may be used for contracted services.

NPS resource preservation funds would be sought to fund cooperative preservation efforts for federal components or established sites and segments. Aid from state and county preservation fund sources and programs as well as funds from donations, grants, and other sources would also be sought. Funds would be used to supplement existing data about high potential sites and to stabilize or otherwise conduct physical activities to conserve resources.

Interpretive Sign, Kūkiʻo, N. Kona, NPS photo

[37] As with all national trails, federal project funds are limited and a variety of partners are expected to help with planning, constructing, managing, monitoring, and interpreting the trail with funds and in-kind services. The *Feasibility Study* projected a 50% nonfederal match for one-time costs. Alternative C estimates that the federal share on the low estimate (anticipating greater partner involvement and fundraising) would be approximately 40% and on the high estimate, 50%. The approval of alternative C would not guarantee that funding and staffing needed to implement the plan would be forthcoming. Full implementation of alternative C could be many years in the future. These cost estimates suggest the range of federal funds in relation to partnership funds—state, county, nonprofit organizations, private entities, and individuals — required to open segments of the trail to the public.



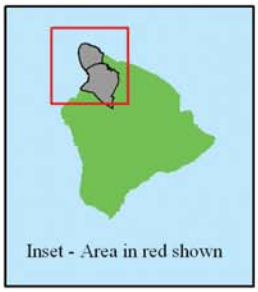
Ala Kahakai NHT Corridor
Potential Area of Consideration
Parks
STATE DISTRICTS

Existing Trails
Ala Kahakai NHT (NPS Parks)
Na Ala Hele Jurisdiction

Potential Trails
Possible Connector Trail, if State Owned (1978 Inventory)
Na Ala Hele Inventory
Possible Lateral Trail (1978 Inventory)

Land Ownership
DHHL
Govt. County
Govt. State
Govt. Federal
Other ownership

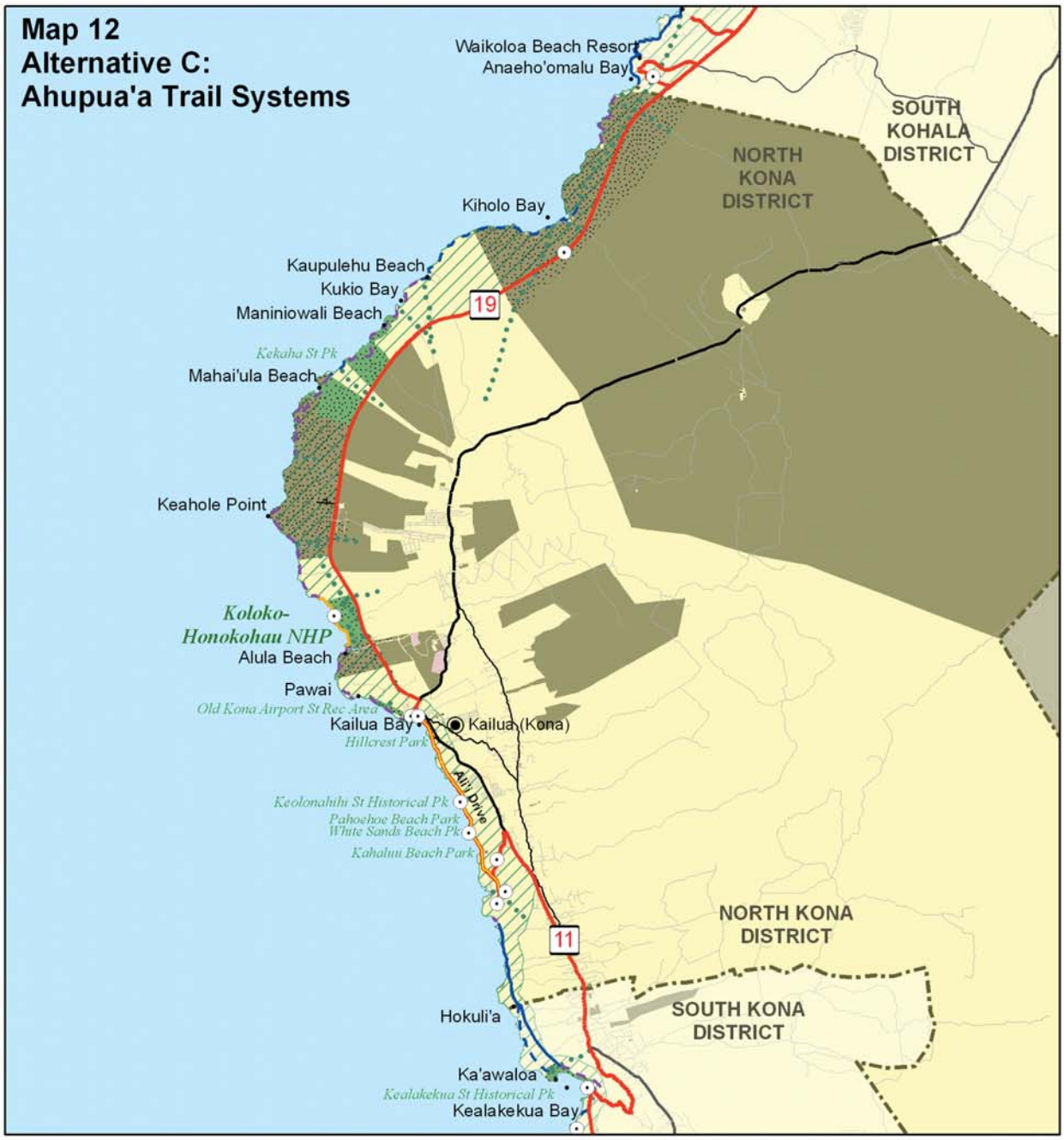
Roads
19 Highway
Auto Tour Stops
Auto Tour Route
Primary
Secondary
Other road types



0 1.25 2.5 5 Miles

ALTERNATIVE C
North Kohala and South Kohala Districts
Ala Kahakai National Historic Trail
Working Map 12/21/06

Note: This map is a planning tool. Many of the trail segments shown are proposed and not open to the public for any purpose. This map does not convey any rights to the public to use any of the trail segments shown; nor does it exempt any person from trespassing charges. For information on trail segments available for public use, contact Na Ala Hele or the Ala Kahakai NHT administrative office.



Ala Kahakai NHT Corridor
Potential Area of Consideration
Parks
STATE DISTRICTS

Existing Trails
Ala Kahakai NHT (NPS Parks)
Ali'i Drive
Na Ala Hele Jurisdiction

Potential Trails
Possible Connector Trail, if State Owned (1978 Inventory)
Na Ala Hele Inventory
Possible Lateral Trail (1978 Inventory)

Land Ownership
DHHL
Govt. County
Govt. State
Govt. Federal
Other ownership

Roads
19 Highway
Auto Tour Stops
Auto Tour Route
Primary
Secondary
Other road types

0 1 2 4 Miles

ALTERNATIVE C
North Kona District
Ala Kahakai National Historic Trail
Working Map 12/21/06

Note: This map is a planning tool. Many of the trail segments shown are proposed and not open to the public for any purpose. This map does not convey any rights to the public to use any of the trail segments shown; nor does it exempt any person from trespassing charges. For information on trail segments available for public use, contact Na Ala Hele or the Ala Kahakai NHT administrative office.

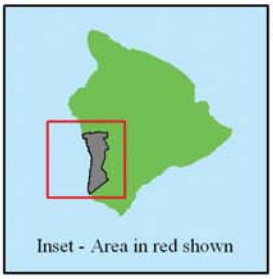
Ala Kahakai NHT Corridor
Potential Area of Consideration
Parks
STATE DISTRICTS

Existing Trails
Ala Kahakai NHT (NPS Parks)
Na Ala Hele Jurisdiction

Potential Trails
Possible Connector Trail, if State Owned (1978 Inventory)
Na Ala Hele Inventory
Possible Lateral Trail (1978 Inventory)

Land Ownership
DHHL
Govt. County
Govt. State
Govt. Federal
Other ownership

Roads
19 Highway
Auto Tour Stops
Auto Tour Route
Primary
Secondary
Other road types



0 1.25 2.5 5 Miles

ALTERNATIVE C
South Kona District
Ala Kahakai National Historic Trail
Working Map 12/21/06

Note: This map is a planning tool. Many of the trail segments shown are proposed and not open to the public for any purpose. This map does not convey any rights to the public to use any of the trail segments shown; nor does it exempt any person from trespassing charges. For information on trail segments available for public use, contact Na Ala Hele or the Ala Kahakai NHT administrative office.

Map 14
Alternative C: Ahupua'a Trail Systems

Ala Kahakai NHT Corridor
Potential Area of Consideration
Parks
STATE DISTRICTS

Potential Trails
Possible Connector Trail, if State Owned (1978 Inventory)
Na Ala Hele Inventory
Possible Lateral Trail (1978 Inventory)

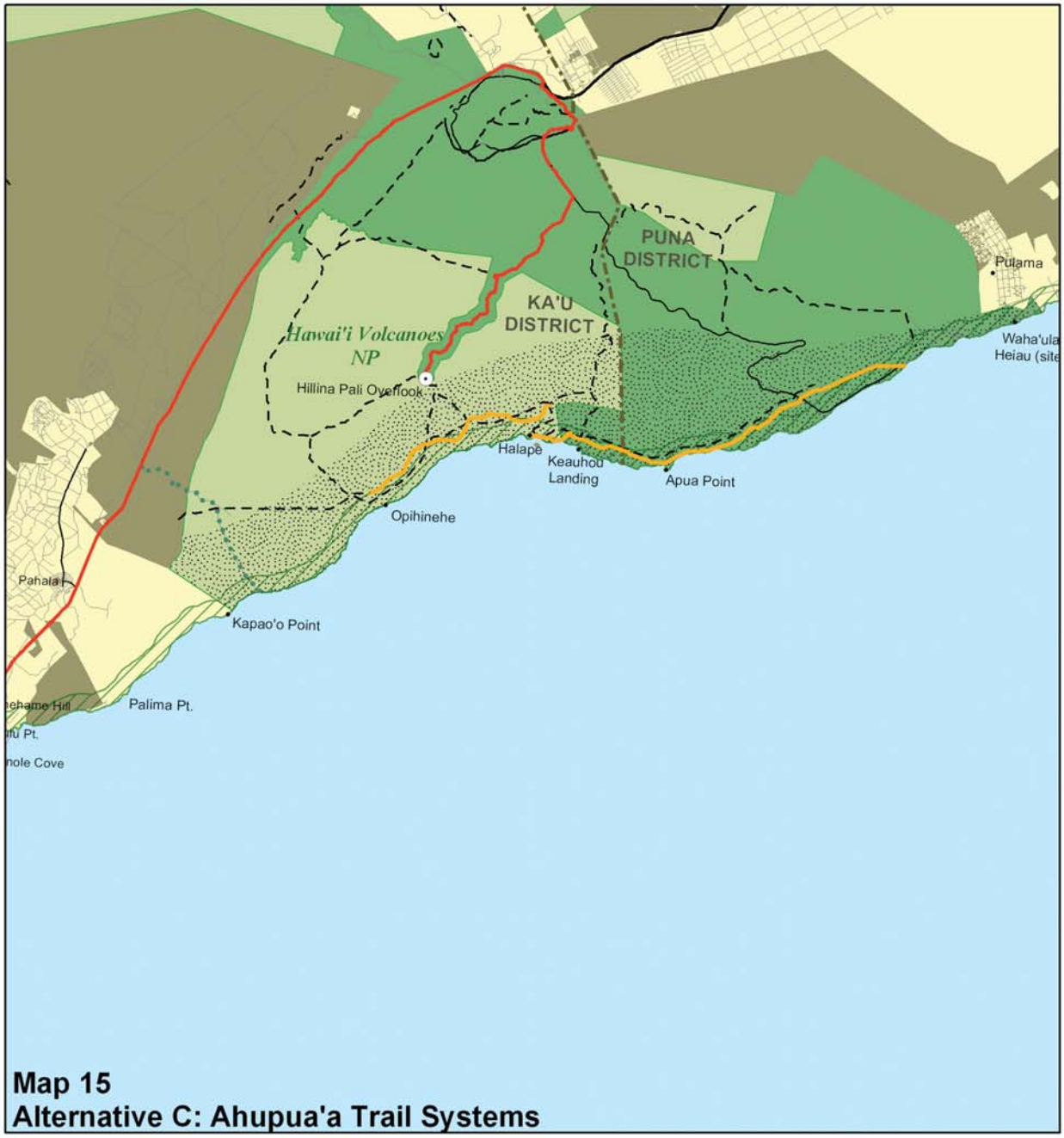
Land Ownership
DHHL
Govt. County
Govt. State
Govt. Federal
Other ownership

Roads
19 Highway
Auto Tour Stops
Auto Tour Route
Primary
Secondary
Other road types

0 1.25 2.5 5 Miles

ALTERNATIVE C
Kau District
(Manuka Bay to Palima Pt.)
Ala Kahakai National Historic Trail
Working Map 12/21/06

Note: This map is a planning tool. Many of the trail segments shown are proposed and not open to the public for any purpose. This map does not convey any rights to the public to use any of the trail segments shown; nor does it exempt any person from trespassing charges. For information on trail segments available for public use, contact Na Ala Hele or the Ala Kahakai NHT administrative office.



Map 15
Alternative C: Ahupua'a Trail Systems

Ala Kahakai NHT Corridor
Potential Area of Consideration
Parks
Wilderness
STATE DISTRICTS

Existing Trails
Ala Kahakai NHT(NPS Parks)
Hawai'i Volcanoes NP Trails

Potential Trails
Possible Connector Trail, if State Owned (1978 Inventory)

Land Ownership
DHHL
Govt. County
Govt. State
Govt. Federal
Other ownership

Roads
19 Highway
Auto Tour Stops
Auto Tour Route
Primary
Secondary
Other road types

0 1.25 2.5 5 Miles

ALTERNATIVE C
Ka'u and Puna Districts
(Palima Pt. to Hakuma Pt.)
Ala Kahakai National Historic Trail
Working Map 12/21/06

Note: This map is a planning tool. Many of the trail segments shown are proposed and not open to the public for any purpose. This map does not convey any rights to the public to use any of the trail segments shown; nor does it exempt any person from trespassing charges. For information on trail segments available for public use, contact Na Ala Hele or the Ala Kahakai NHT administrative office.

Alternatives Considered But Eliminated From Detailed Study

A proposed alternative D focused on recognition of only ancient and historic trail segments with no connector trails built to create a continuous trail. This alternative would preserve existing traditional trail segments for public use. Alternative D also included recognition of parallel and *mauka-makai* trails, and the interpretation of canoe routes possessing historic significance. This alternative had been considered and rejected in the *Feasibility Study*, but staff thought it important to raise it for public consideration again. There was little public support for this alternative. Most respondents noted that historic segments are the place to start to develop a continuous trail.

Another alternative considered through the course of the draft management alternatives review meetings, focused on public lands. This alternative placed a higher priority on public lands for recognition as a means to recognize trail segments, improve facilities, and expand resource protection in areas currently managed by the state of Hawaii and Hawaii County. This alternative received little support from the public as a stand-alone alternative during the draft management alternatives review meetings. This alternative is incorporated into alternative B and C as the first priority for trail recognition.

A third alternative considered through the course of the draft management alternatives review meetings focused public access on the Ala Kahakai NHT in the areas between Kawaihae and Hoʻokena only, which is less than 50 percent of the authorized trail. This was eliminated as a stand-alone alternative, as it fails to provide resource protection for the entirety of the trail route. However, the main theme of the concept is reflected in the priorities for management in all alternatives.

Holua Slide, Keauhou, NPS photo

Affected Environment

Top left: Navigators' Heiau, N. Kohala; jeep trail, N. Kohala, bottom: old railroad alignment, N. Kohala. NPS photos

Chapter 3: The Affected Environment

Introduction

Natural Setting

The following sections under Natural Setting describe aspects of the natural setting of the Ala Kahakai NHT that have a bearing on the experience of the trail but are not themselves affected by trail use: geologic processes, soils, climate, natural soundscape, air quality, and water resources (other than wetlands). They have potential for important effects on the trail user and are addressed in the alternatives, but are not impact topics addressed in chapter 4.

Geologic Processes

The Island of Hawai`i lies at the southeastern end of the Hawaiian archipelago. It is 76 miles wide, 93 miles long, and has an area of 4,030 square miles. It was built by the combined action of five volcanoes: Kohala (extinct), Mauna Kea (dormant, but potentially active), Hualālai (dormant, but potentially active), Mauna Loa (active), and Kīlauea (active, with potential for activity to change locations). The island's highest point is the top of Mauna Kea at 13,734 feet (NPS, 1992a).

Hawai'i has "shield" volcanoes that build up gradually with wide-based gentle slopes, rather than by rapid explosion. Hence, tapering slopes drop down off the summits of Mauna Kea and Mauna Loa on Hawai'i Island. Kīlauea, its most active volcano, has been spurting lava since 1983 with only a brief respite in early 1997. By 2005, it had added 570 acres to the island. More recent flows covered portions of the *ala loa* within Hawaii Volcanoes National Park, including Waha`ula Heiau at the terminus of the Ala Kahakai NHT. Older flows covered portions of the prehistoric trail along the west side of the island, and more recent, historic trails have sometimes been built over these flows.

Two types of lava pour from the volcanoes. Their Hawaiian names are used throughout the world: pāhoehoe and 'a'ā. Pāhoehoe is smooth, flowing in flat billows that wrinkle when the liquid flow beneath the cooling crust drags it forward. This smooth lava is easy to walk on. Trails are not usually constructed upon it, but footpaths are often worn into it. The fiery stream forms tubes under the crust, sometimes large enough to walk through. The ancient Hawaiians often used these tubes as burial chambers and shelter caves. The tubes also provide habitat for native invertebrates. 'A'ā lava is rough and knife-sharp, cast up in jagged rocks and boulders with solid interiors. It can cut through the soles of shoes. Prehistoric and historic trail builders used special trail construction techniques over this lava type.

Lava is the source of Hawai'i's black, red, and green sand beaches. Black sand is formed when an 'a'ā flow enters the sea causing explosions which may form clouds of liquid lava drops. These drops chill on contact with the water or air and become volcanic glass sand. Ocean currents deposit the sand in a sheltered indentation in the shoreline to make a beach. Erosion of littoral (shoreline) cones comprised of black or red volcanic matter often produces black or red sand beaches at the base of the cone. Green sand beaches result from the separation through erosion of grains of olivine from certain 'a'ā lava, which are then deposited on beaches. Wave action deposits large concentrations of the olivines on top of the other sands near the waterline (Clark: 71-72). The Black Sand Beach and Green Sand Beach in Ka'ū are on the Ala Kahakai NHT.

White sand is derived from calcareous skeletal material of corals and other invertebrate animals that live in shallow marine waters. Brown or gray sands are generally the result of the erosion or weathering of land (Clark: 71).

The Ala Kahakai NHT may be aligned on pathways near the water's edge, on inland pathways parallel to the shoreline, on sandy or pebbly beaches, or on cliff edges of varying heights above the water. From ʻUpolu Point to South Point, approximately 20 percent of the shore is lined with over 20-foot high cliffs, 52 percent with five to 20-foot cliffs, and 25 percent is low-lying between zero and five feet in height along the shoreline. Of the low-lying shoreline, 12 percent is sandy, eight percent is pebbles (*ʻiliʻili*) or coral, and 55 percent is boulders or other large stones. From South Point to the eastern boundary of Hawaiʻi Volcanoes NP, approximately 36 percent is lined with over 20-foot high cliffs, 39 per cent with five to 20-foot cliffs, and 25 percent is low-lying. Of the low-lying areas, there are only three small sand beaches in this 67-mile trail section (County of Hawaii, 1979).

The coast of Kaʻū and South Kona varies in composition and height. Sections are formed of soil, other areas are pāhoehoe benches or ʻaʻā cliffs of varying height. The cliffs are especially high where the major sets of faults are close to and parallel to the sea. Several cones are present along the shoreline and some have adjacent black sand beaches.

The low coastline of North Kona extends north from the end of the fault-controlled sea cliff of Kealakekua Bay to Kawaihae Harbor. The shoreline is highly irregular and has sea cliffs a few feet high. There are also pocket beaches found along bays between adjacent flows. The best beaches on the island are along the coast between Kailua-Kona and Kawaihae. The west and north slopes of the Kohala volcano from north of Kawaihae to Pololū Valley are marked by sea cliffs of moderate to low height. The coastal cliffs are interrupted by pockets of boulder beaches at the mouths of the intermittent gullies and small streams (County of Hawaii, 2001).

Tsunami and seasonal high waves have eroded parts of the western shoreline including sections

Kealakekua Bay, S. Kona, NPS photo

of the ancient *ala loa*. Portions of the sea edge of the Kona coast are sinking at a rate of about one-half foot to one foot per century (NPS, 1994). During the October 2006 earthquake, portions of the *pali* at Kealakekua Bay gave way and may have affected the trail.

Soils

The parent material for soil formation along the Ala Kahakai NHT is predominantly of recent volcanic origin. Different microclimates have produced a diversity of soil types, but red or brownish-red soils are widespread. Along the Ala Kahakai NHT some soils derived from coral occur (Knapp).

Climate

Generally, Hawaiʻi has two seasons: "summer," roughly between May and October when the sun is more nearly overhead, the weather warmer and drier, and the trade winds most persistent; and "winter," between about October and April, when the sun is in the south, the weather cooler, and the trade winds more often interrupted by other winds and by intervals of widespread clouds and rain (University of Hawaii).

Typical of all the islands, northeast winds (northeast trades) predominate. They bring

frequent rain showers to the northern and eastern coasts that are lined with sharp cliffs and feature waterfalls, lush rainforests, and heavy crashing surf. The west and southwest shores where the Ala Kahakai NHT is aligned are sunny, warm, and dry with pocket sand beaches and relatively quiet surf, although frequent high surf can occur in winter. West and southwest winds on these leeward "*kona*" or western and southern shores are infrequent, but are often associated with high winds with velocities of 30 to 40 miles per hour. The lowland leeward areas obtain their rainfall chiefly from a few winter storms, and only negligibly from tradewind showers. Their rainfall is strongly seasonal, their summers arid. Major winter storms bring with them very large storm waves that cause run-up on the shoreline and have removed some traces of the *ala loa*. Hurricanes are relatively uncommon. Since 1950, five hurricanes or tropical storms have caused damage on various islands in Hawai'i, but only Hurricane Estelle in 1986 produced very high surf on the island of Hawai'i (Businger, 1998).

Hawai'i is within the tropics and throughout the year has relatively uniform day length, received solar energy, and temperature. Because of these attributes, the trail corridor receives at least two-thirds as much solar energy in the winter as the summer. On a clear day, nearly three-fourths of the incident solar energy penetrates to sea level. Along several substantial sections of the Ala Kahakai NHT, the user could be subjected to direct sun the year round and would need to be prepared against heat, sunburn, and dehydration.

Annual rainfall along the western and southern coastal edge of Hawai'i Island along the Ala Kahakai NHT varies from less than 10 inches to nearly 60 inches. The wettest area along the trail is within Hawai'i Volcanoes NP in the Puna District at the eastern park boundary at Kalapana with up to 60 inches, followed by the South Kona coast with over 40 inches, and then 'Upolu point and the shoreline in the Ka'ū District from Ka'alela to Hawai'i Volcanoes NP with nearly 40 inches. The driest areas are the South Kohala District with less than 10 inches and the North Kona District with less than 20 inches. The year-round average ocean temperature is nearly constant, fluctuating between 75 and 82 degrees F (24-28 degrees C).

Natural Soundscape

The natural soundscape of the Ala Kahakai NHT includes the entire symphony of sounds that might be heard in the coastal zone in areas where natural sounds can predominate: quiet, the crash of waves breaking on the shore, the sea heard in lava tubes, the buzz of insects, the calls of birds, the cries of seals hauled out on beaches, and the rustle of the wind blowing in the grass or through trees.

Of the four national parks along the route, only Hawai'i Volcanoes NP has developed a draft soundscape plan identifying acoustical zones. Two of these zones would be found along the Ala Kahakai NHT within the park, the shoreline and the coastal zone. At the shoreline, sounds of surf and wave action dominate, along with shorebirds and seabirds, and strong trade winds blowing across tall coastal bluffs and low shoreline vegetation. In the coastal lowlands sounds of strong trade winds predominate, especially with uplift at the tops of the *pali* (cliff) (NPS 2004b).

Natural soundscapes have not been defined for the Ala Kahakai NHT. Trail landscapes outside of the national parks vary from highly urban along Ali'i Drive to very rural in areas of South Kona, Ka'ū, and Puna. Proximity to the coast, climate patterns, vegetation, and the presence or absence of birds and wildlife control different natural sound environments suggesting that there would be several acoustical zones along this 175-mile trail.

In many areas along the route, the natural soundscape is diminished or erased completely. Traffic and activity along Ali'i Drive overwhelm natural sounds, even that of the waves breaking.

Aircraft fly over, land, and take off from Keahole International Airport, generating substantial noise. Commercial fishing boats, cruise ships, dive boats, and concentrations of anchored boats off the coast of Kailua and Kealakekua also can generate audible noise on shore due to the use of engines, compressors and generators. Where there are concentrations of people, such as at beaches and campgrounds, the voices of people talking and shouting can be a noise source. In a very low ambient noise level natural soundscape, these noises sometimes can have greater impacts than in areas of higher ambient level soundscapes, such as urban environments.

Air Quality

According to the County of Hawaii, the island enjoys good air quality, but prevailing patterns of air circulation can cause local concentrations of pollutants. The diurnal land and sea breeze pattern prevailing on the leeward coast is self-contained within a limited area unlike the tradewinds on the windward coast which are part of a much larger circulation system (County of Hawaii, 1989). This leeward pattern can allow concentrations of pollutants to occur which exceed National Ambient Air Quality Standard (NAAQS).[38]

The major source of pollution is Kīlauea Volcano. Currently the volcano emits between 1,000 and 2,000 tons of sulfur dioxide each day, as well as other gases, including hydrogen sulfide, hydrogen chloride, hydrogen fluoride, and trace metals like mercury (NPS, 2006). Monitoring of sulfur dioxide (SO_2) near Volcano House on the southern rim of Kīlauea in Hawai'i Volcanoes National Park reveals the NAAQS for SO_2, 24-hour average, were exceeded 110 times between 1991 and 2005. During the same period, the NAAQS 3-hour average for SO_2 was exceeded 84 times. Elevated SO_2 readings are directly related to wind direction, so that the standard is exceeded when the wind is blowing from where lava is vented toward Volcano House.

Concentrations of SO_2 and hydrochloric acid (HCL) were greatest near the ocean within the Ala Kahakai corridor where lava pours directly into the sea (NPS, 1995a).

Sulfur dioxide reacts chemically with sunlight, oxygen, dust particles, and water in the atmosphere to form a gas and aerosol known as volcanic smog or "vog." The vog not only creates a haze which obscures visibility, but it is very acidic, causing acid rain and affecting human health, cultural resources, and vegetation (NPS 2006). People downwind of the volcano have reported a wide range of problems, including reduced visibility, health complaints, and damage to crops (U.S. Geological Survey, 2000).

The trade winds blow the vog from its main source on the volcano to the southwest, where wind patterns send it up the island's Kona coast, affecting much of the trail corridor. There it becomes trapped by daytime (onshore) and nighttime (offshore) sea breezes. During "kona" winds from the west, much of the vog is concentrated on the eastern side of the island, away from the trail corridor.

Vog reduces visibility. Moisture in the air causes vog particles to enlarge, decreasing visibility still further. Vog may limit visibility for automobile drivers and air traffic. Although the volcano dominates total emissions, local human-influenced sources can also affect air quality and visibility, releasing nitrogen oxides, particulates, and other pollutants as well as sulfur dioxide (NPS 2006a). Notably, cement quarry operations directly across from the visitor contact station and the central part of Kaloko-Honokōhau NP. Construction of large developments such as the residential development at Kohanaiki or the proposed mixed use development of at Honokōhau Harbor have effects on air quality as well as power generating stations and automobiles.

[38] National Ambient Air Quality Standards for SO_2 (sulfur dioxide) are 0.03 parts per million (ppm) annual arithmetic mean, and 0.14 ppm maximum 24 hour concentration not to be exceeded more than once a year.

Water Resources

Fresh Water

Separated from the wet, windward side of the island by the Kohala Mountains, Mauna Kea, Hualālai, and Mauna Loa, the leeward side receives little rainfall on the shore. The route of the Ala Kahakai NHT is characterized by a lack of stream drainages and aridity. Any rainwater is quickly absorbed into the porous lava (NPS, 1992a), and large amounts of ground water percolate to the sea. Four or more miles inland of the shoreline, water is potable and wells supply domestic water to the coastal region. Closer to the shore, groundwater is brackish, but has been used successfully in recent years for golf course irrigation (Heard, 1990). Ancient Hawaiians captured fresh water that rises to the top of brackish water in anchialine pools and also collected pure, fresh water by placing gourds in caves (Chang, 1994).

Water Quality

In Hawai‘i, water bodies are classified by their designated use according to the Hawaii Revised Statutes, Section 11, Chapter 54, which contains definitions and water quality standards for each water body type with respect to desired uses. Waters that do not meet the criteria for their designated uses are considered non-supportive and, if certain conditions are met, may be reported as impaired to the Environmental Protection Agency as required by the Clean Water Act, Section 303(d). Groundwater designations are being developed by the state of Hawai‘i, but are not available at this time. Although Hawai‘i does not officially recognize outstanding natural resource waters, national park managers have identified the wetlands, anchialine pools, and nearshore marine waters along the Ala Kahakai NHT as unique or pristine resources worthy of special attention. Inland surface waters of the trail corridor are designated “Class 2,” which protects their use for recreational purposes, agricultural and industrial water supplies, and the support and propagation of aquatic life (NPS, 2005).

Honu‘apo, Ka‘ū, NPS photo

Except for the North Kohala district and Kawaihae and Honokōhau harbors, marine waters and marine bottom ecosystems occurring in the nearshore areas adjacent to the trail corridor are classed as “AA” and “I”, respectively. These classifications prohibit pollution by humans and require maintenance of their natural wilderness character. The marine waters and benthic (occurring at the bottom of the ocean) ecosystems north of Kawaihae and within Kawaihae and Honokōhau harbors are classified as “A” and “II”, respectively. These classifications protect their use for recreational and aesthetic enjoyment by regulating discharges and human alteration (NPS, 2005).

Water quality along this trail is degraded near urbanized areas such as Kawaihae harbor near Pu‘ukoholā Heiau NHS, Honokōhau Harbor near Kaloko-Honokōhau NHP, and the along the developed coastline of Kailua-Kona. Adjacent to Pu‘ukoholā Heiau NHS, Pelekane Bay and Kawaihae Harbor are listed as impaired water bodies due to sedimentation. Along the western coastline of the trail corridor, Spencer Park at ‘Ōhai‘ula Beach, Hāpuna Beach, Magic Sands Beach, and Kealakekua Bay, have demonstrated impairment for either turbidity, chlorophyll a, or both. Kailua Bay, south of Kaloko-Honokōhau, was listed for exceeding criteria for total

phosphorous (NPS, 2005). As of August 2004, the State of Hawaii, Department of Health, Environmental Planning Office has published their "Final 2004 List of Impaired Waters in Hawai'i" prepared under CWA Section 303(d).

A baseline water quality data inventory has been conducted for each of the four parks traversed by the Ala Kahakai NHT (NPS 1999, NPS 2000, NPS 2002). The Pelekane Bay watershed was identified in Hawaii's Unified Watershed Assessment as a Category I watershed, placing it as one of the state's watersheds in most urgent need of restoration. Soil erosion from the watershed has impaired water quality of Pelekane Bay. Data including physical and chemical parameters have been collected from four streams in the Pu'ukoholā Heaiu NHP watershed by the US Geological Survey.

Land Use

Land use is an aspect of the existing environment that will not be affected by the alternatives, but is important background information for trail administration and management. The state defines land use on each of the islands in four broad categories: agricultural, conservation, rural, and urban. Map 16 depicts these land use districts on the island of Hawai'i. The Hawaii County General Plan then allocates more specific uses within these districts. Map 17 depicts these allocations.

Land uses in the areas where the trail is aligned include unused open space, agriculture, recreation, residences, commercial, services (including resort hotels), social and cultural activities, transportation (airports and harbors), and private roads. Most of the more intensive uses are located along the coastal strip, creating a complex mix of land uses within the Ala Kahakai NHT corridor (County of Hawaii, 1999).

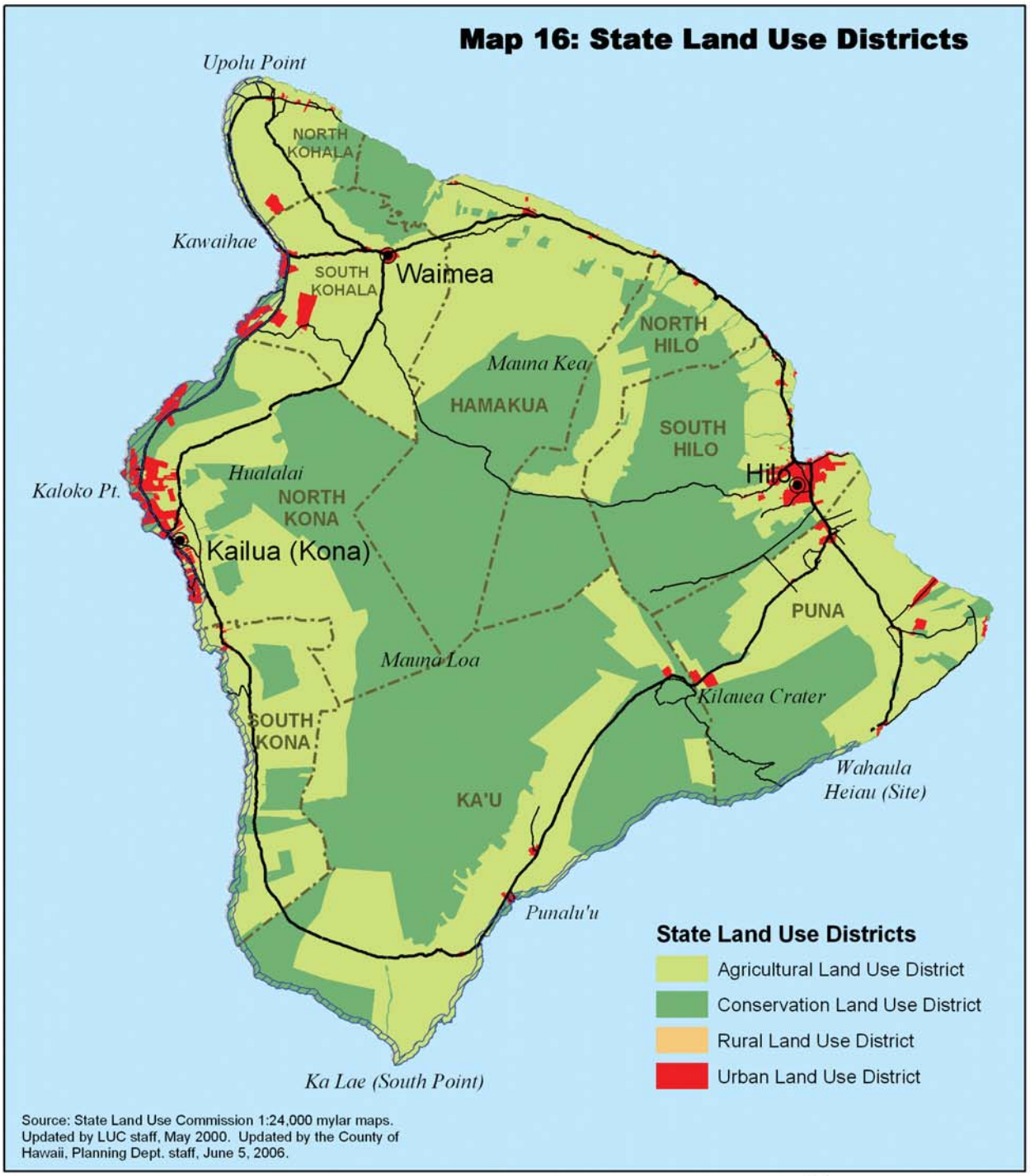
In North Kohala, land use along the trail corridor is mostly agricultural with some residential and recreational use. In South Kohala, land use is mainly comprised of resort developments, urban uses associated with the town of Kawaihae, residential use, cultural and traditional uses, and recreational use in national, state, and county parks.

North Kona, the most highly developed and urbanized district, is a mix of resort, residential, manufacturing, warehousing, commercial, service, social and cultural, recreational, and transportation uses. This district contains Keahole Airport, the Natural Energy Laboratory of Hawai'i, Honokōhau Boat Harbor, the town of Kailua-Kona, several state and county beach parks, and one national park. Ali'i Drive, which follows the historic trail route from Kailua-Kona to Keauhou (about six miles) is paved and fully developed.

Land uses in South Kona and Ka'ū are mainly agricultural, open space, cultural and traditional uses, or recreational with some residential use and small communities such as Miloli'i and Punalu'u. These districts encompass two natural area reserves, a national park, a state park, and two county parks. The trail corridor in Puna is entirely within Hawai'i Volcanoes National Park.

Significant portions of the Ala Kahakai NHT corridor are zoned as Special Management Areas (SMAs) that provide overarching guidance through state law for managing coastal development. They are independently implemented by the county of Hawaii according to their own ordinances and rules. The SMA permit system regulates development within a geographically defined SMA extending from about 100 yards to several miles inland from the shoreline. According to a GIS query, the Ala Kahakai NHT corridor contains about 76,000 acres, of which approximately 30,000 acres are in SMAs. SMAs are shown on map 18.

Land use zoning and permitted uses will not change as a result of any of the alternatives for management of the Ala Kahakai NHT, so it is not an impact topic discussed in chapter 4.



Legend

Hawai'i Districts

Ala Kahakai NHT Corridor

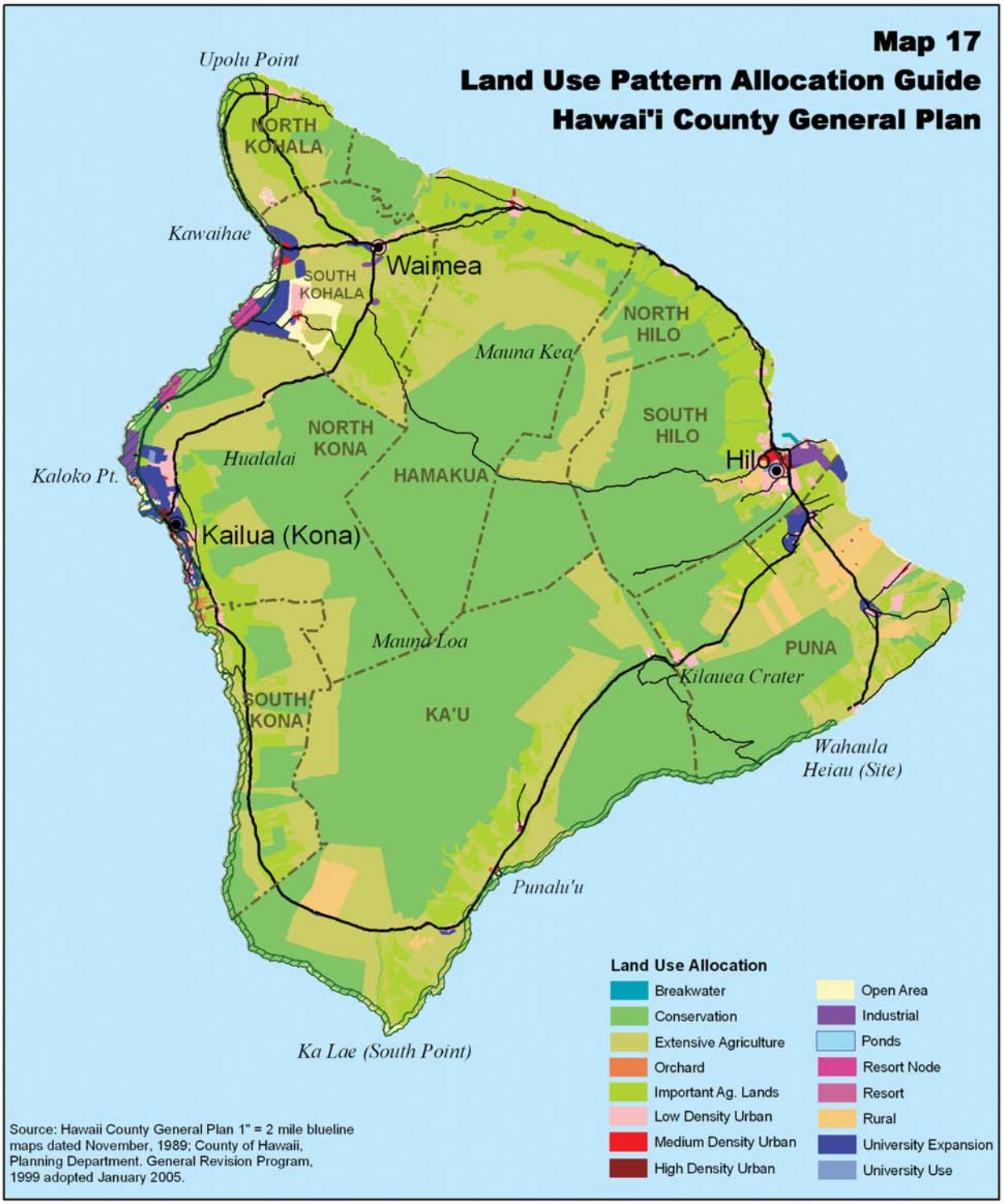
Roads

Primary

Secondary

0 3 6 12 Miles

Ala Kahakai National Historic Trail Working Map 12/21/06



Legend

Hawai'i Districts

Ala Kahakai NHT Corridor

Roads

Primary

Secondary

0 3 6 12 Miles

Ala Kahakai National Historic Trail Working Map 11/21/06

Legend

- Coastal Zone Management Special Management Areas
- Hawai'i Districts
- Ala Kahakai NHT Corridor

Roads

- Primary
- Secondary

0 3 6 12 Miles

Ala Kahakai National Historic Trail Working Map 12/21/06

The Affected Environment

The natural environment is paramount to the vitality of the Native Hawaiian culture. The origins of geographic features, weather, plant and animal life, and mineral resources are deeply rooted in the Native Hawaiian cosmology. As evidenced in the *Kumulipo*, the Hawaiian creation chant, the Native Hawaiian view of the origin of species is akin to accepted modern understanding of evolution and is a significant part of both native spirituality as well as daily tasks.

Although the discussion below describes the trail environment in discrete categories of natural and cultural resources, for the Native Hawaiian these are intricately bound together. The spiritual world is not separate from the secular but everything has *mana* (spiritual power). The land itself is sacred. As an example, the mountains are of primary importance as being closest to the sky, the source of water and therefore of life. The upper reaches of the mountain were often *kapu* (off limits) except for specific types of gathering and only with the proper protocols. The Native Hawaiians revered these areas as *wao akua* (the forest of the gods), but also recognized their importance as the recharge areas of the watershed. Tampering with the forest in a harmful way would result in reduced water quality and a decline in the health of lowland areas. Even though most of the habitation and food production areas were located in the *kula* (upland) and *makai* (shoreline) reaches of the island, respect for the mountains was a part of the culture and a mandate of the gods.

Cultural Resources and Values

The cultural sites along a potential public trail in Hawai‘i, such as the Ala Kahakai NHT, are especially vulnerable. Many are not readily apparent to the non-archeologist, and can be inadvertently damaged. Others can be looted. For that reason in a public document such as this, detailed listings of sites along the *ala loa* are not given. Examples of significant protected sites

Petroglyph, Kohanaiki, N. Kona, NPS photo

are summarized in table 3 (chapter 1) and described in Appendix C. They illustrate the range of significant sites available along the Ala Kahakai NHT. Map 3 shows the approximate locations of these sites.

The NPS *Cultural Resource Management Guideline* describes five categories of cultural resources: archeological resources, historic structures, cultural landscapes, ethnographic resources, museum objects. For this CMP, ethnographic resources, or those resources of significance to contemporary cultural groups, are included in all cultural resource types, and not singled out for separate discussion.

Archeological Resources

The NPS defines archeological resources as “the remains of past human activity and records documenting the scientific analysis of these remains” (NPS 1998c). The *ala loa* connected the lives of the people of the Hawai‘i Kingdom. Therefore, found along the trail are archeological remains of housing areas, graves and small cemeteries, religious structures (*heiau*), *ahupua‘a* (border cairns), shrines, fishing shrines (*ko‘a*), and small agricultural shrines. Many of these structures remain in the form of stone platforms or low enclosures.

The larger sacrificial (*luakini*) temples associated with the *ali‘i* (chiefs) are usually found at royal centers near the shore where population was clustered about the high chiefs. They are

rectangular platforms and/or enclosures of dry-laid volcanic stone which often exceed 1,200 square yards (1,000 m2) in area (Cordy 1997:17).

In addition, temporary shelters used by visitors, fishermen, and travelers are often found along this lateral trail. These usually take the form of small caves or small surface shelters of dry-laid volcanic stone (platforms, enclosures, C-shaped enclosures about 5-20 square yards (5-20 m^2) in area (Cordy 1997:20). As with permanent house sites, these shelters number in the hundreds and probably in the thousands along the trail.

In many areas, petroglyphs (*ki'i pohaku*) are found along the trail. Two of the largest fields are found carved in the smooth *pāhoehoe* lava flows along the *ala loa* in South Kohala: the Puakō Petroglyph Archeological Preserve (within the Mauna Lani Resort) and the Waikoloa Petroglyph Preserve (Waikoloa Resort). Also along the *ala loa* are the Ka'ūpulehū Petroglyph Site (within the Kona Village Resort) in Kona and sites in Ka'ū at Pohue Bay and in Puna at Pu'u Loa (Hawai'i Volcanoes National Park). Smaller clusters of stone carvings are sometimes found associated with house sites and shelters along the trail (Dunbar 1997).

An overview and assessment of archeological sites at the three West Hawai'i parks—Pu'ukoholā Heiau NHS, Kaloko-Honokōhau NHP, and Pu'uhonua o Hōnaunau NHP (NPS 2004)—documents the full range of archeological site types at the three parks. Each park contains remnants of prehistoric and historic coastal (lateral) trails and roads and *mauka makai* trails that could be incorporated into the Ala Kahakai NHT. Associated with the trails are many sites that make these parks significant.

The overview and assessment at Pu'ukoholā Heiau NHS (NPS 2004: B-10) notes "at least one coastal trail as indicated in various historical sources, and there were undoubtedly trails leading to the upland areas of the *ahupua'a*. A major trail led from Kawaihae to the upland Waimea village of Kea'ali'i, as shown in an 1830 map of Waimea (Barrère 1983:31)." Specifically, the study notes a fragment of an old coast trail and the location of an Old Government Road.

Kaloko-Honokōhau NHP contains 450 sites with approximately 50% of the park surveyed. The inventory notes that at least one main coastal trail ran through the area, with several connecting branches running inland. Also, it notes that what is now known as the Māmalahoa Trail, probably constructed inland of the coastal settlement and 1840, was intended for horse use.

At Pu'uhonua o Hōnaunau NHP, the study notes: "[In traditional times] a coastal trail paralleled the shoreline, alternating between stepping stones and pavement depending on the surface and topography. Paved sections were sometimes built up into causeways to bridge low spots in the lava field. A branch trail circuited the village and chiefly residence area at the head of Hōnaunau Bay. Numerous trails extended inland from this coastal path… Like the coastal trail, the *mauka-makai* trails combined stepping stones with linear pavements" (NPS 2004: A-63). The 1871 Road (government road or Alanui Aupuni) was part of a government improvement of the coastal route from Kealakekua south to Ho'okena. It was either built on top of the older traditional foot trail, or replaced the traditional trail along a more direct route. That road and the 1868 Alahaka Ramp are listed as 2 of the 15 contributing features to the NRHP nomination. The *mauka-makai* Ki'ilea Trail is noted along with approximately 1500 other sites in the archeological resource inventory.

An archeological overview and assessment is underway now for Hawai'i Volcanoes NP and most likely will reveal information about coastal trails and their associated resources.

Traditional Cultural Properties (TCPs)

Because TCPs are identified and evaluated with the NRHP criteria, they tend to be physical, bounded places that a land manager can recognize as a kind of historic property. The trail itself as well as components of it may be

traditional cultural properties that could be determined to be eligible for listing on the NRHP. Shrines and offering places along the trail are still used in prayers and ceremonies. Battles that took place along several stretches of the trail are associated with named places. Other trail sections are noted for robbers who waylaid travelers. For example, in the Nīnole-Punaluʻu area of Kaʻū district, stories describe Luahinekaikapu and her daughter capturing people traveling along the trail. In some areas, quarry sites for the manufacture of stone tools are found such as the one located along the *ala loa* at the Kona-Kohala border.

Anchialine pools are associated with the raising of bait for fishing, with deities, and with chiefly events. Man-made fishponds, both *loko kuapā* and *loko puʻuone*, consisted of great mortarless seawalls constructed of volcanic basalt and coral to enclose natural lagoons. Most were associated with former chiefly residential complexes where, as traditional gathering places, they provided an important source of food, usually ʻ*anae* (mullet) and ʻ*awa* (milkfish). Several ponds have associated legends that have come down in the ancient oral traditions of the Hawaiian people.

Historic Structures

Historic and prehistoric structures are "constructed works consciously created to serve some human activity" (Hommon and Fairchild quoted in NPS 2004: 3). The List of Classified Structures (LCS)[39] documents structures within parks that meet significance criteria for eligibility to the NRHP. All four national parks on the island of Hawaiʻi have completed inventories for the LCS.

> Puʻukoholā Heiau NHS has 5 structures on the LCS, 4 of which are associated with trails: Puʻukoholā Heiau, Mailekini Haieu, John Young Homestead, and Leaning Post.

Mailekini Heiau, Puʻukoholā Heiau NHS, S. Kohala, NPS photo

> Kaloko-Honokōhau NHP has 18 structures on the LCS, one of which is the Māmalahoa Trail and others associated with the coastal trail such as Kaloko Fishpond, Aimakapā Fishpond and House Site at Kaloko Fishpond.
>
> Puʻuhonua o Hōnaunau NHP has 22 sites on the LCS, 2 of which are related directly to the Ala Kahakai NHT: the Alahaka Ramp and the 1871 Trail. The trail is associated with several of the other structures such as the various *heiau*, and Kiʻilea Village.
>
> Eight of the 200 structures on the LCS in Hawaiʻi Volcanoes NP are related to the coastal trail: ʻĀpua Point Ruins, Halapē Ruins, Halapē House Platform, Keauhou Ruins-Heiau Cave, Papalehau Ruins, Kāluʻe Ruins, Keauhou Landing Site, and Kūēʻē Village Ruins.

Although not owned by the NPS, several other structures on the NRHP, such as Moʻokini Heiau and Hulieʻe Palace, listed on table 3 in chapter 1, deserve the kind of attention given to those on the LCS.

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39 "The LCS is a computerized, evaluated inventory of all historic and prehistoric structures having historical, architectural, or engineering significance in which the NPS has or plans to acquire any legal interest. Included are structures that individually meet the criteria of the National Register or are contributing elements of sites and districts that meet the Register criteria. Also included are other structures—moved, reconstructed, and commemorative structures and structures achieving significance within the last 50 years—that are managed as cultural resources because of decisions reached through the planning process" (NPS 1998c).

Cultural Landscapes

"Cultural landscapes are geographic areas that are the reflection of human adaptation and use of natural resources and are often expressed in the way land is organized, divided, settled, and used" (Hommon and Fairchild quoted in NPS 2004: 3). Cultural landscapes within the NPS are a category of cultural resources that need to be factored into the assessment of any property determined eligible for the National Register of Historic Places (NRHP). The NPS maintains a national database for cultural landscape inventories (CLI) for properties either on, or determined eligible for, listing on the national register, or, are being managed as a cultural resource through a park planning process.

> At P uʻukoholā Heiau NHS, the entire National Historic Landmark district has been assessed, and a CLI completed for the property.
>
> At Kaloko-Honokōhau NHP, the National Historic Landmark District has yet to be inventoried for the CLI database.
>
> At Puʻuhonua o Hōnaunau NHP, three areas have been identified in the CLI database for further investigation.
>
> At Hawaiʻi Volcanoes NP, 18 areas have been identified in the CLI database for further investigation, but none is within the coastal corridor.

Clearly, more inventories need to be completed to fully assess the cultural landscapes within these parks.

Although cultural landscapes may not easily fit into the national register process, they may continue to be culturally important to Native Hawaiians. "Numerous sites contain broader landscape values that derive their significance from the interrelationships among other cultural and natural resources such as plants, animals, minerals, landforms, and bodies of water that give the landscape meaning through their associations with a people's history and cultural identity" (Evans 2001: 53). These landscape values are often linked to the original landownership patterns reflected in the *ahupuaʻa* landownership patterns.

Although many of these sites may qualify as traditional cultural properties (TCPs), the national register process does not adequately document the entire range of resources significant to the Native Hawaiian population. For ethnographic landscapes " significance [is derived] from the roles they play in the associated communities' own traditional histories, not those criteria of national, state, or local significance that make them eligible for inclusion on the NRHP"(Evans 2001: 54). Nearly every resource listed in table 3 (chapter 1), whether eligible for the NRHP or not, would qualify as a landscape significant to contemporary Hawaiians. Small and large, tangible and intangible, many more exist along the route of the Ala Kahakai NHT. The range of landscapes significant to Native Hawaiians needs to be recognized within the planning process for the Ala Kahakai NHT.

One approach to ensuring that Hawaiian values are incorporated into the management and interpretation of the Ala Kahakai NHT is to recognize the value of traditional place, including place names and analysis of traditions to provide site context, identification, and significance. The *Archeological Assessment and Overview for the Three West Hawaiʻi Parks* (NPS 2004) repeatedly emphasizes the non-archeological dimensions of the culture and the need to recognize cultural places: "localities identified in Hawaiian traditions (as documented in archival, historical, and ethnographic sources) and recognized as places of traditional value to Hawaiians" (NPS 2002: B-25). Especially emphasized in this report are place names.

The Hawaiian naming of places signifies a cultural identity, whether related to a resource, a physical landmark, or an event. These localities with traditional place names, places of cultural and historical events, and traditionally recognized natural features need to be recognized as cultural resources. The *Assessment and Overview* noted that "the documentation of the

'ethnographic' range of cultural resources was surprisingly incomplete, including compilation of place names and analysis of traditions to provide site context, identification, and significance" (NPS 2004:5). The report provides a framework for cultural resources in the three parks based on genealogies and traditional history.

Among the four national parks along the Ala Kahakai NHT, Hawaii Volcanoes NP is the only one to complete an ethnographic overview (Langlas, 2003). The study documents the traditional Native Hawaiian use of resources on park land, past and present, and makes policy recommendations to help the park better accommodate Native Hawaiian resource use while still protecting the resources. Part C of a companion volume, *Ethnographic Studies at Hawai'i Volcanoes National Park*, provides a list of Native Hawaiian place names and place name stories taken from documentary sources. This work will be helpful to management of the Ala Kahakai NHT.

Museum Collections

Museum collections are comprised of objects, specimens, and archives including human experience and natural history. The *West Hawai'i Parks Museum Management Plan* recommends that a centralized joint museum management program be established for the three West Hawai'i parks and the Ala Kahakai NHT beginning now at the administrative level and leading to a joint work/storage/use facility. Table 12 shows the current museum collection summaries for each park based on the 2002 Collections Management Report. It does not include unaccessioned biological specimens and 150,000 pages of archives from Pu'ukoholā Heiau NHS. More biological specimens are expected as a result of the NPS Inventory and Monitoring Program.

It is not known which specimens and records at each of the parks might be associated with the Ala Kahakai NHT. The museum management plan anticipates that the NHT will generate substantial archival resources and additional archeological material that may be offered from private collections.

Each of the three West Hawai'i parks has a small storage area for specimens and various areas for storage of archival material, including at the Pacific West Regional Office -Honolulu. Hawai'i Volcanoes NP provides each of these parks help with managing museum collections.

Cave Resources

Lava tube caves are among the island's more important geological natural resources. The island has thousands of lava tubes, but only a few are large enough to be lava tube caves (County of Hawaii, 2001). Caves contain resources of cultural, spiritual, aesthetic, and scientific value. Native Hawaiians used caves for a variety of activities, including shelter, water collection, shrines, and work areas. Evidence of this use persists in many sites. In addition, lava tube caves served for centuries as burial sites for

Table 12: West Hawai'i Museum Collections

Park	Archeology	Ethnology	History	Archives	Biology	Total
Kaloko-Honokōhau NHP	656			264,000	243	264.899
Pu'ukoholā Heiau NHS	1,023	3	224	16	35	1,301
Pu'uhonua o Hōnaunau NHP	16,208		25	146,060	10	162,303
Ala Kahakai NHT				10,100		10,100
TOTAL	17,887	3	249	420,176	288	438,603

Source: *West Hawai'i Parks Museum Management Plan,* p. 37

Native Hawaiians. Hundreds of burials have been recorded within lava tubes on the Island of Hawai‘i. The traditional Hawaiian belief requires that such remains should not be disturbed, viewed, or even visited. The State of Hawaii Burial Council often requests that caves containing such remains be sealed off to prevent entry (County of Hawaii, 1996b). Caves are managed as cultural resources by the NPS.

The Hawaii Cave Protection Law (2002) states: “The cultural and spiritual resources within caves include human burials and other artifacts of Native Hawaiian use and their associated traditions. Scientific, biologic, and geologic resources include unique subterranean ecosystems inhabited by specialized organisms, associated native flora and fauna living within cave entrances, mineral and bedrock formations, and paleontological, or fossil deposits. Fossil deposits, which include remains of plants, animals, and surface debris preserved in caves, provide a unique record of the past climate and biota of the islands” (Section 1).

This Act defines a cave as “any naturally occurring void, cavity, recess, or system of interconnected passages large enough for human entry occurring beneath the surface of the earth or within a cliff or ledge, including the cave resources therein, regardless of whether an entrance exists or is natural or man-made. The term includes forms such as a lava tube [cave], natural pit, sinkhole, underwater cave, or other feature that is an extension of the entrance” (Section 2, § -1). This Hawaiian law affects all caves along the Ala Kahakai NHT on nonfederal lands.

Cave, S. Kona, NPS photo

The Federal Cave Protection Law, from which the Hawaiian law is derived, affects all caves on federal property or on land administered by the federal government. It describes cave resources as “any material or substance occurring in caves on federal lands, including, but not limited to, biotic, cultural, mineralogic, paleontologic, geologic, and hydrologic resources”(section 4302). Due to the sensitive nature of cave resources, cave locations are not given out and all caves within the NPS are considered significant whether or not the cave has been inventoried.

National park resource overviews contained in the Vital Signs Monitoring Plan (NPS, 2005) indicate that two of the four national parks along the Ala Kahakai NHT have cave resources. Hawaii Volcanoes NP contains many miles of underground lava tube caves, some of which contain significant archeological resources, ‘ohi‘a *(Metrosiderous polymorpha)* or other plant roots, endemic, cave adapted insects, and microorganisms. Many caves contain special geologically significant features and mineral deposits. Currently most park caves are closed to public use because their resource values are not known. Once the status of resources is known and safety hazards are assessed, caves may be classified for use by researchers or the public. The park has inventoried resources in more than 10 caves.

Pu‘uhonuā o Honaunau NHP contains several caves discussed in historical writings, some of which have been used as burial sites. Out of respect for traditional Hawaiian beliefs, park staff has not inventoried these caves for cultural or natural resources. However, the park plan states that caves without burials should be inventoried for natural and cultural resources. Security remains an issue and the park has worked to secure cave entrances to prevent unauthorized entry.

Caves may occur all along the corridor of the Ala Kahakai NHT outside of the national parks, but would especially be expected on pāhoehoe lands and probably most numerous in Ka'ū and Puna. Private individuals surveyed a series of caves in the Kīholo area between 1995 and 2001. A growing number of cave enthusiasts with a variety of interests are known to be exploring lava tubes in Hawai'i. Some ecotourism advocates see lava tubes as a unique and compelling tourist attraction (County of Hawaii, 1996b).

Natural Resources and Values

The following describes existing conditions of topics that are considered in chapter 4 as impact topics.

Wetlands (Anchialine Pools and Fishponds)

Anchialine pools are scattered along the coast of West Hawai'i within the Ala Kahakai NHT corridor from 'Upolu Point around South Point to Hilo. They are standing waters in rocky (lava) basins that vary in salinity and exhibit tidal fluctuations, although in most cases they lack a surface connection to the ocean. The pools are generally small (less than 100 square meter surface area) and shallow (less than one meter deep) [Maciolek & Brock:15]. The combination of an underground connection to the sea and the influx of fresh water from basal ground water results in brackish water conditions.

In geologic terms, they tend to be ephemeral. They may be created by one lava flow and then filled by the next one; they may be filled by sand and coral by high waves or uncovered in the same way. The pools also undergo a natural senescence, changed by encroaching vegetation and leaf litter. Native pool organisms have a survival strategy of rapidly recruiting to a new habitat and many species have the ability to survive in the subterranean water table until appropriate habitat again becomes available (Brock and Kam: 52, 56). Anchialine pools are unique natural features not found in any of the other 49 states (Chang; Hawaii Heritage Program), and they may be the rarest aquatic habitat in the United States (Brock, 2005).

Within this environment, distinctive endemic (found only in Hawai'i) biota have evolved. In some cases, organisms inhabit only a particular pool or complex of pools. The most numerous species is *'ōpae'ula*, red shrimp (*Halocaridina rubra*). These shrimp are hypogeal; that is, they occur not only in the sunlit part of the system, but also in the interconnected watertable below. Brock (1985:11) speculates that with the destruction of ponds (as through filling), these hypogeal species would not entirely disappear, but their populations would be significantly lower. Epigeal species, which require the sunlit part of the system (crustaceans, fishes, mollusks, and flora), would not survive pond destruction. A unique aspect of the flora of these ponds is the orange carbon-producing algae crust (*Lyngbya* spp. and *Schizothrix calcicola*) in the bottoms.

Anchialine pools are especially abundant along the western shore of the island. Kaloko-Honokōhau NHP is one of only three natural reserve sites with anchialine pools in the state of Hawaii and contains approximately 10% of the anchialine pools on Hawai'i Island (NPS, 2005). In 1985, approximately 600-650 ponds existed within the Ala Kahakai NHT corridor (Brock, 1985:2). There may be a similar number today; however, abundance is not the measure of health. Biological integrity of the pools is of primary importance.

Kaloko-Honokohau NHP, N. Kona, NPS photo

The introduction of non-native fish into the pools poses the most serious threat to the native invertebrates in the pools. Most likely, these fish are introduced by fishers (Chang, 1994; Maciolek & Brock, 1974), but some appear to result from the dumping of "pet fish" such as fantails and swordtails (Chai, 2006). These species may then colonize to other pools. Native fish that sometimes wash into the pools with waves do not pose a great threat to the shrimp because these fish cannot complete their life cycle in the pools. On the other hand, non-native fish, which can complete their life cycles in the pools, seriously impact shrimp populations (Brock, 1985:8; Chai, 2006). The major culprits are guppies (*Poecilia reticulata*), tilapia (probably *Oreochromis mossambicus*), topminnows (Family Poeciliidae—probably *Gambusia affinis* and *Poecilia mexicana*), and koi (*Cyprinus caprio*).

Many of the anchialine pools on the Kona coast are in a state of biological change primarily due to the presence of exotic fishes (Brock, 1985:16). In 1970, about 15% of the anchialine pools along the Kona coast contained non-native fish; in 1985, the number increased to about 46%; and today, about 95% of the pools along the Ala Kahakai NHT route have an alien fish problem that threatens the ecology of the pools (Brock, 2005).

Ancient Hawaiian settlements were associated with anchialine pools. Small pools provided potable water and bathing; larger pools were often adapted for fish culture (Maciolek & Brock, 1974). ʻAimakapā and Kaloko fishponds in Kaloko-Honokōhau National Historical Park along the Ala Kahakai NHT are examples of the latter.

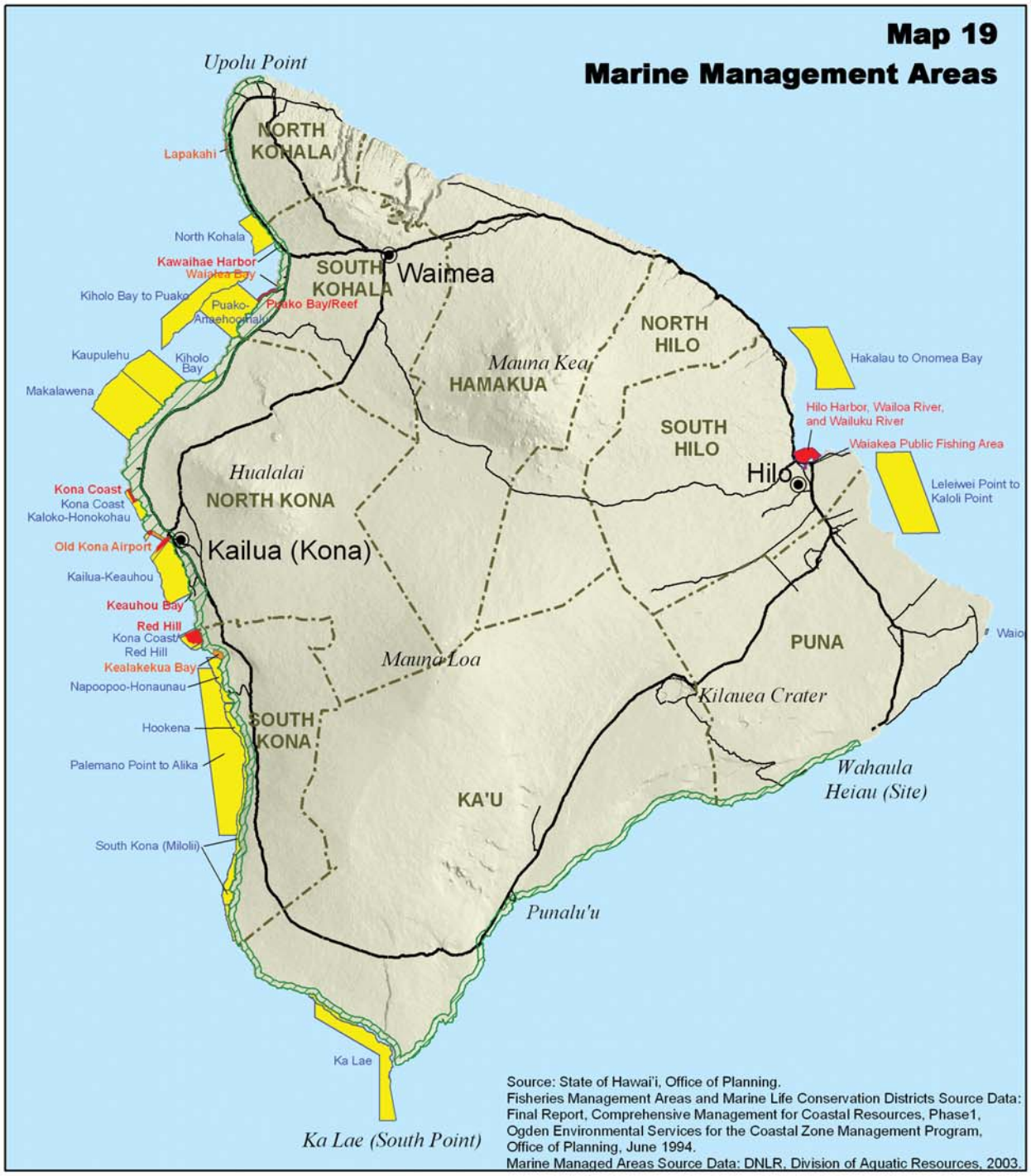
Marine Resources Related to Traditional Gathering

The West Hawaiʻi coral reefs teem with life. Some typical species are *pākuʻikuʻi* (achilles tang, *Acanthurus achilles*), *ʻalaʻihi* (various squirrelfishes, *Sargocentron* spp.), *uʻu* (various soldierfishes, *Myripristis* spp.), moana (*Parupeneus multifasclatus*), *poʻopaʻa* (various scorpionfishes, *Sebastapistes* spp.), *umaumale* (*Acanthurus triostegus*), and *kole* (yelloweyed or goldring surgeonfish, *Ctenochaetus strigosus*). Typical species found close to shore and in the onshore splash zone are *opihi* (limpets, *Cellana exarata*), *wana* (various species of urchins), and *ʻaʻama* crab (*Grapsus grapsus tenuicrustatus*). The commercial collection of opihi has been observed to have a negative impact on abundance and availability of this resource for subsistence fishers[40] (Walsh 2006).

In response to concerns about localized overfishing and conflicts of use caused by aquarium fish collectors, Act 306 Session Laws of Hawaii 1998 created the West Hawaii Regional Fishery Management Area (FMA) covering 147 miles of the entire west coast of Hawaiʻi Island from ʻUpolu Point to South Point. It is a network of Fish Replenishment Areas (FRAs) comprising 35 percent of the coastal waters. Aquarium collecting and fish feeding are prohibited in these areas. The West Hawaii Fisheries Council, comprised of a variety of stakeholders, including experienced traditional fishers, determined the FRA boundaries. The council also recommends to the DLNR guidelines for commercial fishing and collecting, commercial tours, night spearing, crossnetting, and other activities. Water quality related to inadequate toilet facilities may also be addressed.

Included in the West Hawaiʻi Regional FMA are Four Marine Life Conservation Districts (MCLDs): Lapakahi, along the shoreline of the state historical park; Waialea Bay in the southern portion of Kawaihae Bay; Old Kona Airport, just west of Kailua-Kona; and Kealakekua Bay extending from Cook Point to Manini Beach Point about 18 miles south of Kailua-Kona. Marine Life Conservation Districts have more stringent guidelines than the FMAs and usually allow only limited fishing and other consumptive uses. They are popular as sites for snorkeling, diving, and underwater photography. Map 19, Marine Management Areas, depicts FMAS, MLCDs, and Marine Managed Areas.

[40] Subsistence fishers are those who engage in limited fishing and gathering activities to feed their extended families identified with a specific region and associated through bloodlines and friendships which have developed over generations.


Map 19
Marine Management Areas
Upolu Point
NORTH KOHALA
Lapakahi
North Kohala
Kawaihae Harbor
Waimea Bay
SOUTH KOHALA
Waimea
Kiholo Bay to Puako
Puako-Ameehoomalu
Puako Bay/Reef
Kaupulehu
Kiholo Bay
Makalawena
Mauna Kea
HAMAKUA
NORTH HILO
Hakalau to Onomea Bay
Hilo Harbor, Wailoa River, and Wailuku River
Waiakea Public Fishing Area
SOUTH HILO
Hilo
Leleiwei Point to Kaloli Point
Hualalai
NORTH KONA
Kona Coast
Kona Coast
Kaloko-Honokohau
Old Kona Airport
Kailua (Kona)
Kailua-Keauhou
Keauhou Bay
Red Hill
Kona Coast/ Red Hill
Kealakekua Bay
Napoopoo-Honaunau
Mauna Loa
PUNA
Kilauea Crater
Hookena
SOUTH KONA
Palemano Point to Alika
Wahaula Heiau (Site)
KA'U
South Kona (Miloli'i)
Punalu'u
Ka Lae
Ka Lae (South Point)
Source: State of Hawai'i, Office of Planning.
Fisheries Management Areas and Marine Life Conservation Districts Source Data: Final Report, Comprehensive Management for Coastal Resources, Phase1, Ogden Environmental Services for the Coastal Zone Management Program, Office of Planning, June 1994.
Marine Managed Areas Source Data: DNLR, Division of Aquatic Resources, 2003.
Legend
Fisheries Management Areas
Marine Managed Areas
Marine Life Conservation Districts
Hawai'i Districts
Ala Kahakai NHT Corridor
Roads
Primary
Secondary
0 3 6 12 Miles
Hawaii Island
Ala Kahakai National Historic Trail
Working Map 12/21/06

Native Ecosystems: Vegetation and Wildlife

The Ala Kahakai NHT corridor, encompassing the coastal settlement zone, includes the native ecological zones of *kahakai* (nearshore fisheries and shoreline strand) and *kula kai* (shoreward plains). Within these two zones, woodland communities on the face of the pali (cliff) and pond/wetland communities also may be found.

Vegetation

Within the Ala Kahakai NHT corridor in both of the major ecological zones, the dominant or characteristic plants are mainly alien (nonnative) species introduced to Hawai`i after western contact (1778). Rick Warshauer, a biologist with the U.S. Geological Survey, notes Hawai'i's native coastal flora "is vanishing at an alarming rate, as coastal development wipes out huge tracts of shoreline vegetation and concentrates public use, from traditional gathering to four-wheeling, into smaller and smaller spaces"(quoted in McNarie, 2004). Despite this fact, native plant communities can be lush and diverse if located away from disturbance by people, vehicles, and browsing ungulates (NPS 2006b). Immediately adjacent to the ocean, the strand vegetation is composed of hardy native species such as *naupaka kahakai* (*Scaevola serices*) and *pohuehue* (*Ipomoea pes-caprae*). The species assemblage of coastal plant communities varies with the substrate (dunes, coral rock, basalt, talus, or alluvium). Plants in this zone are shallowly rooted and do not appear to use brackish groundwater, depending instead on rainfall for their moisture needs" (Wagner, p. 54).

In the remote Ka'ū region, especially from Ka'alu'alu to Waikapuna, varied habitats—pāhoehoe and 'a'ā flats, drifted sand, anchialine pond shores, protected beaches, and spray-battered bluffs—support over 40 diverse species of native vegetation (NPS 2006b).

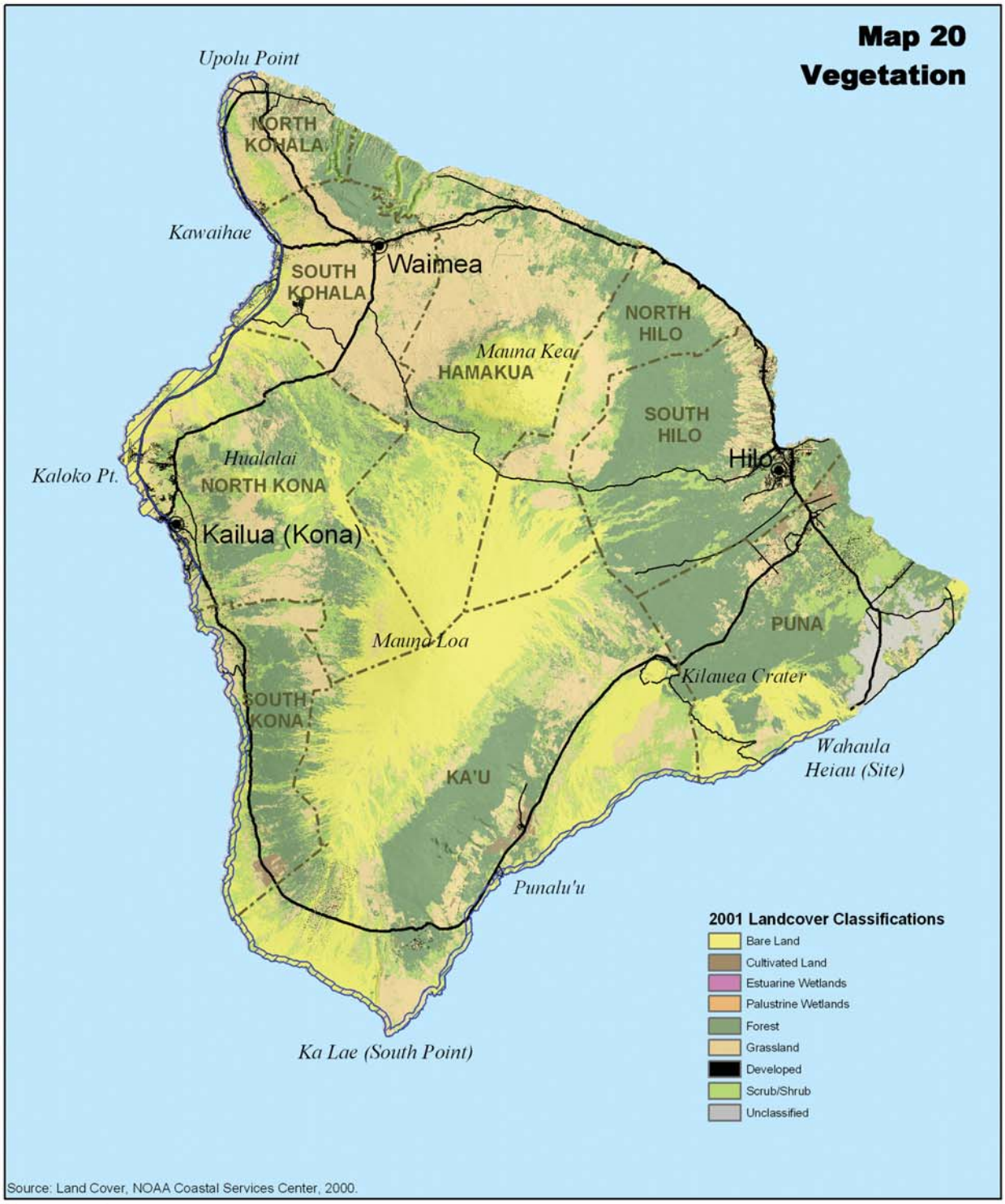
In Hawai'i Volcanoes NP, the coastal strand "contains[s] small scattered stands of dry and mesic forests on the faces of the pali. Younger flows are dominated by open stands of 'ohi'a. The short native tree lama (in the ebony family) with an understory of the shrub alahe'e replaces 'ohi'a on older flows. A number of threatened, endangered, and candidate species include kauila, halapepe, 'ahakea, and 'ohe makai" (NPS 2004a).

Often, immediately behind this strand zone within the Ala Kahakai NHT corridor, the coastal plain contains alien-dominated vegetation characterized by *kiawe* (*Prosopis pallida*) forest, fountain grass (*Pennesetum setaceum*.), opiuma (Pithecellobium dulce), or mixed alien shrublands of such weedy species as lantana or *koa-haole* (*Leucaena leucocephala*). In some sections, native lowland vegetation extends nearly to the sea. Open dry forest of '*ohi'a* (*Metrosideros polymorpha*) might be seen, or stands of *pili* (*Heteropogon contortus*) grassland, *'ilima* (*Sida fallax*) shrubland, and other low-lying native vegetation. Much of the trail runs across near-barren lava flows of various ages.

In Hawaii Volcanoes NP the coastal plain is dominated by alien grasslands with patches of alien shrubs. The dominant grasses are alien Natal redtop, thatching grass, molasses grass, beardgrass, and broomsedge. Native pili grass is an important component of the grasslands in some areas (NPS 2004a).

Around anchialine pools, wetlands with native sedges and other vegetation break the barren setting of volcanic flats (Hawaii Natural Heritage Program). Map 20 depicts vegetation land cover.

Pahu O Hi'iaka, NPS photo



Legend

Hawai'i Districts

Ala Kahakai NHT Corridor

Roads

Secondary

Primary

0 3 6 12 Miles

Ala Kahakai National Historic Trail
Working Map 12/21/06

The NPS vital signs monitoring program notes that status and trend data is needed on the health of native vegetation and the spread of invasive species for all of the Pacific Island Parks (NPS, 2005). The four national parks through which the Ala Kahakai NHT passes have completed fairly extensive vegetation surveys indicating that vegetation cover in the parks is predominantly alien (Pratt). [41]

Even though alien species predominate along the Ala Kahakai NHT in the coastal plain, natives do occur along the way, sometimes in profusion. Examples are ʻaʻaliʻi (*Dodenaea viscosa*), ʻakia (*Wikstroemia spp.*), ʻūlei (*Osteomeles anthyllidifolia*), and *Maiapilo* (*Capparis sandwichiana*), an endemic low night-blooming shrub seen along the Ala Kahakai NHT in North Kona. *Puakala* (*Argemone alba* var *glauca*), an endemic white poppy that blooms seasonally along the trail in South Kona, has medicinal value to Hawaiians. *Portulaca villosa* is an extremely rare endemic found along the shoreline of Ka`ū.

Some indigenous trees along the route are *milo* (*Thespesia populnea*), *kou* (*Cordia subcordata) and hala* (*Pandanus).* The Polynesians introduced plants for food, fiber, medicine, and other uses that are a part of the appearance of the coastline today. Those growing in the coastal zone along the corridor of the Ala Kahakai NHT include coconut (*Cocos nucifers*) and *noni* (*Morinda citrifoli*).

Threats to native vegetation are feral goats and pigs, cattle, alien plants, diseases, insects, rodents, and human actions such as development or trampling. The survival of native biota depends upon the existence of adequate protected habitat.

Wildlife

Non-listed protected marine mammals that may be found in the coastal waters along the trail include spinner dolphins (*Stenella longirostris*), spotted dolphins (*S. attenuata*), bottlenose dolphins (*Tursiops truncatus gilli*), false killer whales (*Psuedorca crassidens*), pilot whales (*Globicephala macrorhynchus*), melon headed whales (*Peponocephala electra*), and pygmy killer whales (*Feresa attenuata*) [U.S. Department of Commerce, National Oceanic and Atmospheric Administration].

With the exception of the Hawaiian bat (*Lasiurus cinereus semotus*), terrestrial mammals found along the Ala Kahakai NHT corridor are introduced species, and most are considered pests to humans and native vegetation. These mammals include feral goats, jackasses, and pigs, domestic dogs and cats, Indian mongoose, house mice, Polynesian rats, Norway rats, and roof rats. ʻAimakapā and ʻŌpaeʻula[42] Pond within Makalawena Marsh National Natural Landmark on private property are the two remaining ponds on this island which support a resident population of endangered non-migratory Hawaiian stilt. These ponds are the only areas on the island of Hawaiʻi listed as essential water bird habitat in the U.S. Fish and Wildlife Service *Hawaiian Waterbirds Recovery Program*. ʻŌpaeʻula Pond is also the principal nesting site for the Hawaiian coot and the only known breeding area on the island of Hawaiʻi of the black-crowned night heron. Remains of an ancient Hawaiian fishpond are beneath the water surface.

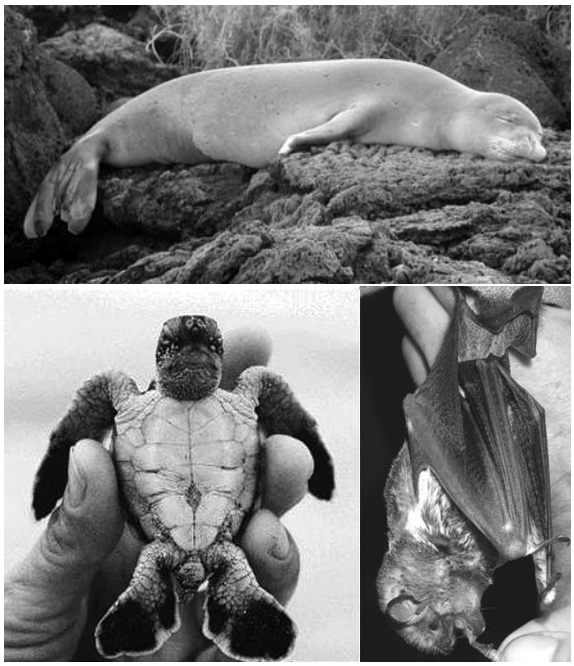
Endemic birds such as the endangered Hawaiian hawk or ʻ*io* (*Buteo solitarius*) and Hawaiian short-eared owl or *pueo* (*Asio flammeus sandwichensis*) and indigenous birds such as wandering tattler (*Heteroscelus incanus*) and

[41] For example, at Puʻukoholā Heiau NHP about 73% (126 species) are alien, 36% (21 species) are indigenous (native to Hawaiʻi, but occurring naturally outside of Hawaiʻi), 3% (6 species) are endemic (occurring naturally in Hawaiʻi and found nowhere else), and 2% (4 species) are Polynesian introductions (brought to Hawai'i many centuries ago by the early Polynesian settlers). At Koloko-Honokōhau NHP invasive fountain grass (*Pennisetum setaceum*) is nearly ubiquitous (NPS, 2005). At Puʻuhonua o Hōnaunau NP, of 134 vascular plant species, nearly three-quarters (96 species) are alien to Hawai'i, about 17% (23 species) are indigenous, 4% (6 species) are endemic, and 1.1% (15 species) are Polynesian introductions.

[42] The name *ʻōpaeʻula* refers to the shrimp chum used for *ʻōpelu* fishing. This name came to replace the Hawaiian place name of Kapoʻikai wetlands (Springer).

Pacific golden plover (*Pluvialis dominica fulva*) may be seen. In addition, a number of introduced bird species may occur. These include Indian black francolin, spotted dove, barred dove, skylark, Japanese white-eye, common Indian myna, warbling silverbill, ricebird, cardinal, and house finch. Seabirds such as the petrel and frigate bird can be seen from the trail. They are a part of oral stories and were used as food in traditional Hawaiian culture.

A wide variety of native and introduced invertebrates inhabit the Ala Kahakai NHT corridor. These include reptiles such as skink and geccos; insects such as ants, wasps, and bees; and mollusks such as snails and slugs. Scorpions and centipedes often inhabit *kiawe* forests and could cause discomfort to the trail user.



Monk Seal, Hawksbill Turtle, Hoary Bat, NPS photos

Special Status Species[43]

Several protected marine species within the coastal strand zone can be viewed from the trail area. Threatened green turtles (*Chelonia mydas*) occur in all the coastal waters where they feed on intertidal and subtidal algae. Endangered hawksbill turtles (*Eretmochelys imbricata*) are also found in nearshore waters in fewer numbers and nest on isolated beaches in the Ka'ū District. There are scattered sightings of endangered Hawaiian monk seals (*Monachus schauinslandi*) in the nearshore waters and hauled out on beaches all along the trail area. During the winter breeding season from December through May, endangered humpback whales are present in coastal waters, primarily within depths of 100 fathoms (600 feet). The Ala Kahakai NHT in the North Kohala District provides good whale-viewing areas.

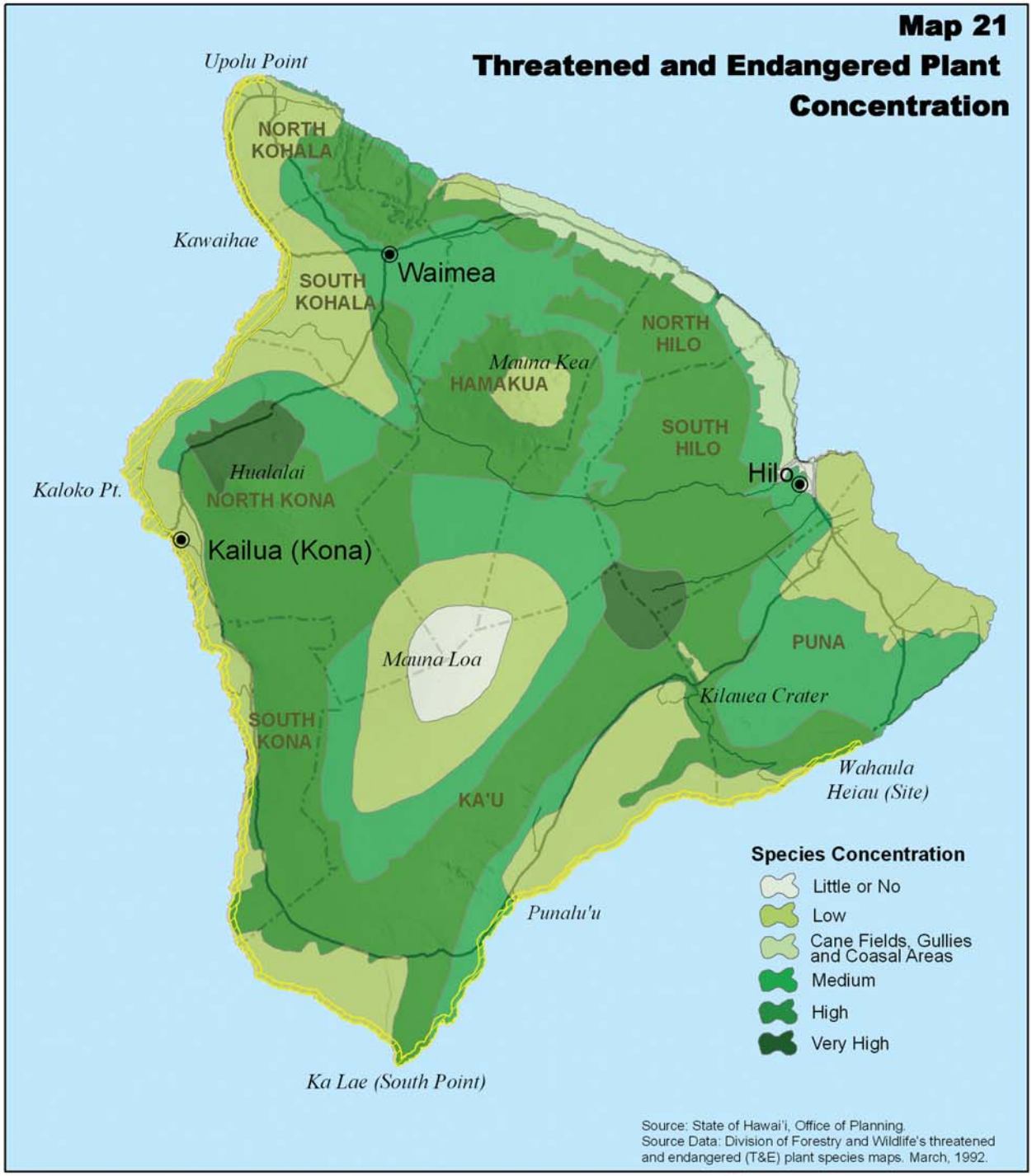
The U.S. Fish and Wildlife Service (USFWS) lists as federally endangered one mammal, four birds, one reptile, and two plants which may occur along the Ala Kahakai NHT corridor; as federally threatened, one reptile; and as candidates, one damselfly and one anchialine pool shrimp. In addition to the USFWS reported species, the NPS lists among the four parks four endangered flowering plants; two endangered birds, one threatened, and one candidate; one endangered mammal; and two candidate anchialine pool shrimp. Appendix D lists specific species.

The Hawaiian Natural Heritage Program names as listed and candidate species, and species of concern 15 animal species, 13 invertebrate species, 31 plant species, and 13 natural communities. In addition, 13 plant critical habitats are listed. Appendix D lists specific species. Map 21 depicts threatened and endangered plant concentrations.

Scenic and Visual Resources

The trail provides frequent unobstructed ocean to mountain vistas. Depending on the point of view, the trail's upland background is formed by the Kohala mountain range, Mauna Kea, Hualālai, Mauna Loa, and Kīlauea. Ancient and more recent lava flows are visible along the majority of the trail. Volcanic formations, such as Kahuku Pali (cliff) and Kuili cinder cone, provide visual interest.

[43] These include rare, threatened, and endangered species and species of concern.



0 3 6 12 Miles

Legend

Hawai'i Districts

Roads

Secondary

Primary

Ala Kahakai NHT Corridor

Ala Kahakai National Historic Trail
Working Map 12/21/06

The trail offers a variety of visual experiences. It passes along the calm waters and white sandy coves of South Kohala and central and northern Kona, and crosses hot, barren lava fields that flank the shore. In central Kona, Kealakekua Bay is backed by a high cliff and green upland slopes. In Kaʻū, the trail passes the striking cliff and windswept, dry grassy plain of South Point the southernmost point in the United States.

The trail crosses or passes adjacent to black and green sand beaches and all of the island's few white sand beaches. In remote areas, rocky shorelines still abound with `*opihi* (limpet) and other favored shellfish species. The trail skirts around lagoons, anchialine pools, and fish ponds where the ancient Hawaiians practiced aquaculture.

The nearshore water is clear, and in some areas, threatened green sea turtles and brightly colored fish are visible from the high shore. In the winter months, whales can be seen. When Kīlauea erupts, volcanic haze (vog) can obscure scenic views. When prevailing winds blow away the haze, the islands of Maui, Kahoʻolawe, and Molokai can be seen at great distance. The trail offers views of the full range of Hawaiʻi Island's seascapes.

Wilderness Values

Approximately fourteen miles of the Ala Kahakai NHT corridor are in the wilderness area within Hawaiʻi Volcanoes NP. Park wilderness values include maintaining ecological integrity and biological diversity. Management of wilderness areas requires use of the Minimum Requirement decision-making process and the Minimum Tool required as a result of applying that process. (See the Glossary for definitions.)

The wilderness area within Hawaiʻi Volcanoes NP is characterized by a treeless lava landscape of predominately non-native grasses. About half of this corridor has defined trails marked by *ahu* (stone cairns) and two campsites, Kaʻaha and Halapē, with associated small, sandy beaches. Catchment tanks at shelters at each site provide the only potential for water along this part of the trail. The shelters and catchment tanks predate the wilderness designation. The area is very rugged with little shade, even at the campsites. Earth cracks, thin crusts, and lava tubes are present. Rough surf and strong, unpredictable currents make swimming dangerous except at the few sheltered swimming sites along the coast. Between the western park boundary and Kaʻaha unexploded World War II ordinance and ammunition may be present.

Clusters of archeological resources representing the remains of dense coastal habitation villages that were present at the time of European contact (ca 1778) require respect and protection. Thirteen village sites have been identified, seven of which have been covered or partially covered by lava flows. Of the six remaining village sites—Kaʻaha, Halapē, Keauhou, ʻĀpua Kūēʻē and, Kāluʻe—the first four named are backcounty camp sites (Bonsey, 2004). The Wilderness Act requires that cultural resources within the wilderness areas be protected and maintained according to the pertinent laws and policies governing cultural resources, using management methods that are consistent with the preservation of wilderness character and values.

Top: Cultural site, N. Kohala, NPS photo
Bottom: 1950 Lava Flow, S. Kona, NPS photo

Visitor Experience

Recreational Resources

Present recreational use of the areas along the trail varies depending upon the ease of access and proximity to population centers. A few areas, especially in South Kohala and North Kona, receive intense use while others are rarely visited. The 2003 State Comprehensive Outdoor Recreation Plan (SCORP) reports overwhelming demand for more beach parks in Hawaii County, particularly in the Kona area. As demand increases, "there is a growing sentiment for residents to have preferred use of recreation areas over visitors and for the prevention of uses that limit access (perceived or actual) to the shoreline." Commercial uses of shoreline areas by kayak companies, luxury liners, and other segments of the eco-tourism industry, may adversely affect fragile ocean resources or crowd out public use (DLNR 2003).

The diverse activities available to visitors include water activities such as swimming, body and board surfing, snorkeling and scuba diving, fishing, boating, kayaking, and outrigger canoe paddling; passive land recreation activities such as walking, photography, birdwatching and nature study, camping, sightseeing, picnicking, and sunbathing; and in limited locations, more active land recreation such as jogging. Horseback riding is not an activity along the coastal trails. A range of hiking experiences is available from short, easy walks to strenuous hikes with unsure footing across lava fields scorched by the sun. Visitors from Japan to the island of Hawai'i seek opportunities for sightseeing, swimming, and sunbathing, while those from the U.S. mainland prefer those activities plus snorkeling and scuba (DLNR, 2003).

Respondents to a 2003 survey conducted as part of the SCORP noted a need, among others, for "cultural and historical parks that promote preservation and interpretation of archaeological and sacred sites, restoration of ancient fishponds, and workshops that perpetuate cultural traditions" (DLNR, 2003).

The trail corridor passes through a number of national, state, and county parks that provide recreation to the public, as illustrated in Table 13.

In addition, shoreline areas on private land are open to the public. For example, 'Anaeho'omalu Bay at Waikoloa Beach Resort is a popular beach "park" with public parking and restroom facilities. Other resorts in the region provide public shoreline access as well. Often these resorts contain segments of the historic *ala loa* or have developed a trail parallel to the shoreline that may become part of the Ala Kahakai NHT through agreements with the NPS.

No visitor opportunities exist today as part of the Ala Kahakai NHT. Although portions of the trail exist in the four national parks along the route, there is no information, interpretation, or educational materials related to the national trail available for the visitor. Some portions of the trail are marked as the state Ala Kahakai, but they are not managed as they would be under the action alternatives. Visitor opportunities related to information, orientation, interpretation, and education are addressed in the impacts section in chapter 4.

Table 13: Federal, State, and County Park Sites within the Ala Kahakai NHT Corridor

PARK	ACREAGE	DISTRICT
National Parks		
Puʻukoholā Heiau National Historic Site	85	South Kohala
Kaloko-Honokōhau National Historical Park	1,178	North Kona
Puʻuhonuā o Honaunau National Historical Park	182	South Kona
Hawai'i Volcanoes National Park	332,800	Ka`ū/Puna
State Parks		
Kohala Historic Sites State Monument (Moʻokini Heiau State Monument, Kamehameha I Birthsite State Monument, Kukuipahu Heiau)		North Kohala
Lapakahi State Historical Park	262.0	North Kohala
Hāpuna Beach State Recreation Area	61.8 (est.)	South Kohala
Keolonahihi State Historical Park	12.0	North Kona
Kīholo State Park Reserve		North Kona
Kekaha Kai State Park	1,642.5	North Kona
Old Kona Airport State Recreation Area	103.7	North Kona
Kealakekua Bay State Historical Park Napoʻopʻo Beach Park Section Kaʻawaloa Section	184.9 73.6 111.3	South Kona
County Parks (Beach Parks only)		
Kapaʻa Beach Park	26.34	North Kohala
Māhukona Beach Park	2.74	North Kohala
Spencer Park at ʻŌhaiʻula Beach	13.36	South Kohala
Hale Halawai Community Center, Kailua	3.20	North Kona
Laʻaloa (White) Sands Beach Park	2.34	North Kona
Pāhoehoe Beach Park	0.66	North Kona
Kahuluʻu Beach Park	4.23	North Kona
Disappearing (White) Sands Beach	2.35	North Kona
Hoʻokena Beach Park	3.22	South Kona
Miloliʻi Beach Park	1.18	South Kona
Punaluʻu Beach Park	6.00	Kaʻū
Whittington Park Honuʻapo—recently added and largely inaccessible to the public at this time	0.82 226.31	Kaʻū

Source: DLNR, State Comprehensive Outdoor Recreation Plan (SCORP), March 2003 amended by Hawaii County Parks and Recreation Department March 15, 2007

Public Health and Safety

Public health and safety is of great concern to the NPS and is addressed in the alternatives section of this document. It is not an impact topic in chapter 4 because it will be approached in the same way for all alternatives.

According to the Centers for Disease Control and Prevention, walking is one of the easiest, least expensive, and most widely available ways to reap meaningful health benefits. Trails, such as the Ala Kahakai NHT, provide places for people to be physically active and increase their wellness.

On the other hand, several aspects of the environment in the area of the Ala Kahakai NHT have potential to adversely affect the health and safety of trail users and trail staff: air quality, lava, fire, tsunami, poisonous insects, leptospirosis, pollution, flash floods and availability of potable water.

Air Quality

Vog may create health problems for trail users. Aside from sulfur dioxide, small amounts of several toxic metals, including selenium, mercury, arsenic, and iridium, have also been found in vog. During even moderate human activity, sulfur

dioxide can penetrate deeply into the airway and produce respiratory problems in some people. In absence of strong winds, sulfur dioxide emitted by Kīlauea can accumulate in the air and reach levels exceeding federal health standards. Between 1986 and 2000, this occurred more than 85 times within Hawai'i Volcanoes NP. Elevated SO_2 readings are directly related to wind direction, so that the standard is exceeded when the wind is blowing from where lava is vented toward Volcano House. Concentrations of SO_2 and hydrochloric acid (HCL) are greatest near the ocean (NPS, 1995a) within the Ala Kahakai NHT corridor where lava pours directly into the sea (U.S. Geological Survey). Trail users in Hawai'i Volcanoes NP can access a website to get up-to-date information on sulfur dioxide emissions: http://www2.nature.nps.gov/air/webcams/parks/havoso2alert/havoalert.htm

In addition, when hot lava reaches sea water, large clouds of mist are formed, called laze, which contain hydrochloric acid and other airborne contaminants harmful to human health. Map 22 depicts lave flows since 1961 and Map 23 depicts lava hazard zones.

Lava

Two of the Island of Hawai'i's five volcanoes, Mauna Loa and Kīlauea, have erupted repeatedly in this century. Another of these volcanoes, Hualalai, last erupted in 1801 and has the potential to erupt again within the next hundred years. Most eruptions of Hawaiian volcanoes are not explosive and are characterized by the relatively quiet outflow of very fluid lava. These eruptions can still be deadly, because the lava may erupt in huge volumes, and on steeper slopes fluid lava can rapidly travel many miles from its source. Erupting lava and lava flows could cover parts of the trail and affect trail users (http://hvo.wr.usgs.gov/volcanoes/hualalai and http://pubs.usgs.gov/fs/fs074-97/). See maps 22 and 23. Once lava cools, deep fissures can form. Once these are hidden by heavy vegetation, a trail user wandering from the trail could fall into a lava crack and possibly disappear. Map 22 depicts the recent lava flows at Hawai'i Volcanoes NP.

Fire

Most wildland fires in the coastal area are carried by introduced, fire-promoting species and invasive species typically found along the Ala Kahakai NHT route. These fires can threaten trail user safety and fire smoke can cause breathing difficulty. Prescribed fire, a potentially a powerful tool to restore or rehabilitate damaged ecosystems or restore native species that benefit from fire, can also cause safety and health issues but is planned and trail users can be warned ahead of time.

Tsunami[44]

A good portion of the Ala Kahakai NHT corridor, from North Kohala through South Kona and parts of Ka'ū, is within the tsunami evacuation zone as defined by the Pacific Disaster Center. (See map 23.) Tsunamis potentially destructive to the island of Hawai'i may originate anywhere around the rim of the Pacific Ocean, or they may be locally generated by earthquakes on or near this island. A tsunami produced by an earthquake on the coast of Chile will reach the Hawaiian Islands in about 15 hours, while one that originates in the Aleutian Islands will arrive in 4.5 to 5.5 hours. A locally generated tsunami gives much less warning; the waves may strike almost immediately after the earthquake occurs.

The most devastating tsunamis to hit the island of Hawai'i in this century occurred in 1946 and 1960. In both cases, the worst damage was inflicted on the northeastern coast of the island. The 1960 tsunami originated in Chile and advanced upon the island from the southeast with its effects greatest at Hilo. The arrival time of this tsunami was correctly predicted, but many people failed to heed the warnings, and authorities evacuated an insufficient area of Hilo. As a result, 61 lives were lost as waves up to 35 feet high crashed through homes. Whole city blocks were swept clean of all buildings, and 580 acres were flooded.

[44] Information on tsunamis is from http://pubs.usgs.gov/gip/hazards/tsunamis.html

The tsunamis of 1868 and 1975 were locally generated by earthquakes beneath the southern coast of the island beneath Kīlauea's south flank. The 1868 waves destroyed several coastal villages in the Kaʻū and Puna districts, most of which were never rebuilt. The 1975 tsunami claimed two lives and caused widespread damage along the Kalapana coast.

Locally generated tsunamis, such as those of 1868 and 1975, are potentially the most hazardous type, because the time between their origin and the arrival of the wave at the shoreline may be too brief to warn and evacuate people. In 1975, the first wave reached Punaluʻu immediately after the earthquake; it arrived at Hilo in 20 minutes. Any earthquake strong enough to cause difficulty in standing or walking should be regarded as a tsunami warning to people in coastal areas, who should immediately head for higher ground.

Poisonous Insects

Centipedes — In Hawaiʻi, *Scolopendra subspinipes* is the only centipede of medical importance. When humans are bitten, two puncture wounds are evident, and reaction to the injected venom can range from slight swelling of the immediate area to massive swelling of the affected limb. With the latter, medical attention should be sought. Centipedes are generally found in damp, wet places, such as under wood piles or compost heaps; wearing closed-toe shoes can help prevent stings.

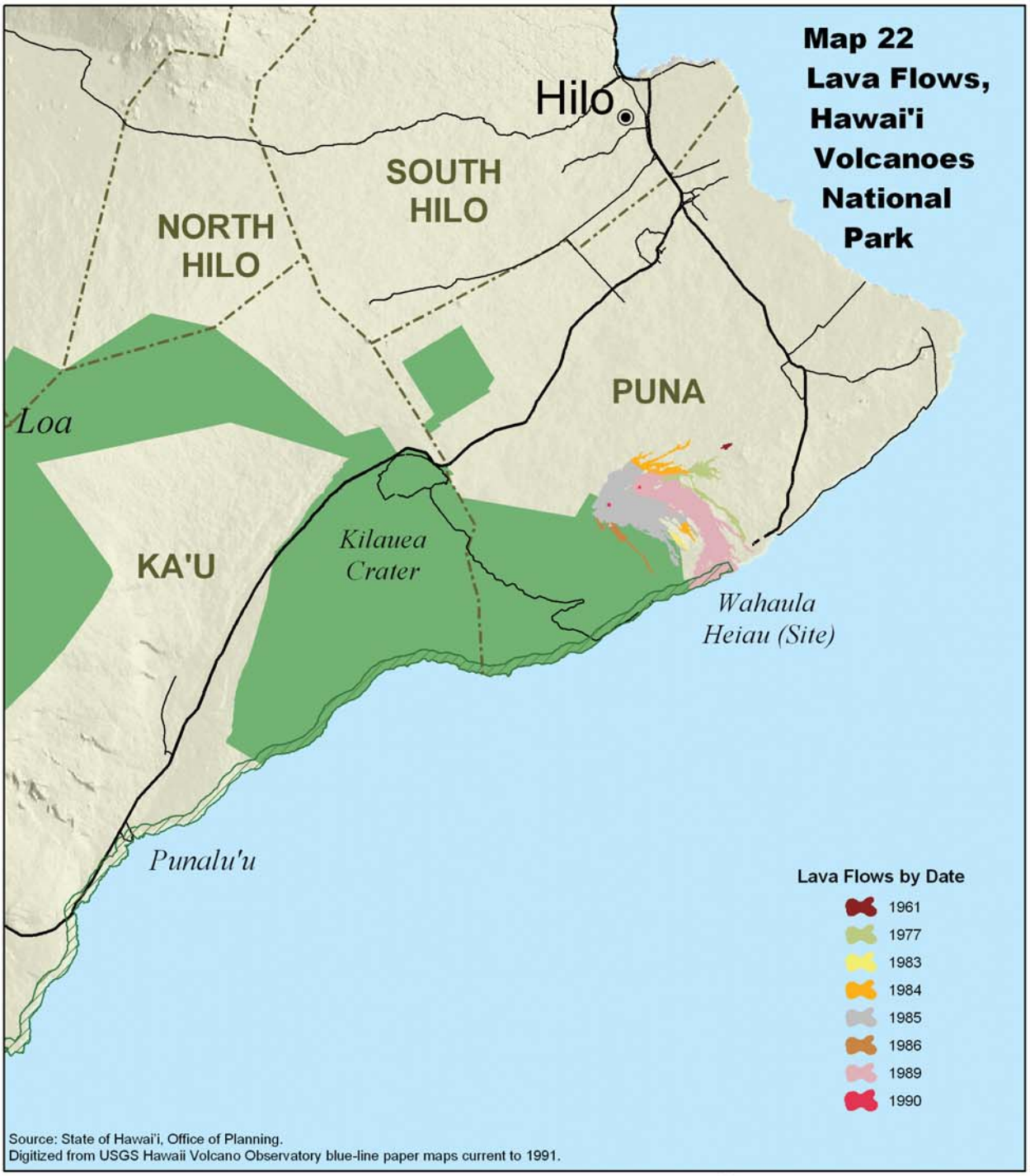
Scorpions — The sting of the sole Hawaiian scorpion species (*Isometrus maculates)* produces severe pain and swelling at the site of the puncture although the swelling on occasions spreads over a wide area. Symptoms of a scorpion sting include shortness of breath, hives, swelling, muscle pain, and nausea, but these symptoms usually disappear after 24 hours. Application of diluted household ammonia and cold compresses to the area of the sting can relieve symptoms before seeing a doctor. In Hawaii, there have been no reported fatalities due to scorpion stings. Rarely seen, scorpions would be found in arid, warm regions of the trail. Campers in dry areas should always check their boots before putting them on, and shake out sleeping bags and bed rolls.

Leptospirosis — Rats and mice as well as domestic animals carry a water-borne bacterium, *Leptospirosis*, which can cause flu-like symptoms and even death in humans. The bacteria can survive for long periods in fresh water or mud and enter the body through the eyes, nose, mouth, and broken skin. Warnings may need to be posted for trail users to avoid contact with water or mud that may have been contaminated with animal urine (Hawaii Department of Health).

Pollution — Unsanitary conditions are common at some popular beaches due to the lack of restrooms, trash receptacles, and potable water, raising the likelihood of water pollution. Other types of pollution are present in coastal areas in the form of hazardous materials, abandoned equipment, and unexploded ordinance remaining from the sugar industry and WWII related military operations (NPS 2005).

Flash Floods — Streams on the Kona coast of Hawaiʻi Island pose a danger because they can flash flood; a stream's water level can rise several feet in less than an hour during periods of intense rainfall. Flash floods occur because rainfall is intense, drainage basins are small, basins and streams are steep, and channel storage is limited. Heavy rain in the mountains may not be apparent along the shoreline where hikers would feel the effects. Streamflow generated during periods of heavy rainfall has led to loss of property and human lives in Hawaiʻi.

Availability of Potable Water — Many segments of the Ala Kahakai NHT, especially those in the Puna, Kaʻū and South Kona districts of the island, may not have readily available potable water. Approximately 40,000 to 50,000 residents on the island of Hawaiʻi presently use water catchment systems for their household water supply, and must go outside of their homes to acquire potable water. Many of these persons obtain their drinking water from public water spigot facilities provided by the Department of Water Supply, Hawaii County (County of Hawaii, 2006).

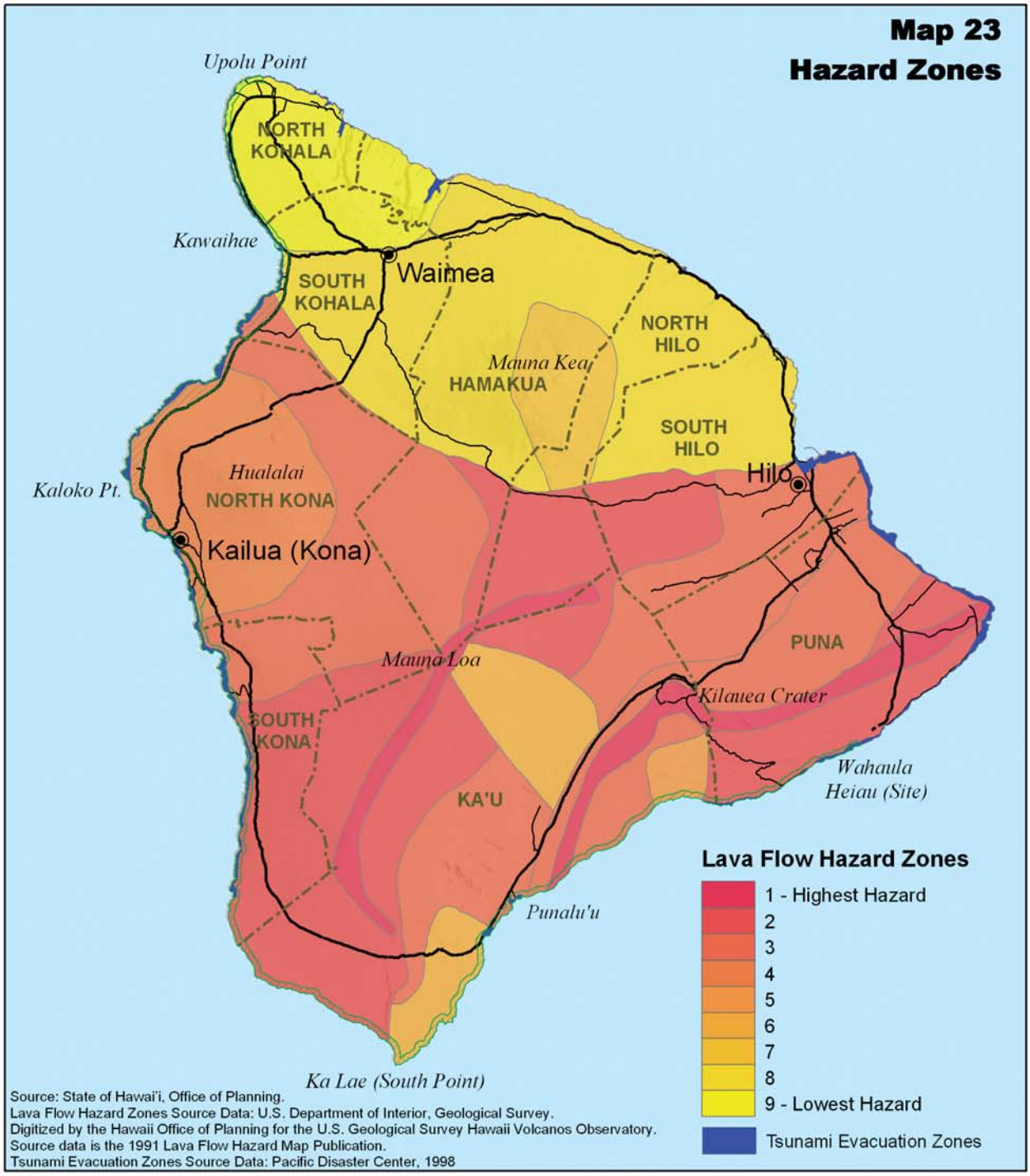


Legend

- Hawai'i Districts
- **Roads**
  - Primary
  - Secondary
- Ala Kahakai NHT Corridor
- Hawai'i Volcanoes National Park

0 2 4 8 Miles

Ala Kahakai National Historic Trail
Working Map 12/21/06



Legend

Hawai'i Districts

Roads

Primary

Secondary

Ala Kahakai NHT Corridor

0 3 6 12 Miles

Ala Kahakai National Historic Trail
Working Map 12/21/06

Socio-Economic Environment

Population

Estimates vary, but roughly 100,000 individuals populated Hawai'i Island at the time of Captain Cook's arrival in 1779 (Cordy, 2000). In the year 2000, the resident population of the island was 148,677. This population was comprised of 46,904 White Alone (36%), 42,288 (28%) Two or More Races, 39,702 (28%) Asian Alone, 16,724 (11%) Native Hawaiian and Other Pacific Islander alone, 1695 (0.01%), Some Other Race Alone, 698 (0.004%) Black or African American Alone, 666 (0.004%), and American Indian and Alaska Native Alone. Together, in 2000, the census districts containing the Ala Kahakai NHT had a population of 41,843 or 28% of the total island population (County of Hawaii, 2005: Table 1.5-Resident Population, by Districts, Hawaii County).

In 2005, the island had a projected resident[45] population of 163,000. The projected de facto[46] population was 180,000, which includes 20,800 visitors.

As shown in Table 14, the state projects an annual 1% increase in resident population and an average 1.5% increase in de facto population during the 2005 to 2025 period.

Visitors

The visitor industry is an economic mainstay of the island of Hawai'i. Visits to the island have fluctuated between 232,850 in 1990 and 303,662 in 2004, averaging 288,497 for the period. (County of Hawaii, 2005). Generally, most visits to the islands occur in the summer months (June through August) and the winter months (December, January and February). The portion of these visitors who would use the Ala

Table 14: Resident and De Facto Population Projections, State and County of Hawaii: 2005-2025

Year	Resident			De Facto		
	State Total	Hawaii County	Percent Change	State Total	Hawaii County	Percent Change
2005	1,277,950	163,000		1,406,650	180,800	
2010	1,346,600	176,750	1.1	1,490,500	196,500	1.7
2015	1,418,650	190,300	1.0	1,597,400	212,250	1.6
2020	1,489,500	203,050	1.0	1,663,450	226,800	1.3
2025	1,560,400	216,150	1.0	1,748,600	241,800	1.3

Source: *Resident and De Facto Population Projections, State and County of Hawaii: 2000 to 2030*, May 16, 2005, County of Hawaii Data Book Section 1: Population, http://www/co.county

Table 15: Attendance at Cultural Sites along the Ala Kahakai NHT Route

Cultural Site	2002	2003	2004
Hawai'i Volcanoes National Park[47]	2,399,361	2,178,430	2,605,298
Hulihe'e Palace	26,784	26,192	31,496
Kaloko-Honokōhau National Historic Park	70,101	77,632	91,462
Pu'uhonua o Hōnaunau National Historical Park	377,125	596,961	819,221
Pu'ukoholā Heiau National Historic Site	60,851	103,040	101,092

Source: County of Hawaii Data Book Section 7.27: Tourism and Recreation, 2005

45 Resident population is defined as the number of persons whose usual place of residence is in an area, regardless of physical location on the estimate or census date. It includes military personnel stationed or homeported in the area, but excludes persons of local origin attending school or in military service outside the area.

46 The de facto population is defined as the number of persons physically present in an area, regardless of military status or usual place of residence. It includes visitors present, but excludes residents temporarily absent.

47 Only a small portion of park visitors would actually experience the Ala Kahakai NHT route which is along the shoreline in a remote part of the park classified as wilderness. A portion of the trail was inundated by the latest lava flow from Kīlauea.

Kahakai NHT cannot be predicted. However, trail visitor numbers could be substantial based on the number of visitors to existing sites along the trail route and those interested in shoreline use or hiking. Table 15 illustrates the number of visits for 2002 to 2004 to attractions covering nearly the length of the Ala Kahakai NHT corridor.

While playing golf or simply walking to the beach, guests at the Kohala resorts such as the Mauna Lani, Mauna Kea, and Waikoloa, and at the Kailua-Kona and Keauhou hotels would encounter the Ala Kahakai NHT. Mauni Lani Resort has preserved portions of the prehistoric and historic trail as a marked and interpreted shoreline trail.

Visitor Spending

In 2004, spending by visitors to the island of Hawai'i was the third highest among the islands at $1.31 billion, of which U.S. West visitors spent $590 million, U.S. East visitors spent $420.4 million and Japanese visitors spent $138.5 million. This represented a 5.1 percent increase from 2003 when the total for Hawai'i Island spending was $1.25 billion (Hawaii, 2004).

The length of visitor stays was 6.63 days in 2003 and 6.68 days in 2004. However, the per person spending decreased from $154.10 per day in 2003 to $150.40 in 2004. Hawai'i comprised 9.3% of all international visitor days for the State and 14.9% of all domestic visitor days (Hawai`i, 2004).

Landownership

Tax records and tax key maps indicate that approximately 47% of the Ala Kahakai NHT route is government-owned land. The breakdown between federal, state, county and Hawaiian Home Lands is provided in Table 16. The remainder, or 53%, of the land through which the trail goes is privately owned.

Within the portion of the Ala Kahakai NHT classified as privately owned, approximately

Table 16: Government Lands along the Ala Kahakai NHT Route (In Miles and % of Total)

	Private Total Study Area	Federal (1)	State (2)	County (3)	Hawaiian Home Lands	Total Gov.
Miles	188	32	46	0.01	11	89
% of total	100%	17%	24%	<1%	6%	47%

Source: Parcel maps in GIS data base. Miles were calculated by drawing a line within the corridor one-quarter mile from the shoreline. The total miles by this method was 188, while the *Inventory of Public Shoreline Access* (1979) maps 210 mile, the number used in the following table. The *Feasibility Study* used the number of 175 miles as stated in the legislation authorizing the study.

(1) Federal land including National Park and lighthouse sites
(2) State land, including those encumbered by private leases, those under Executive Order to the county and old government roads assumed to be owned by the state
(3) County land

Table 17: Property with Ancient Trails Described in the County of Hawaii Public Access to the Shoreline Inventory (based on 210[48] miles of shoreline)

	Total Study Area	Federal	State	Sub-Total Government	Private
miles	68.10	10.60	22.56	33.16	34.94
%of total miles	100%	16%	33%	49%	51%

[48] Although the Feasibility Study defines the trail length as 175 miles, the maps of the 1979 county Inventory of Public Shoreline Access shows the trail along 210 miles of shoreline.

15.49 miles of easements or dedications have been required by governmental action within the trail corridor. Of this total, approximately 11.08 miles are in place and/or recorded on deed documents. Approximately 4.41 miles are situated on parcels that have not been developed and may not be currently available for public use (Nishimura).

In addition, within the privately owned classification are several miles of "ancient trail" that are owned in fee simple by the state. In the ancient Hawaiian method of governance, these trails were open for the use of all the people. State law, the Highways Act of 1892, continues to protect the right of the public to use these trails. The source used to gain information of these trails for this CMP is the County of Hawaii, *Inventory of Public Shoreline Access* (1979) with additional information from the Nā Ala Hele inventory dated 2004. It is important to note that only those segments which traverse through government land or are part of the tax maps or old survey maps as public trails were part of that inventory. It is probable that more miles of "ancient trail," exist and could be identified as part of trail segment management planning.

Approximately 68 miles of the properties within the study area have ancient trails described in the *Inventory of Public Shoreline Access*. Table 17 provides a breakdown between federal, state and private ownership of these parcels. Approximately 32.62 miles (49%) are government owned while the remaining 34.94 miles (51%) are privately owned.

In summary, approximately 109 miles (52 percent) of trail along 210 miles of shoreline appear to be publicly owned or protected at this time, although most of these miles of trail are not ready for public use. An undetermined portion of the remaining mileage has potential for public ownership and use as "ancient trail" according to the 1892 Highways Act.

Trail Operations

The Ala Kahakai NHT is administered by the NPS superintendent using office space at the headquarters building of Kaloko-Honokōhau NHP. Funds are available to hire a second staff person, most likely a community planner. The superintendent relies on the four national park units to manage the trail within their boundaries. No nonfederal segments of trail or trail sites have been made official components of the national trail. Beyond responding to the basic administrative duties as required by the NPS, the superintendent is engaged in developing the framework for community-based management of the trail. Using its base budget augmented by NPS Challenge Cost Share Program funds, the trail superintendent has been able to contract for community engagement consultation, a cultural landscape study for North Kohala, and ethnographic and historic studies.

Top: "Ahu" boundary marker, N. Kohala, NPS photo
Bottom: Trail, Waikoloa, S. Kohala, NPS photo

Environmental Consequences

Top left: Coral reef, Kaloko-Honokōhau NHP; top right: Pu'uhonua o Hōnaunau National Historical Park; bottom: Anaehoomalu Petroglyph Preserve. NPS photos.

Chapter 4: Environmental Consequences of the Alternatives

Introduction

National Park Service (NPS) planning guidelines stipulate an environmental impact statement (EIS) must be prepared for all national trail comprehensive management plans. The National Environmental Policy Act (NEPA) requires that an EIS disclose the environmental effects of proposed federal actions. In this case, the federal action would be the adoption of the comprehensive management plan for the Ala Kahakai NHT by evaluating the consequences of implementing the three alternatives. The alternatives establish broad management guidelines, and their general nature requires that the assessment of impacts also be general. The NPS can make some reasonable projections regarding impacts, but these are based on assumptions that may not prove to be accurate in the future. Therefore, this plan may be considered a programmatic EIS.

Consistent with NEPA and NHPA Section 106, any proposed actions in the future would be preceded by site or segment specific compliance, prepared in consultation with the Environmental Protection Agency (EPA), U.S. Fish and Wildlife Service (USFWS), the State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources (DLNR), other state and federal agencies, Native Hawaiians, local communities, and private landowners. It is anticipated that such documents would reflect a considerable shift in emphasis from qualitative to quantitative analyses.

In the case of the Ala Kahakai NHT, the federal government owns only 17% of the trail corridor. The remaining 83% of the corridor traverses state, county, and private landholdings. Federal government regulations would apply only to those lands that are owned in fee or on which there is a federal undertaking, such as federal funding or licensing. As time goes on and more trail segments become official components of the Ala Kahakai NHT, more of the trail may come under either federal administration or management. Nonetheless, the implication of this landownership pattern is that many of the actions recommended in this plan are non-federal. This plan serves as a partnership document. It lays out guidelines by which the NPS can make recommendations or work with other non-federal levels of government, nonprofit organizations, and interested persons in order to implement the recommendations.

Chapter 3 identifies the existing conditions for all impact topics that are analyzed. Impact analyses are presented in this document by describing the impacts of each alternative on each resource topic. Each impact topic includes a description of the impact of the alternative, a discussion of cumulative effects, and a conclusion. At the end of the discussion of the impacts of each alternative on each impact topic, as required by NEPA, there is a brief discussion of unavoidable adverse impacts, irreversible and irretrievable commitments of resources, and the relationship of short-term uses of the environment and the maintenance and enhancement of long-term productivity. Finally, the environmentally preferred alternative is presented.

Unmanaged area, S. Kohala, NPS photo

Methodology

The Ala Kahakai NHT is not established on the ground. There is no experience of past management of the Ala Kahakai NHT to rely on in assessing the impacts of specific actions. While the four national parks have segments of the trail and manage their resources according to NPS standards, the trail within the parks is not yet marked or managed as the Ala Kahakai NHT. Actions within the trail corridor outside of federal lands will continue to affect sites and trail segments that could be incorporated into the Ala Kahakai NHT. This CMP will provide the guidelines for adding those sites and segments of trail to the NHT. It will also provide guidance to the national parks regarding the trail.

Impact analyses and conclusions are based on NPS staff knowledge of resources, the project area, and administration and management of other national historic trails; review of existing literature; and information provided by experts in the NPS, other agencies, or organizations, or by knowledgeable individuals. Any effects described in this section are based on the proposals for the alternatives and the reasonable expectations of the impacts they might have. Little quantitative information is available for the entire trail corridor. Therefore, the best professional judgment was used in determining potential effects.

The impact analyses for the no-action alternative compare desired resource conditions in 2020 to existing conditions in 2006 as if existing budgets and funding remain flat. The impact analyses for the action alternatives (alternatives B and C) compare those alternatives in 2020 with the no-action alternative in 2020. In other words, the impacts of the action alternatives describe the *difference between* no-action and implementing the action alternatives. Impacts have been assessed as if the resource protections and management measures described in chapter 2 would be implemented. If these measures were not applied, the potential for resource impacts and the magnitude of those impacts would increase.

Impact Terminology

Based on the guidelines of the National Environmental Policy Act (NEPA) and its implementing regulations from the Council on Environmental Quality (1978), the consequences of the actions in the alternatives, including direct, indirect and cumulative effects are described in terms of impact type, duration, intensity, and whether the impact would be direct or indirect. Cumulative effects are also identified.

Impact type

Adverse: involves a change that moves the resource away from a desired condition or detracts from its appearance or condition.

Beneficial: involves a positive change in the condition or appearance of a resource or a change that moves the resource toward a desired condition.

In some cases, the action could result in both adverse and beneficial effects for the same impact topic.

Duration

Unless otherwise stated, the standard definitions for duration are as follows:

Short term: the effect occurs only during or immediately after the implementation of an aspect of the alternative.

Long term: the effect could occur for an extended period after implementation of an aspect of the alternative. The effects could last several years or more and could be beneficial or adverse.

Intensity

Impact intensity is the magnitude or degree to which a resource would be beneficially or adversely affected. Each impact is identified as negligible, minor, moderate, or major in conformance with specific definitions for each impact topic. Each resource has its own intensity standards that are listed in tables associated with each impact topic.

Direct Versus Indirect Impacts

Direct: impacts occur at the same time and the same place as the action.

Indirect: impacts occur later and a farther distance from the action.

Cumulative Impacts

Impacts on the environment can result from the incremental impact of the action when added to the other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes the action. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time.

To determine potential cumulative impacts, projects within or near to the trail corridor were identified by examining other existing plans and by telephone discussions with national park staff, state and county agencies, and other helpful individuals. Projects identified are past actions, plans or actions that are currently being implemented, and reasonable foreseeable future plans or actions.

Projects Comprising the Cumulative Impacts Scenario

The following are plans and actions by agencies, organizations, or persons that could affect the national trail and regional natural, cultural, and recreational resources, the visitor experience, or the socioeconomic environment.

Federal

New Highway—Waimea to Kawaihae Harbor, Federal Highway Administration. The FHWA has proposed constructing an improved 14-mile stretch of upgraded highway between the central and west Hawai‘i town of Waimea to Kawaihae Harbor near the district of South Kohala. A notice of intent to prepare an EIS for the proposed project has been issued (NPS 2004: 4-15).

Short Austere Airfield (SAAF) Runway, Department of Defense, Department of the Air Force. The Department of the Air Force proposes to build an $18 million 4,250-foot by 90-foot "short, austere airfield" for C-17 combat practice landings at Keahole International Airport in Kona to train C-17 aircraft crews stationed at Hickam Air Force Base. A Finding of No Significant Impact was issued in November 2004. The C-17s can transport the fast-response Stryker Brigade of about 300 eight-wheeled armored vehicles (Honolulu Advertiser).

Besides being able to handle short take-offs and landings, C-17 pilots will practice landing approaches from random directions and spiral approaches from high overhead. Operations on the training site would take place at least once a day, averaging about four hours a day. That averages to about 16 landings in four hours, or one landing every 10 to 15 minutes. Flight operations will occur at night and during the day (Honolulu Star Bulletin).

Stryker Brigade Combat Team, US Army. Hawai‘i is the location for an interim force based on the Stryker vehicle, or a Stryker Brigade Combat Team (SBCT). For training exercises at the Army's Pohakuloa Training Area (PTA), troops, SBCT vehicles, and equipment for training support would arrive at Kawaihae Harbor. Convoys would travel on a proposed new two-lane gravel military vehicle trail between the harbor and PTA. There would be up to 10 trucks and 24 Strykers per trip. The vehicle trail will cross state highways at Kawaihae Road north and east of Queen Ka‘ahumanu Highway (Tetra Tech, 2004).

State

Commercial Harbors Master Plan 2030. Kawaihae Harbor currently operates under the *Hawai‘i Commercial Harbors 2020 Master Plan* developed by the Harbor Division of the State Department of Transportation. Work on the next plan for 2030 may begin as early as May 2007 (Soma, 2006). This plan will look at the long-range needs of Kawaihae harbor, and will include public access and use provisions as required by the state. Ala Kahakai NHT administration will encourage protection of the ancient trail alignment.

Kawaihae Harbor dredging and Expansion—Kawaihae Harbor. The US Army Corps of Engineers and the state of Hawai‘i are proposing to deepen and expand the Kawaihae Harbor. The project consists of an entrance channel, the harbor basin, and a "rubble mound" breakwater. The current harbor basin is approximately 35 feet deep, and accommodating the new vessels would require a harbor basin of at least 40 feet.

Modifications are proposed to the west breakwater, and wave absorbers or breakwaters on the north side are proposed to reduce surge problems. The southwest part of the harbor is the primary port for military equipment, supplies, and personnel destined for the Army's Pohakuloa Training Area (PTA), 18 miles southwest of Pu‘ukoholā Heiau National Historic Site. An environmental assessment was prepared in spring 2005, with construction to begin by 2008 (NPS 2004c: 4-14).

Proposed Kīholo State Park. The proposed Kīholo State Park is an eight-mile long undeveloped coastline *makai* of Queen Kaahumanu Highway stretching from Pu‘uwa‘awa‘a northward through Pu‘u Anahulu to the southern end of ‘Anaeho‘omalu Bay. The reserve encompasses an approximately 4,300-acre coastal lava plain. "Noteworthy natural, cultural and recreational resources include extensive coastal wildland environment, good swimming beaches at Kīholo Bay and Keawaiki Bay, the Akahu Kaimu anchialine pools, Luahinewai Pond, and the historic coastal trail and its archaeological features"(State of Hawaii, 2004). A park at Kīholo would insure retention of the fast-disappearing natural open space and the open coastal views from the highway. The area currently includes a 3-acre State Park Reserve used for public recreation on which the house formerly belonging to Loretta Lynn is located. The Division of Conservation and Resources Enforcement (DOCARE) monitors public use and enforces applicable state regulations on all state-owned lands within the Kīholo area. Preliminary natural, cultural, recreational resource studies are completed along with archival historical research and oral histories. DLNR is seeking funds to complete furthers studies and develop a master plan for the park.

Proposed Kona Kai Ola. The 530-acre project site of the proposed Kona Kai Ola is located in Kealakehe, North Kona adjacent to Kaloko-Honokōhau NP. The site is owned by the state of Hawaii with 200 acres owned by DHHL and 330 acres owned by DLNR. This area includes approximately 40 acres of the Kealakehe Parkway proposed right-of-way within the project area and approximately 22 acres of land to be used potentially for the proposed Kealakehe Parkway extension south through Queen Liliuokalani Trust lands. This parkway extension is subject to future negotiations and agreements with Queen Liliuokalani Trust. The EIS Notice of Preparation is dated July 2006 (Oceanit, 2006). Approximately 15.5 acres of the proposed project area were authorized by the U. S. Congress to be part of the Kaloko-Honkōhau NP, but are not currently protected by the NPS. (NPS 2006).

In exchange for major infrastructure improvements—the Kealakehe Parkways improvements and an 800 slip harbor contiguous to the existing Honokōhau Harbor—Jacoby Development, Inc. received the right from the Board of Land and Natural Resources (BLNR) to develop a project with land uses including retail/restaurant, resort hotels and timeshare units, light industrial/marine uses, open space, public access, and recreational water features. The project would be built in phases over an approximate 14-year period. The preliminary concept plan includes a 400-foot development setback from the shoreline in which an ocean-front trail is depicted (Oceanit, 2006). The Ala Kahakai NHT is not mentioned in the Notice of Preparation, and it is unclear if the archeology and cultural resources assessment will include a search for and protection of the ancient or historic coastal *ala loa*.

County

Kawaihae/Waimea Road — Island of Hawai'i. Hawai'i County Public Works Department is investigating traffic mitigation measures along Kawaihae Road from Waimea Park to Merriman's. The intent is to use the existing road corridor and, after minor paving and other improvements, to remark the roads with through-lanes and turning pockets. The county is also studying a project to provide for a state right-of-way for a road to replace the Kawaihae/Waimea Road (County of Hawaii 2002). There are no other county of Hawaii road projects in the areas of Pohakuloa, Kawaihae, or Waimea (NPS 2004c, p. 4-14).

Connector Road between Mamalohoa Highway and Kawaihae Road. The county has begun to plan for a connector road between Mamalohoa Highway and Kawaihae Road in the vicinity of Lalamilo Farm Lots to the north or Lalamilo Farm Road. Belt Collins is preparing the environmental impact statement (Brown, 2007).

Other Proposals and Projects

Hawaii Superferry, Inc. Consistent with the current *Commercial Harbors Master Plan 2020*, Hawaii Superferry Inc. proposes to start operating a ferry from Oahu beginning in 2009. Built to carry 866 passengers, it would also be capable of carrying 282 to 325 cars. Twenty-eight trucks as long as 40-feet could be accommodated (*The Ka'ū Calendar*, 2007). It would operate seven days a week with at 11:45 a.m. arrival at Kawaihae and a 12:45 departure each day. The state is building a barge and ramp system to allow vehicles to get on and off the ferry. Existing harbor facilities will accommodate the maximum vehicle load; however, assessment of damage to the piers from the October 2006 earthquake is underway and new mooring positions may need to be constructed (O'Halloran, 2006). Concerns have been raised for impacts to traffic on roads and at parks and other public facilities, and on the potential introduction of plant diseases and alien plant species. No environmental impact statement has been required, but at least one member of the county Council has asked for one to be completed prior to the Superferry starting business on Hawai'i Island (*The Ka'ū Calendar*, 2007).

Resort Developments. Waikoloa, Hualalai, Mauna Lani Resorts are continuing to complete phased developments for which they have existing permits.

Large Private Developments.

Mahukona— has permits not yet used.

Kohala Waterfront — described by C&H Properties, the owners, as "elite Big Island properties on the Kona/Kohala coast at the Kohala Waterfront form a beautiful oceanfront/ocean view community on the island of Hawaii. On this luxury real estate, you can create your own private haven with a spacious lot, with dynamic ocean and mountain views destined to be enjoyed for a lifetime (C&H Properties, Inc.)." No mention of trails is made in the sales information. However, the SMA permit and approved subdivision does provide for a 10-foot wide pedestrian trail along the top of the sea cliff. Public parking and *mauka-makai* pedestrian access to the trail is also required. Although the easement is recorded, the lateral trail is not discernable on the ground (Brown, 2007).

O'oma Development — this project adjacent and north of the Kohanaiki development has an approved zoning change and SMA permits, but building approval may be postponed until the Queen Ka'ahumanu Highway widening to the airport is completed (Brown). The development plan includes residential uses, an 18-hole golf course, a public shoreline park with facilities and camping, and an alignment of the Ala Kahakai NHT as the existing shoreline trail.

Shores at Kohanaiki — Construction is underway in this 4448-acre luxury home (500 single-family) and golf course development in the *ahupua'a* of Kohanaiki *makai* of Queen Ka'ahumanu Highway and adjacent to the north boundary of Kaloko-Honokōhau NP. Plans include a 129-acre public shoreline park with facilities and camping and an alignment of the Ala Kahakai NHT as the existing shoreline trail. Extensive land modifications have

created high platforms adjacent to the Kaloko-Honokōhau NP boundary on which houses are to be built.

Hōkūli'a — This 1,540-acre development located in Kona near Kealakekua Bay includes plans for 665 luxury homes, a golf course, and related amenities. The developers are required to protect many previously unidentified cultural sites, build a new public highway to ease traffic congestion in Kona, build 100 or more units of affordable housing in Kona, complete a 140-acre public shoreline park spanning about three miles of coastline, add additional parking and recreational facilities to this Kona Scenic Park, and conduct a baseline water quality study along an approximately 11-mile stretch of the Kona coast. The Hawaii Supreme Court determined that the property contains 3 government-owned trails parallel to the coastline: an old government road, a stepping stone trail, and an old cart road. These trails will most likely come under the purview of Nā Ala Hele. The court required that an advisory council for the trails be established, and that easements be negotiated. Hōkūli'a will be required to maintain the trails according to direction developed by the advisory council.

Old Kona Lagoon Hotel Site — the site of the demolished Old Kona Lagoon Hotel just south and adjacent to the Outrigger Keauhou Beach Resort and north of the Keauhou Surf and Racquet Club Condominiums is planned for development by the owners, Kamehameha Schools.

South Kona Coast — The Magoon family sold several *ahupua'a* parcels on their property south of Ho'okena. One owner has subdivided his parcel, and as a result, is required to work with Nā Ala Hele to provide lateral shoreline access across his property. It is possible that future subdivisions in this area may require public access to the shoreline trail as a condition of use.

Punalu'u Resort — planning to expand Punalu'u's long-dormant Sea Mountain resort, "Sea Mountain Five recently completed its draft environmental impact statement on the proposed project, which calls for 434-acre resort complex including two resorts with over three hundred rooms, two retail areas, and about 1,500 housing units, including three-bedroom homes, duplexes, triplexes and cluster townhouses. Plans propose to develop within the parameters of the existing permit" (McNarie, 2006). Environmental organizations have expressed concerns about the resort's effects on the area, including effects on endangered species. Ka'ū Preservation has been fighting resort development of the area for years. It recently revealed its own plans to convert the area to a "living classroom" with educational facilities and two restaurants (McNarie, 2006).

Honu'apo Fish Pond and Coastal Area — In March 2006, 225 acres of historic coastal land in the Honu'apo area of Ka'ū became permanent public land through combined efforts of the Trust for Public Land, the state of Hawaii, the county of Hawaii "2% fund," the National Oceanic and Atmospheric Administration coastal preservation fund, the original landowners (Landco), and private funds ranging from pocket change to large donations. The county is responsible for these lands aided by a new non-profit group, Ka 'Ohana o Honu'apo, formed to guide a stewardship process (Trust for Public Land). The Ala Kahakai NHT traverses this area.

Honu'apo, Ka'u, NPS photo

Analysis Assumptions

The following assumptions were used to guide the analysis of environmental consequences:

- The NPS and its partners would have the ability to request funding or develop needed funding sources and personnel to implement any one of the alternatives.
- Trail protection, interpretation, marking, and development would only occur after completion of specific trail segment resource inventories and management plans and further environmental compliance.
- The planning period of the analysis is generally the next 15 years (to 2020 approximately).
- The planning area for the environmental analysis at a minimum is the trail corridor generally comprised of the coastal strand and coastal plain as shown on the alternatives maps. The area for impact analysis may change depending upon the topic and information available.
- Specific actions to protect human life would be taken under all plan alternatives.
- The regulations, laws, and policies described in chapter 1 under "Legal and Policy Requirements" inform the range of actions.
- Visitors to the area of the trail corridor will continue to increase as will population, but few visitors will come to the island of Hawai'i specifically to visit the Ala Kahakai NHT.

Information Sources and Gaps

The impact analysis and conclusions are based on information available in the literature, data from park studies and records, and information provided by experts within the NPS, other agencies, and nonprofit organizations. In addition, relevant laws, regulations, and NPS management policies were used in development of impacts.

Data for all resources are limited. Since most of the trail corridor is privately owned, most of the corridor lacks a systematic inventory of natural and cultural resources. The NPS contracted with the SHPD to prepare a compilation of all known cultural resources within the corridor, but the project was not completed and the information was not available for this plan. However, the completed portion of the study will be useful to trail management once its findings are organized. Environmental impact statements prepared for projects along the shoreline could provide some information, but it was beyond the scope of this project to review them systematically. Often, existing studies are incomplete and generally identify archeological resources without concern for traditional cultural properties and resources significant to Native Hawaiians. Using what is known from existing inventories and relying on their best professional judgement, planners can only estimate, the number, type, and significance of the range of cultural and natural resources.

Even within the four NPS parks, inventories are not complete. The NPS *Vital Signs Monitoring Plan* for all Pacific Island parks includes some information for the Ala Kahakai NHT taken from inventories underway or completed in the four national parks for vegetation, terrestrial vertebrates and invertebrates, freshwater and anchialine pool communities, marine communities, and water quality. The monitoring plan notes the need for more inventories in all of these areas within the national parks.

This CMP recommends initial assessment and overview studies for the entire trail. More specific inventories would be completed as trail segments are incorporated into the Ala Kahakai NHT and site specific, quantitative compliance evaluations and measures are implemented.

Impairment of Resources (NPS Properties)

In addition to determining the environmental consequences of the alternatives, NPS policies require that potential effects be analyzed to determine whether proposed actions would

impair resources or values of the Ala Kahakai NHT. Most of the lands along the route are nonfederal. The following impairment discussion would apply only to those lands that are federally owned in fee title or lands with less than fee title such as conservation easements, leases, or agreements.

While Congress has given the NPS the management discretion to allow certain impacts within parks, that discretion is limited by the statutory requirement (enforceable by the federal courts) that the NPS must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. This cornerstone of the Organic Act establishes the primary responsibility of the NPS. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.

The impairment that is prohibited by the Organic Act and the General Authorities Act is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. Whether an impact meets this definition depends on the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts.

An impact to any park resource or value may constitute an impairment. An impact would be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or identified as a goal in the park's general management plan or other relevant NPS planning documents. An impact would be less likely to constitute an impairment to the extent that it is an unavoidable result, which cannot reasonably be further mitigated, of an action necessary to preserve or restore the integrity of park resources or values.

Impairment may occur from visitor activities, NPS activities in the course of managing a park, or activities undertaken by concessioners, contractors, and others operating in the park.

In this chapter, an impairment determination is presented in the conclusion section for each impact topic.

Effects on Cultural Resources

Methodology and Assumptions

The following discussion of cultural resources includes analyses of potential impacts to archeological resources, historic structures, and cultural landscapes related to the Ala Kahakai NHT. Each of those resource types may also be eligible for listing as traditional cultural properties (TCPs), and all cultural resources have the potential to be of on-going cultural significance to Native Hawaiians without regard to their eligibility for listing on the national register as TCPs. These resources are discussed separately in chapter 3, but impacts to them are discussed together here because distinctions between them are not easily made and the full extent of these resources is not known. Archeological resources and historic structures contribute to the cultural landscape and every aspect of the landscape can be important to contemporary cultural groups. Since most of the management actions proposed in the alternatives affect a combination of these resources, the effects discussed below are considered to include all types of cultural resources.

Cultural resources are subject not only to provisions of the NEPA and its implementing regulations from the Council on Environmental Quality, but also with Section 106 the National Historic Preservation Act with implementing regulations at 36 *Code of Federal Regulations*

Part 800. Therefore, the impact criteria for cultural resources are presented in a different format from the other impact topics in this environmental impact statement. In addition, it is important to note that certain resources assessed by the NEPA guidelines as natural resources later in this EIS will also be evaluated as cultural resources using 36 *Code of Federal Regulations* Part 800. These are anchialine pools and fishponds and marine resources related to traditional coastal harvesting.

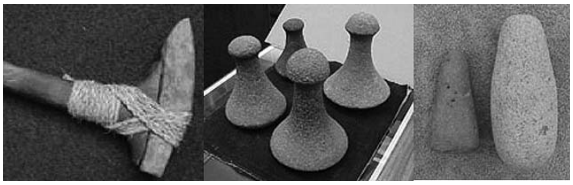
As described in the Section 106 implementing regulations, application of the criteria of adverse effect to a proposed action results in a finding of either adverse effect or no adverse effect.

> An **adverse effect** would be an action that would alter, directly or indirectly, any of the characteristics of a site, structure, or landscape pattern or feature that would qualify the landscape for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the design, setting, materials, workmanship, feeling, or association. Some elements of cultural landscapes, such as structures, are nonrenewable, so adverse effects on these character-defining elements would be long-term. Other elements of cultural landscapes, such as vegetation, may be renewable, and effects on these elements would be more short-lived (for example, until regrowth occurred). An adverse effect would have to be resolved consistent with the methods outlined in 36 *Code of Federal Regulations* Part 800.6.
>
> Under a **no adverse effect** determination, the direct or indirect effects of the action would not meet the Section 106 criteria for adverse effect.

Under Section 106, in cases where there are no national register-eligible cultural properties or landscapes present, or where, if present, these resources would not be affected by undertakings proposed in this plan, a finding of "*no historic properties affected*" is made. However, for the Ala Kahakai NHT, cultural resources that may not be eligible for the NRHP but are significant to contemporary associated groups will be considered using Section 106 criteria. Ancient and historic trail fabric, archeological sites, shrines (*heiau*, '*ahu*), burial sites/reburials, petroglyphs, and grinding surfaces, *wahi pana* (places sacred or special to Native Hawaiians) and natural resources considered as cultural resources, such as food and fish gathering areas, fish ponds, caves, salt pans, and ethnobotanical resources—all work together to create the cultural setting of the trail whether or not they are eligible for the NRHP. Even resources not eligible for the NRHP need consideration for preservation if they are important to affiliated groups.

Information used in this assessment was obtained from relevant literature and documentation, maps, and information provided by experts within the NPS, other agencies, and nonprofit organizations. In addition, relevant laws, regulations, and NPS management policies were used in development of impacts.

NEPA intensity thresholds for cultural resources are provided only within the no adverse effect category. For impacts of minor intensity, the thresholds address adverse or beneficial changes. The thresholds for moderate and major impacts only consider beneficial changes because unfavorable changes of these magnitudes would result in a Section 106 finding of adverse effect (see above). Once an adverse impact is identified, ways would be considered to avoid, minimize, or mitigate it.



Left to right: Adze, Poi Pounder, Fishing net weights, NPS photos

Impact intensity	Impact Description
Negligible	The effects on cultural resources would be at the lowest levels of detection, barely measurable with neither adverse nor beneficial consequences. Impacts would neither alter resource conditions, such as traditional access or site preservation, nor the relationship between the resource and the affiliated group's body of practices and beliefs. The determination of effect for Section 106 would be *no adverse effect*
Minor	The action would improve protection of a site, preservation of landscape patterns and features as well as the integrity of location, design, setting, materials, workmanship and association. Site protection would allow access to traditional resource areas or accommodate a group's traditional practices or beliefs. Minor impacts could be beneficial or adverse. For purposes of Section 106, the determination of effect would be *no adverse effect*.
Moderate	The action would noticeably enhance the protection of a site, preservation of landscape patterns and features as well as the integrity of location, design, setting, materials, workmanship and association. Site protection would encourage traditional access or accommodate a group's practices or beliefs. The determination of effect for Section 106 of would be *no adverse effect*.
Major	Stabilization, preservation, or rehabilitation of a site or landscape features would substantially enhance protection of a site, preservation of landscape patterns and features as well as the integrity of location, design, setting, materials, workmanship and association and would facilitate traditional access or accommodate a group's practices or beliefs. The determination of effect for Section 106 of would be *no adverse effect*.

The area of analysis for cumulative impacts is defined as the coastal strand and inland plain up to the Mamalahoa Highway or Hawaii Belt Road.

Effects on Cultural Resources from Alternative A: No Action

Analysis

Cultural resource management would continue under current laws, policies, and regulations as they relate to NPS property and authority. Actions and subsequent impacts under alternative A are limited to NPS-owned lands—the four national parks—and to the authorities of the National Trails System Act as applied to non-federal segments of trail incorporated in the Ala Kahakai NHT. Trail segments on non-federal lands would only become official components of the Ala Kahakai NHT with landowner consent through management that would require, among other things, a classification of the trail type, an inventory and assessment of trail resources, and a protection and monitoring plan.

The NPS park managers would continue established resource protection measures within the national parks, and the Ala Kahakai NHT staff would encourage resource protection through agreements along the few segments of trail that could be included in the Ala Kahakai NHT under alternative A. As possible, Ala Kahakai NHT staff would encourage research on trail resources to support protection and interpretation of the trail. Trail segment additions would require inventory, evaluation, and documentation of archeological sites, historic buildings, traditional cultural properties, and resources significant to contemporary Native Hawaiians to determine how many resources may contribute to the trail character and history and therefore be eligible for listing in the NRHP.

Any control by trail administration over effects on resources outside of federal areas, and perhaps state and county parks, would be limited to the trail right-of-way and an agreed upon protection area adjacent to the trail. While trail fabric and resources in close proximity to the trail could be protected, influence on the broader cultural landscape would rest with agreements with interested landowners. New research on cultural resources, archeological inventories, identification, and evaluation of traditional cultural properties and cultural landscapes may be completed along the trail route within the national parks and along trail segments that become components of the national trail.

Trail sites would become official components of the Ala Kahakai NHT through an agreement with the site managing authority that assures protection of the resource and consideration of Section 106 of the NHPA. Trail sites and segments would be under the administrative authority and oversight of the NPS, but would be managed by others through these agreements.

None of these agreements are in place at this time, but there is potential under alternative A within the planning period to develop agreements for 12 of sites[49] other than national parks included in the auto tour. One of these 12 sites is a National Historic Landmark, 3 are on the NRHP, and 4 have state recognition. Evaluation of eligibility of the 4 remaining sites for the state or national registers could be completed under alternative A as well as a reevaluation of the nominations for the existing sites to include traditional cultural properties, cultural landscapes, and information on significance to traditionally associated peoples. As sites along the auto tour are incorporated into the Ala Kahakai NHT, these sites would receive NPS oversight and protection through monitoring. Where potential impacts would be identified, possible mitigation could include, but would not be limited to, avoidance and protection or educational outreach programs.

The state would continue to inventory ancient and historic trails and attempt to protect them as development occurs, but generally would not have the capacity to open them to the public. Trails on the Nā Ala Hele inventory could be held through land banking, but if they cannot be managed by the state or the NPS, over time they could possibly be quit claimed.

Under alternative A, ancient or historic trail fragments may be lost. The evidence of ancient and historic trails is especially vulnerable to removal as landowners prepare their properties for development. During the development approval process, the county would determine if a trail fragment is an archeological site or a public access right-of-way. If a trail fragment is determined to be an archeological site, it would likely be abandoned as a trail.

Some resources may be protected by landowners by virtue of their limiting public use of their property but only if they make no significant changes to their property. Trail fabric resources within the route, but not yet included in the Ala Kahakai NHT, would continue to be affected by development along this highly desirable shoreline. Looting and digging by artifact hunters and amateur "archeologists" using existing trails or other means of access would continue.

These impacts could be more severe with added public use on existing trails that are not yet incorporated into the Ala Kahakai NHT or as more areas become accessible to the public. Added public use may result in increased tension between traditional users and hikers who are not from the area. Although cultural practices along those parts of the route included in the Ala Kahakai NHT would be respected and recognized by trail administration and in management

[49] Lapakāhi State Historical Park, Puakō Petroglyph Preserve, Waikōloa Petroglyph Preserve, Huilheʻe Palace, Ahʻena Heiau, Kamoa-Keolonāhihi, Laʻaloa, Kahaluʻu Bay, Lekeleke Kuamoʻo,Keauhou Hōlua , Lekeleke & Kuamoʻo Battle Site, Kealakekua Bay State Historical Park including Hikiau Heiau, Mokuʻohai Battleground, South Point National Historic Landmark District, and Punaluʻu Ruins.

agreements, traditional use may be limited by the loss of trails to development. Trail resources important to contemporary associated groups could be lost.

Cumulative Effects

The trail fabric and associated resources of the *ala loa* have been adversely impacted by natural causes such as lava flows, tsunami and high waves, and the sinking of the western coast of the island of Hawai'i. By far the greatest adverse impacts have come from construction of towns, transportation facilities, resorts, and residences. In 1991, *Backpacker* magazine and the American Hiking Society declared the trail a threatened resource (Curtis, 1991). Under the no action alternative, development, looting, and vandalism would continue to threaten trail resources. Trail recognition would continue to be fragmented and the public access value of the shoreline trail could override the cultural and historical values of the *ala loa* through requirements imposed on developers by state and county government.

The size and number of projects listed in the cumulative impacts scenario from South Kohala through South Kona and in Ka'ū affecting the shoreline and coastal plain would result in altering the patterns and features of the landscape of the region and affecting archeological resources and historic structures. Projects surrounding the trail could affect the integrity of the cultural landscape of the trail.

Actions of alternative A could encourage the national parks along the route to include cultural practices of Native Hawaiians and thereby have a minor beneficial effect on traditional users. On those few nonfederal segments of trail incorporated into the Ala Kahakai NHT under alternative A, appropriate cultural practices would be allowed resulting in possible minor beneficial effects on traditional practitioners. Outside of these areas cultural practitioners could experience minor to major adverse impacts from projects in the cumulative impacts scenario, depending upon the degree to which development affects the relationship between resources and practices and beliefs.

On the positive side, as developers are required by the state to identify cultural resources and state-owned trails, trail segments eligible to be part of the Ala Kahakai NHT may be identified. However, once development is approved, current zoning and development regulations and practices at the county level may not be adequate to maintain the landscape character and view planes important to Hawaiian cultural concepts. It is likely that the trail will travel through golf courses or be surrounded by residential development. While the use of the trail would be preserved, the cultural context could be lost.

Ancient and historic trail fabric may be destroyed on nonfederal lands by projects in the cumulative impacts scenario. Rather than requiring protection of cultural resources in place, planning permits may allow "mitigation" of adverse effects by a recovery only approach. Since few trail segments could be incorporated into the Ala Kahakai NHT under this alternative, few nonfederal resources within the trail corridor would have NPS oversight.

Conclusion

The actions called for in alternative A would have negligible to minor direct and indirect beneficial effects to the four national parks and would have potential moderate beneficial effects on the few trail segments on nonfederal lands added to the national trail. There would be no adverse impacts to NRHP properties related to the Ala Kahakai NHT on national park lands. Monitoring and oversight of trail sites could have minor to moderate short and long-term beneficial effects on the properties included on the auto tour, especially those eligible for the NRHP. All actions taken under alternative A would promote the national recognition of the trail in a limited way resulting in minor beneficial effects. New research on cultural resources within the national parks and on nonfederal trail segments would add to

better understanding and appreciation of the significance of this national historic trail providing a minor to moderate long-term benefit.

Existing zoning and development regulations may not adequately protect the trail and its associated cultural resources, including significant features of the cultural landscape, resulting in potential long-term moderate to major adverse impacts. Without NPS monitoring and oversight of NRHP properties on nonfederal lands, other than those on the auto tour, potential minor to moderate adverse impacts could occur. Inadvertent or intentional damage or destruction of trail fabric and cultural resources by private landowners would be a long-term moderate to major adverse impact.

Continuing growth in the county and the development projects in the cumulative impacts scenario would have long-term moderate to major adverse impacts on the cultural landscapes and associated cultural resources within the trail corridor. This, in turn, would have long-term moderate to major adverse impacts on the Native Hawaiian traditional practices and values that are so closely linked to physical places.

Cultural resources along substantial portions of the trail route not included in the Ala Kahakai NHT could be inadvertently desecrated by unknowing trail users or vandalized and looted by artifact hunters, causing long-term moderate to major negative effects on traditional culture and practices.

The long-term consequences to cultural resources of alternative A could be moderate to major adverse impacts in varying degrees along the trail route outside of the national parks.

No impairment of cultural resources on NPS lands is anticipated.

Effects on Cultural Resources from Alternative B: Single Trail

Analysis

Cultural resource management includes all the actions noted in alternative A; however, many more trail segments and resources would be incorporated into the Ala Kahakai NHT as the goal of a continuous trail is approached. In a situation like that which occurs at Hōkūli‘a in which there are three parallel ancient and historic trails—an old government road (OGR), a stepping stone trail, and an old cart road— one trail would be selected as the route of the Ala Kahakai NHT. The choice would be between the old cart road or the OGR, both of which are continuous through the property. The other trails would be protected by court order, but they would not be included in the Ala Kahakai NHT.

Trail additions would require inventory, evaluation, and documentation of archeological sites, historic buildings, traditional cultural properties, and resources significant to contemporary Native Hawaiians to determine how many resources may contribute to the trail character and history and therefore be eligible for listing in the NRHP. Alternative B proposes added federal funds to administer the trail, increasing the potential for expanded cultural resource inventories, assessment, protection, and monitoring, should the funds be forthcoming.

The NPS would continue management of federal segments and have administrative oversight on nonfederal trail segments and sites. NPS technical experience with cultural resource protection and interpretation would be available to more trail site and segment managers through management agreements. Alternative B would provide the major benefit of protecting more ancient and historic trail segments than alternative A. These actions would require adequate staff or funds to hire professionals to conduct the determinations of eligibility. Since there is no guarantee that funding and staffing needed to implement these actions will be

Cultural Festival, Kaloko-Honokōhau NHP, N. Kona; NPS photo

available, full implementation of alternative B could be many years in the future. In the meantime, a lack of action may result in minor to moderate adverse effects on the various cultural resources that define the national trail.

The NPS would rely on strong partnerships with state and county agencies, local nonprofits, and private landowners to develop management scenarios for trail segments. Also, the NPS would rely on the county to implement zoning and other development regulations that work toward protecting the nationally significant cultural resources of the trail on nonfederal land. A lack of action by partners may result in minor to moderate adverse effects on the various cultural resources that define the national trail. However, under alternative B, the NPS would offer additional assistance to the state to develop its capacity to protect segments of the coastal *ala loa* identified by Nā Ala Hele as state-owned and to open them for public use. Also, this alternative would be implemented incrementally as the NPS develops capacity within itself and its partners to complete segment management plans and to carry out inventory, assessment, management, and monitoring, thus reducing negative effects on cultural resources on those parts of the trail administered or managed by the NPS.

As in alternative A, the auto tour would be completed and nonfederal sites along it brought under the administrative oversight of the NPS.

In areas where a trail segment or site has not been incorporated into the Ala Kahakai NHT, cultural resources along the trail route could be adversely affected by inadvertent desecration by unknowing trail users or by vandalism and looting by artifact hunters causing moderate to major adverse effects. These impacts could be more severe with added public use on existing trails or as more areas become accessible to the public.

Segments of the ancient and historic *ala loa* would be preserved and made available to traditional users. Cultural practices along the route would be respected and recognized by trail administration and in management agreements.

Cumulative Effects

The combined effects of all actions potential under alternative B would promote preservation of a linear trail and its associated resources, including traditional cultural properties and resources significant to contemporary associated groups. The moderate to major adverse effects of the cumulative projects past, present, and ongoing of the region would be the similar as those described in alternative A, but Alternative B would add a small increment of benefit to the total of cumulative effects on cultural resources in the region. Actions of alternative B could have a minor to moderate beneficial effects on Native Hawaiian lifeways and practice directly associated with the Ala Kahakai NHT, somewhat offsetting the adverse impacts in the region resulting from the projects in the cumulative impacts scenario.

Conclusion

As in alternative A, the actions called for in alternative B would have negligible to minor direct and indirect beneficial effects on the four national parks. They would have potential long-term beneficial effects on the trail segments on nonfederal lands added to the national trail.

Incorporating more trail segments on nonfederal land into the Ala Kahakai NHT would have the long-term beneficial effect of increasing research and knowledge of cultural resources that would

contribute to better understanding and appreciation of the significance of this national historic trail to the culture of Hawai'i. Short and long-term moderate beneficial effects would result from heritage tourism that contributes to a better understanding and appreciation of the Ala Kahakai NHT and the Hawaiian culture. Since more of the ancient and historic trail would be identified as the Ala Kahakai NHT and made available to the public, the actions taken would better promote the national recognition of the trail, providing a long-term direct and indirect moderate beneficial impact on cultural resources.

There would be no adverse impacts to NRHP properties related to the Ala Kahakai NHT in the four national parks. The potential for adverse impacts to NRHP properties on nonfederal lands would continue, but it is likely that more of these properties would be brought under the administrative oversight of the NPS under this alternative resulting in a moderate beneficial effect. With assistance from the federal government, the state may be better able to protect cultural resources along trail segments identified by Nā Ala Hele as ancient or historic. These actions would contribute to a determination of no adverse effect for these properties.

Alternative B would have potential long-term minor to moderate beneficial effects on the properties included on the auto tour.

Added support of Nā Ala Hele by the NPS would have long-term minor to moderate beneficial effects on cultural resource protection. Research and information sharing could have a long-term minor to moderate beneficial impact by providing land owners along the trail with a model for preserving such resources and contributing to the broader preservation of the Hawaiian culture through public understanding.

The potential would continue for minor to major adverse impacts to occur on nonfederal trail segments through actions of county and state governments due to existing zoning and development regulations that may not adequately protect cultural resources including significant features of the cultural landscape. Private landowners who have not completed agreements with the NPS may also inadvertently or intentionally damage or destroy cultural resources creating long-term minor to major adverse effects. The evidence of ancient and historic trails is especially vulnerable to removal as landowners prepare their properties for development.

Since this alternative emphasizes a single, linear trail, ancient and historic trail fragments that would not contribute to trail continuity might be lost to development through the county planning process. This loss would be a long-term moderate to major adverse impact on archeological resources. Opportunities for interpretation could be lost.

Facilitation of traditional access or accommodation of traditional users' practices or beliefs along managed segments of the Ala Kahakai NHT would provide moderate beneficial effects under alternative B. In areas outside of those trail sections incorporated into the Ala Kahakai NHT, cultural practitioners could experience negligible to major adverse impacts depending upon the degree to which development affects the relationship between resources and practices and beliefs.

No impairment of resources on NPS lands is anticipated.

Effects on Cultural Resources from Alternative C: Ahupua'a Trail System

Analysis

Cultural resource management under alternative C includes all those actions noted in alternatives A and B; however, the NPS administrative scope would be expanded to include not only the continuous linear trail but a traditional network or system of trails on public lands or on the private lands of interested landowners. Participation in the trail by landowners is voluntary.

With the inclusion of *mauka-makai* trails, the national parks would be more broadly affected by trail recognition under alternative C than the

other alternatives. Trail administration would work closely with park management to ensure that trail marking and use does not adversely affect cultural resources and the visitor experience of the parks. Park management plans, to the extent possible within park purpose and significance, would be amended to accommodate and support the approved CMP. The parks may experience some short or long-term benefit from the community support provided by trail partnerships.

Alternative C would provide inventories of more sites and trail segments and evaluation of them for inclusion in the NRHP than the other alternatives.

Under alternative C, through an agreement with the state, the NPS would have the option to gain less-than-fee interest in and management responsibility for the trails identified as ancient or historic in the Nā Ala Hele inventory within the Ala Kahakai NHT corridor, including those trails crossing private lands. This action would increase the federal role in the trail and provide the ability to enforce NPS regulations (36CFR, parts 1-5) and Section 106, but only within the trail right-of-way owned by the state.

This action would require adequate staff or funds for consultants to complete trail segment management plans and staff to implement the plans. To mitigate these expenses, the alternative includes the provision for community-based management led by an active and robust Ala Kahakai Trail Association and local trail management derived from the *ahupua'a* and individuals with strong ties to the land. The trail association would be expected to raise significant funds to contribute to the needs of implementing this alternative. Trail segment management entities may contribute to funding, as feasible. Implementation of this alternative would depend not only on future NPS funding and service-wide priorities, but also on partnership funds, time, and effort. Lack of any of these elements may mean that projects and programs proposed under alternative C may not be realized.

By allowing choices of trails available for public use, trail sites important to Native Hawaiians could be better protected through redirection of trail users. For example, under alternative C, the three trails—an old government road, a stepping stone trail, and an old cart road—identified by the state for protection in Hōkūli'a could become part of the Ala Kahakai NHT, rather then selecting one as in alternative B. The stepping stone trail, the oldest of the three, is not continuous and would not be included in alternative B. Under alternative C, it could become an interpretive feature allowing visitors to experience the ancient trail fabric. The three parallel trails provide the opportunity to interpret the evolution of the trail system in Hawai'i.

Like alternative B, this alternative provides the advantage of considering the trail as one entity, but while alternative B would evaluate cultural resources along a specific trail right-of-way and adjacent areas, under alternative C broader landscapes or ecosystems could be evaluated on public lands. This broader view would allow protection of TCPs and resources significant to associated contemporary groups along with the web of small trails, traditional and historic sites, and places of resource collection. Ancient and historic trail fragments within the trail corridor that do not contribute to a continuous trail could be protected on public lands and on private lands with the consent of the landowner. This action would have a long-term beneficial impact on the setting and character of the trail on public lands.

With the emphasis on the preservation, protection, and interpretation of cultural features and landscapes that sustain the practice of Hawaiian values, there would be more opportunities to perpetuate the actual practice of traditional Hawaiian stewardship values. These actions would have a long-term beneficial effect of keeping viable the cultural setting of the trail and enhancing the visitor experience through exposure to more aspects of the Hawaiian culture.

The potential would continue for adverse impacts to occur on nonfederal trail segments

through actions of the local and state governments due to zoning and development regulations that may not adequately protect cultural and historic resources. The potential for adverse impacts to NRHP properties on nonfederal lands would continue, but it is likely that more of these properties would be brought under direct oversight of the NPS under this alternative. Private landowners who have not completed agreements with the NPS may also inadvertently or intentionally damage or destroy cultural resources. Trails are especially vulnerable to removal as landowners prepare their properties for development.

In areas where a trail segment or site has not been incorporated into the Ala Kahakai NHT, cultural resources along the trail route could continue to be inadvertently desecrated by unknowing trail users or vandalized and looted by artifact hunters. These impacts could be more severe with added public use on existing trails or as more areas become accessible to the public. Nonetheless, alternative C would encourage access for traditional users and accommodate associated group's practice or beliefs.

As with the other two alternatives, the NPS must rely on partners to implement the management agreement for each trail segment and site. Also, the NPS must rely on the county to implement zoning and other development regulations that work toward protecting the nationally significant cultural resources of the trail on nonfederal land. A lack of action by partners in implementing adequate trail protection measures or ineffective community-based management could result in moderate to major adverse effects on the various features that comprise the setting and cultural landscape of the trail. However, alternative C would be implemented incrementally as the NPS develops capacity within itself and its partners to complete segment management plans and to carry out inventory, assessment, management, and monitoring, thus reducing negative effects on cultural resources on the parts of the trail administered or managed by the NPS.

Cumulative Effects

Cumulative impacts related to the cumulative impacts scenario would be similar to alternatives A and B. Alternative C has the potential to protect and interpret for the public more cultural resources than the other two alternatives. More archeological sites, traditional cultural properties, and landscapes significant to Native Hawaiians would be inventoried and evaluated for significance and recognition in the NRHP. Potentially, more of the trail would come under federal jurisdiction. Traditional access and practices would be better protected partially offsetting the adverse impacts in the region resulting from the projects in the cumulative impacts scenario. Alternative C would add a small beneficial increment to the total of adverse cumulative effects on cultural resources in the region.

Conclusion

The actions called for in alternative C could have minor beneficial effects on the four national parks by offering increased community support of park management of cultural resources, but could also have minor adverse effects by affecting more trail segments within the parks.

Under alternative C, more trail segments on nonfederal lands could come under federal jurisdiction and management resulting in the potential either long-term moderate to major beneficial effects on resource protection or short term minor to major adverse effects if funds and staff are not available for monitoring and protection. As in alternative B, there would be potential long-term minor to moderate beneficial effects on the properties included on the auto tour. Research and information sharing could have a long-term beneficial impact by providing land owners along the trail with a model for preserving such resources and contributing to the broader preservation of the Hawaiian culture through public understanding.

Short and long-term beneficial effects on cultural resources would result from better options for redirection of trail users.

Long-term moderate to major beneficial effects on the Hawaiian community and on resource protection would result from local communities engaging in living and interpreting their culture along a traditional system of trails.

There would be no adverse impacts to NRHP properties associated with the Ala Kahakai NHT within the four national parks. Potential moderate to major benefits would accrue to Native Hawaiians engaged in living their traditional culture and interpreting it to the public. The actions taken under alternative C would provide moderate beneficial effects by best promoting the national recognition of the cultural significance of the Ala Kahakai NHT.

Incremental implementation of the plan as the NPS develops capacity within itself and its partners to complete segment management plans and to carry out inventory, management, and monitoring, would reduce the potential for adverse effects on cultural resources on the parts of the trail administered or managed by the NPS.

No impairment of resources on NPS lands is anticipated.

Effects on Cave Resources

Methodology and Assumptions

Caves include both cultural and natural resources, but are managed by the NPS under the Cultural Resource Program. Therefore, the impact intensity definitions are consistent with the definitions of adverse effect in 36 CFR 800. NEPA intensity thresholds for cultural resources are provided only within the no adverse effect category. For impacts of minor intensity, the thresholds address adverse or beneficial changes. The thresholds for moderate and major impacts only consider beneficial changes because unfavorable changes of these magnitudes would result in a Section 106 finding of adverse effect (see page 148). Once an adverse impact is identified, ways would be considered to avoid, minimize, or mitigate it.

Available information was obtained through relevant literature, best management practices, and consultation with the public and resource specialists. Impacts were assessed using best professional judgment and the following thresholds of change for the intensity of impacts:

Impact Intensity	Impact Description
Negligible	The effects on cave resources (natural and cultural) would be at the lowest levels of detection, barely measurable with neither adverse nor beneficial consequences. Impacts would neither alter resource conditions, such as traditional access or site preservation, nor the relationship between the resource and the affiliated group's body of practices and beliefs. The determination of effect for Section 106 would be *no adverse effect.*
Minor	An action would improve the maintenance and preservation of a cave's natural resources and its cultural patterns and features and would protect the integrity of location, design, setting, materials, workmanship and association. Site protection would enhance access to traditional resource areas or accommodate a group's traditional practices or beliefs. Minor impacts could be beneficial or adverse. For purposes of Section 106, the determination of effect would be *no adverse effect.*
Moderate	An action would noticeably enhance stabilization or preservation of a cave's natural resources and its cultural patterns and features and would protect the integrity of location, design, setting, materials, workmanship and association. Site protection would encourage traditional access or accommodate a group's practices or beliefs. The determination of effect for Section 106 would be *no adverse effect.*
Major	An action would substantially enhance stabilization or preservation of a cave's natural resources and its cultural patterns and features and would protect the integrity of location, design, setting, materials, workmanship and association and would facilitate traditional access or accommodate a group's practices or beliefs. The determination of effect for Section 106 of would be *no adverse effect.*

Effects on Cave Resources from Alternative A: No Action

Analysis

The importance of caves derives from their use as Native Hawaiian burial sites; their associations with Native Hawaiian spirituality; and the unique flora and fauna they may contain. Caves are important cultural, biological, geological, and educational resources. Any visitation (even by careful scientists) may damage delicate cave features and may also damage cave organisms or habitat. Heavy use by recreational visitors, even "ecotourists," to caves could take a toll on the geological features, biology, and cultural resources of many lava tube caves. Often there is a conflict between the wishes of many Native Hawaiians to exclude most visits and the growing demand of recreational users to explore more and more caves on a more frequent basis (County of Hawaii, 1995b). Caves that are not well protected have been looted or desecrated through misuse.

Under alternative A, cave management would continue under the Federal Cave Protection Act on NPS-owned lands—the four national parks. The NPS would initiate or continue inventory of non-burial caves within the parks, as possible. The *'ohana* (affiliated group) would be consulted. The caves would remain closed to the public until a determination could be made on appropriate use. If burials are present, the cave would be protected from public access. Nonburial caves would be closed until an inventory of cave resources and a protection and monitoring plan are completed. Both federal and state law allow that government information on the cave location and sensitive resources be kept confidential. Once the status of resources is known and safety hazards are assessed, caves may be classified for closure to the public, for research only, or for appropriate public use. It is not known at this time if caves within the national parks are near the route of the Ala Kahakai NHT.

Trail segments on non-federal lands would only become official components of the Ala Kahakai NHT through agreements with managing entities in consultation with the '*ohana* of the area. Caves on nonfederal lands would be under the authority of the Hawaii Cave Protection Act. That act requires the written permission of the landowner before caves can be entered and their resources affected. While state and county agencies might be moved to protect cave resources and consult with the '*ohana*, it is not clear that private landowners would have cave protection as a value. Since the trail through private lands is likely to be limited to a state-owned public right-of-way and a potential negotiated adjacent protected area, caves would most likely be on land outside of the trail area; but it is possible that their management could be influenced by the trail administration through agreements with adjacent landowners.

Because few segments would be incorporated into the Ala Kahakai NHT under this alternative, it is likely that few if any caves would be encountered on non-federal segments.

Cumulative Effects

Under alternative A, cave resources would be protected within the national parks. Few caves would be affected by those segments of trail included in the Ala Kahakai NHT. Impacts to caves due to trail use would be negligible.

Cumulative effects of projects like those in the cumulative impacts scenario could have either long-term major beneficial or adverse effects on cave resources. Although the Hawaii Cave Protection Act would apply to all caves on nonfederal lands, if caves remain open and unmonitored, damage to caves in nonfederal areas could occur as the number of cave enthusiasts with a variety of interests grows. The result could be short and long-term minor to major adverse effects. Burial caves on nonfederal lands could continue to be disturbed and even looted. Projects such as the Shores at Kohanaiki have destroyed lava tube caves in the process of

construction. Such actions cause long-term major adverse effects. Projects such as the proposed state park at Kīholo could have a long-term moderate to major beneficial effects on cave resources that are currently not well-protected if the state is able to fund protection.

Conclusion

The actions of alternative A would have negligible effect, neither adverse nor beneficial, on cave resources in national parks and on segments of trail included in the Ala Kahakai NHT. The anticipated determination for Section 106 would be no adverse impact. Use of caves on nonfederal lands for recreation could have minor to major adverse impacts on cave resources. Looting or desecration of caves would have major long-term adverse effects on cave resources.

There would no be impairment of cave resources on national park lands.

Effects on Cave Resources from Alternative B: Single Trail

Analysis

Under alternative B, federal administration of the trail would increase as trail segments are incorporated into the Ala Kahakai NHT. With a continuous linear trail, it is likely that caves would be located near some segments of the Ala Kahakai NHT. As with alternative A, the trail through private lands is likely to be limited to a state-owned public right-of-way and a potential negotiated adjacent protected area. Caves would most likely be on land outside of the trail area, but it is possible that their management could be influenced by agreements with adjacent landowners in consultation with the *'ohana*. Even though caves may not be immediately adjacent to the trail, the trail may come near enough to make a cave apparent to the trail user. Alternative B includes mitigations such as the potential to reroute the trail to avoid proximity to caves and trail user education. Cave protection would occur as in alternative A on federal lands and nonfederal lands. Cave inventories on private land would occur only with the landowners consent.

Cumulative Effects

Cumulative effects on cave resources from projects in the cumulative affects scenario and from the trail itself would be the same as alternative A.

Conclusion

The actions of alternative B would have negligible long-term effects on cave resources in national parks and along segments of trail included in the Ala Kahakai NHT. Mitigations would be intended to reduce adverse impact to the level of no adverse impact for purposes of Section 106. Use of caves on nonfederal lands for recreation could have long-term minor to major impacts on cave resources.

There would not be impairment of cave resources on national park lands.

Effects on Cave Resources from Alternative C: Ahupua'a Trail System

Analysis

Under alternative C, the area of affect includes not only a continuous linear trail and negotiated adjacent protected areas, but also a network of trails and their landscapes on public lands. It is likely that the trail may encompass caves and cave systems in some areas. Caves would be protected by federal and state laws as in alternatives A and B. Under alternative C, on public lands, resources of non-sacred caves would be inventoried and assessed and management and monitoring plans in place as trails are incorporated into the Ala Kahakai NHT. The *'ohana* would be consulted and involved in determining the value of each affected cave or cave system. Sacred caves would be inventoried but closed to the public unless access were permitted by the *'ohana*.

Alternative C's greater area of affect could offer more flexibility to assess the range of cave resource

values and to allow certain caves open to the public for educational and recreational purposes as part of the trail experience. Through trail interpretation, the public could better understand the role of caves in the Hawaiian culture. Information to the public would focus on the need to protect these fragile, unique resources.

Alternative C could provide a better opportunity than alternatives A and B to protect caves through active management and to balance people's desire to use caves for scientific, recreational, and educational activities with Hawaiian spiritual concerns. Opening certain caves to the public, while closing others, could meet people's desires to explore caves while protecting the most sensitive caves. On lands for which it is responsible and through management plans for nonfederal lands, the NPS would develop a responsible stewardship program to better protect caves.

Alternative C relies on NPS oversight of community-based management that includes '*ohana* to protect and manage resources such as caves. This approach holds promise to provide the most sensitive and appropriate management of cave and trail resources. The trail administration would work with the public land manager to sustain protection of cave resources in the case that the community could not sustain its stewardship.

Cumulative Effects

Unlike alternatives A and B, alternative C has the potential to include within trail management caves and cave systems on public lands or private lands on which the owner shows an interest. The protection and interpretation of caves through community-based management could provide long-term minor to moderate beneficial effects on cave resources. On the other hand, if the community-based management is unsuccessful, there could be minor to moderate adverse effects on cave resources. The effects on cave resources due to the Ala Kahakai NHT would be minor compared to the potential for damage to cave resources by the development projects in the cumulative impacts scenario that could cause moderate to major long-term adverse impact to cave resources.

Conclusion

Under alternative C, effects to cave resources would be negligible on federal lands incorporated into the Ala Kahakai NHT. Mitigations would be intended to reduce adverse impact to the level of no adverse impact for purposes of Section 106. Moderate long-term beneficial effects would occur if the public becomes better educated about the fragility and uniqueness of cave resources and, therefore, is moved to protect them. Moderate to major beneficial effects could result from the protection of cave resources along official components of the trail. Cave resources on nonfederal lands may be subject to long-term minor to major adverse effect. Looting and desecration of caves would have long-term major effects on cave resources.

No impairment of cave resources on NPS lands is anticipated.

Effects on Wetlands (Anchialine Pools and Fishponds)

Methodology and Assumptions

Completion of the Queen Ka'ahumanu Highway in 1975 opened access to coastal resources which were formerly quite inaccessible. The Ala Kahakai NHT could have a similar but lesser effect on anchialine pools currently inaccessible areas. Generally these pools are used by recreationists for fishing, swimming, and bathing. Fishing may directly impact some native fish species found in anchialine systems (Brock, 1985:13). Anchialine pools have been used for bathing by campers or refreshing stops by hikers for a long time. Ancient Hawaiians modified pools with stone walls for bathing. No known negative impacts are attributable to these activities.

The use of shampoos and soaps could have an effect on biota in the pools, but there is no

evidence for it (Brock, 1985:13). Also, human use could introduce contamination by fecal and coliform bacteria. The trail could provide access for dumping of rubbish into pools, an activity that has gone on for over 100 years. Bottles and cans appear to have no short-term negative impact on the fauna, but dumping of substances such as used oil, grease, and oil filters caused the disappearance of *'ōpae'ula* in a pool adjacent to Honokōhau Harbor (Brock, 1985:13). The single most important factor indicating the health of an anchialine pool is the visible presence of red shrimp, *'ōpae'ula* (Brock, 2005).

Development of the Ala Kahakai NHT under all alternatives will not result in the loss of anchialine pools. Since 1985, after the Waikoloa Resort filled about 70% of the pools on its property, the development permit process has not allowed the destruction of pools. Ponds can be created as has been done at Hualalai Resort where 3 acres of ponds were created as visual amenities (Chai). However, use of the trail could affect the health of the pools. Trail users—through overuse of the pools, introducing alien fishes or coliform bacteria, bathing using soaps and shampoos, swimming with suntan lotion applied, dumping of trash—could affect anchialine pool resources. However, with 95% of the pools along the Kona coast having an alien fish problem (Brock, 2005), it is difficult to estimate without information on specific pools just what effect trail use or trail management might have, either positive or negative.

Information was obtained through relevant literature, best management practices, and consultation with experts and resource managers. Impacts were assessed using best professional judgement and the following thresholds of change for the intensity of impacts on wetlands (anchialine pools and fishponds):

Impact Intensity	Impact Description
Negligible	The impact on anchialine pools and fishponds would not be measurable. The abundance or distribution of red shrimp for anchialine pools or native fish for fishponds along the trail route would not be affected or would be slightly affected. Ecological processes and biological productivity would not be affected.
Minor	An action would not necessarily decrease or increase the anchialine pool's and fishpond's ecological balance. The action could affect the abundance or distribution of individuals in a localized area but would not affect the viability of local or regional populations or communities.
Moderate	Adverse impact — an action would result in a change in abundance or distribution of red shrimp (for anchialine pools) or native fish (for fishponds) in a single anchialine pool or fishpond and would affect the local population sufficiently to cause a change in abundance or distribution. It would not affect the viability of the regional population or communities. Beneficial impact — an action would result in a change in abundance or distribution of red shrimp for anchialine pools or native fish for fishponds in a single anchialine pool or fishpond and would affect the local populations sufficiently to return them to sustainable levels.
Major	Adverse impact —an action would result in change to several anchialine pools or fishponds that would affect a regional or local population of key species sufficiently to cause a change in abundance or in distribution to the extent that the population or communities would not be likely to return to former levels Beneficial impact —an action would result in change to several anchialine pools or fishponds that would affect a regional or local population of key species sufficiently to cause a change in abundance or in distribution to the extent that the population or communities would return to sustainable levels

Effects on Anchialine Pools and Fishponds from Alternative A: No Action

Analysis

Under alternative A, which would continue current conditions, pools within the four national parks would continue to be inventoried and monitored as possible. On nonfederal land, it is unlikely that pools would be included in direct trail management because only the tread and negotiated adjacent protected areas would be included in NPS administration and oversight. Trail segment management planning could encourage inventory and monitoring of pools adjacent to or within view of the trail. Pools would be protected by keeping trail users on the trail and through interpretive signs and other forms of education. If trail users stray from the trail and ignore educational messages, they could adversely affect anchialine pools and fishponds near the Ala Kahakai NHT on nonfederal lands.

It is probable that pools within the trail corridor, irrespective of trail use, would continue to degrade unless new methods for exterminating non-native fish are developed or rotenone[50] is approved for use in anchialine pools. In addition, fertilizers and pesticides used in resort developments can have an adverse impact on pools and fishponds. Sections of the *ala loa* that are not included in the Ala Kahakai NHT would continue to be used in an unregulated fashion by fishers and other recreational users to access nearshore resources. These users could inadvertently harm the pools through introduction of alien fish or substances such as shampoos, tanning oils, and soaps. Continuing present use could have minor to major adverse impacts on pools within the Ala Kahakai NHT corridor.

Cumulative Effects

Under alternative A, impacts to anchialine pools and fish ponds on national park lands would be negligible, neither adverse nor beneficial. However, high value pools on nonfederal lands within the Ala Kahakai NHT corridor have degraded over the years and would continue to do so under alternative A. Continuing growth in the county and the subsequent development that occurs would continue to affect the health of anchialine pools within the trail corridor. It is anticipated that the projects included in cumulative impacts scenario would have short to long-term minor to major adverse impacts to the health of anchialine pools and fishponds.

"Queen's Bath," Kaloko-Honokohau NHP, N. Kona, NPS photo

Conclusion

Under alternative A, trail use would have negligible effects on anchialine pools and fishponds on national park lands. Inventory and monitoring of pools adjacent to the trail along with educational messages to users could make some small contribution to reducing potential adverse effects. The potential long-term adverse effect on pools along trail segments not included in the Ala Kahakai NHT would continue. Continuing growth in the county and the subsequent development that occurs may have long-term negative impacts on anchialine pools, although projects proposed in state parks could result in moderate beneficial effects.

No impairment of anchialine pool and fishpond resources as a result of use of the Ala Kahakai NHT on NPS lands is anticipated.

[50] Considered an organic insecticide because it is made from the roots of tropical legumes, rotenone is toxic to the fish but not the shrimp in anchialine pools. It can also be toxic to aquatic animals, birds, and some mammals. Its use in water is now outlawed by the Environmental Protection Agency.

Effects on Anchialine Pools and Fishponds from Alternative B: Single Trail

Analysis

Under alternative B, a continuous linear trail would be completed. As in alternative A, pools within the four national parks would continue to be inventoried and monitored as possible. Increased recreational activity along the trail could expose more pools to impacts. Because on nonfederal lands the trail would consist of the tread and negotiated adjacent protected areas, the management approach for anchialine pools would be similar to alternative A, only more pools would be affected. Even though more visitors would be attracted to the trail, with added measures to keep users on the trail and to educate the public, the pools along the national trail would be more likely to be protected than they are now.

Cumulative Effects

Effects on anchialine pools would be the same as alternative A. Overall, the cumulative projects would have minor to major long-term adverse effects on anchialine pools although projects proposed in the state parks could result in moderate beneficial effects to the pools.

Conclusion

If effective measures are implemented through trail management, alternative B offers some small potential to reduce adverse impacts to high value anchialine pools that occur near the linear route of the trail. Pool resources that are not incorporated into the Ala Kahakai NHT and not protected in other ways would continue to experience adverse impacts to varying degrees.

No impairment of anchialine pool and fishpond resources on NPS lands as a result of use of the Ala Kahakai NHT is anticipated.

Effects on Anchialine Pools and Fishponds from Alternative C: Ahupua‘a Trail System

Analysis

Alternative C includes not only a linear trail but also areas on public lands that encompass a network of trails and their landscape. As in alternatives A and B, pools within the four national parks would continue to be inventoried and monitored as possible.

With alternative C, pools and pool systems on public lands would come within the purview of trail administration and management. This alternative would provide the opportunity to select high value pools to protect by avoidance and those to protect through interpretation. High value pools and ponds would be protected and maintained as possible with healthy populations of red shrimp or native fish. Pools that are already invaded by non-native fish would be stabilized, as possible. In addition, the relationship of the pools to the underground water and the sea could be better studied and evaluated. To avoid adverse impacts to the pools, the NPS would need to have the capacity to ensure that management is available to protect pools associated with the trail on public lands.

Cumulative Effects

Effects would be similar to alternatives A and B; however, under alternative C the potential would exist to actually manage pools and protect high value pools.

Effects from the cumulative projects outside of the national and state parks would likely have a long-term minor to major adverse impact on pools.

Conclusion

If effective measures are implemented through trail segment management plans, this alternative offers some potential to reduce adverse impacts to high value anchialine associated with a system of trails on public lands and to stabilize those pools already invaded by non-native fish. These actions would provide minor to moderate

beneficial effects. Pool resources that are not incorporated into the Ala Kahakai NHT and not protected in other ways would continue to experience minor to major adverse impacts.

No impairment of anchialine pool and fishpond resources as a result of use of the Ala Kahakai NHT on NPS lands is anticipated.

Effects on Marine Resources Related to Traditional Coastal Harvesting

Methodology and Assumptions

Commercial collection of marine ornamental species, the major adverse impact to the abundance of reef fishes and nearshore resources such as ‘*opihi* and *‘a‘ama* crab, is not related to trail use. This issue is being addressed by local communities and the DLNR Division of Aquatic Resources through Fishery Management Area plans. However, increased use of traditional fisher trails as some become linked to the Ala Kahakai NHT would bring more people to the shoreline to enjoy and perhaps exploit nearshore and reef resources. Uses such as swimming, snorkeling, and photographing could have moderate to major effects on the resources due to potential trampling of coral. It is possible that trail users could diminish reef fish or nearshore resources through recreational harvesting or overuse. These impacts would be felt most keenly by subsistence fishers and gatherers.

Information was obtained through relevant literature, best management practices, and consultation with experts and resource managers. Impacts were assessed using best professional judgment and the following criteria to define impact intensities as follows:

Impact Intensity	Impact Description
Negligible	Effects on marine resources related to traditional coastal harvesting would not be measurable. The abundance or distribution of individuals would not be affected or would be slightly affected.
Minor	Effects on marine resources related to traditional coastal harvesting would be detectable, but localized, small, and of little consequence to the species’ population. Mitigation measures, if needed to offset adverse effects, would be simple and successful.
Moderate	Effects on marine resources related to traditional coastal harvesting would be readily detectable but localized, with consequence at the population level. Mitigations measures, if needed to offset adverse effects, and would be extensive and likely successful.
Major	Effects would be obvious and would have substantial consequences to marine resources related to traditional coastal harvesting at the regional level. The change could result in a severely adverse or major beneficial impact, and possible permanent consequence upon the species. Extensive mitigation measures would be needed to offset any adverse effects, and their success would not be guaranteed.

Effects on Traditional Coastal Harvesting Resources from Alternative A: No Action

Analysis

Reef fishes and nearshore resources will continue to be protected within the national parks and by local residents, traditional users, and DLNR Division of Aquatic Resources through Fishery Management Areas (FMAs).

Traditional fishers and gatherers would be consulted as trail segment management plans are developed. Information could also be gathered as part of ethnographic research. Recommendations developed for Fishery Management Areas (FMAs) could be applied to traditional fishing and gathering areas where they occur along the length of the trail. Trail signs, interpretive media, and promotional materials would convey the limitations on fishing and gathering and encourage appropriate activities.

Those people who use trails to access the shoreline may continue to harvest fish and nearshore resources in areas that are traditional *ko'a* (fishing grounds) or gathering areas outside of the FMAs. Under alternative A, baseline data would need to be gathered to establish the abundance and diversity of the existing nearshore and reef areas in order to determine the extent of impacts, if any, in areas accessed by trail segments incorporated into the Ala Kahakai NHT where local fishers have expressed concerns. Once a baseline is established, then a monitoring program related to trail use could determine the significance of the impacts.

Locally significant adverse impacts could possibly occur in nonfederal areas within the trail corridor that are not incorporated into the Ala Kahakai NHT, but due to Fishery Management Area plans, would not be expected to do so.

Cumulative Effects

No changes to coastal harvesting resources due to the Ala Kahakai NHT would be expected due to the actions of alternative A. Cumulative projects could have adverse effects on local fisheries, especially Kona Kai Ola, the expansion of the small boat Harbor at Honokōhau, and the Superferry, if it brings more fishers to the Kona coast. The Ala Kahakai NHT would contribute little to this effect.

Conclusion

Under alternative A, it is anticipated that the effects on traditional coastal harvesting resources would be negligible, neither adverse nor beneficial.

No impairment of marine resources related to traditional gathering in NPS areas is anticipated.

Effects on Traditional Coastal Harvesting Resources from Alternative B: Single Trail

Analysis

Under alternative B, traditional fishers and gatherers would be consulted as trail segment management plans are developed. Information could also be gathered as part of an ethnography program. Recommendations developed for Fishery Management Areas (FMAs) could be applied to traditional fishing and gathering areas where they occur along the length of the trail. Trail signs, interpretive media, and promotional materials would convey the limitations on fishing and gathering and encourage appropriate activities.

Cumulative Effects

Completion of the linear trail for the Ala Kahakai NHT may provide some additional access to fisher trails and coastal resources. Information to users should encourage appropriate activities. Affects on traditional coastal harvesting would be expected to be minor due to actions of alternative B. Effects of the cumulative projects could be minor to moderate, but requirements of the FMAs would likely be successful in protecting local fishers.

Conclusion

Coordination with State DLNR and consultation with local traditional users to avoid local impacts

would have minor beneficial effects. Impacts due to use of the Ala Kahakai NHT are expected to be negligible.

No impairment of marine resources related to traditional gathering in NPS areas is anticipated.

Effects on Traditional Coastal Harvesting from Alternative C: Ahupua'a Trail System

Analysis

Completion of the ahupua'a trail system for the Ala Kahakai NHT would provide some additional access to fisher trails and coastal resources for traditional gatherers and other visitors. Mitigations in alternative C would be similar to alternatives B. Alternative C emphasizes teaching and practicing protocols related to social and environmental behavior that reflect Hawaiian values.

Education of users is expected to encourage appropriate activities. The actions are anticipated to provide negligible minor to beneficial impacts to coastal resources related to traditional harvesting.

Cumulative Impacts

Cumulative effects to marine resources related to traditional harvesting would be the same as described under alternative B.

Conclusion

The *ahupua'a* trail system and the local community management approach of alternative C would provide negligible to minor beneficial impacts to coastal resources related to traditional harvesting.

No impairment of marine resources related to traditional gathering in NPS areas is anticipated.

Effects on Native Ecosystems: Vegetation and Wildlife

Methodology and Assumptions

Few studies have been completed on the effects of recreational trail use on vegetation in Hawai'i. The impacts discussion is based on assumptions from studies conducted in other ecosystems. It is generally agreed that the primary disturbance to vegetation by human recreational activities is direct trampling or reduction of growth due to soil compaction (Josselyn *et al.*). Also, trail users can spread non-native invasive species.

No studies have been completed specifically regarding the impacts of recreational trail use on Hawaiian wildlife. In determining management actions and potential mitigations for a programmatic environmental impact statement such as this, trail use impact must be extrapolated from studies completed in other ecological areas.

Impacts of recreational trail use to wildlife are varied, hard to assess, and often species specific. All wildlife seem to respond in some way to human activities, but the acuteness and duration of response varies with life-cycle stage and species. Responses can range from a brief flight and return to desertion of the area with no return. The long-term effects of repeated disturbance range from an increase in the population of one or more species tolerant of human activities to the extirpation of one or more populations. Short-term effects have been better studied than long-term.

Abundant evidence exists that humans disturb nesting birds (Trulio, personal communication). One study concludes that foraging shorebirds will flush if they are directly approached by humans, but there are no long-term effects of this action (Yasue quoted by Trulio, personal conversation). A recent study around San Francisco Bay suggests that tangential trails, those parallel to the foraging area, did not have an overall effect on foraging shorebirds (Trulio *et al.* 2006). A trail

that approaches a foraging area, such as a trail to an overlook, would affect only the nearby shorebirds. Other factors such as habitat quality or predation risk may be more important than trail use to bird presence (Trulio *et al.* 2006).

On the other hand, waterfowl—ducks and geese—definitely move away from trails, and thus, access to their habitat can be compromised (Trulio, personal conversation). For instance, a loop trail around a lake or pond could separate waterfowl from their habitat.

Josselyn *et al.* found that disturbances to waterfowl and large birds, such as herons and egrets, occurred at ranges of 75 to 175 feet (23 to 53 meters) in the absence of physical buffers while Taylor found that flushing happens within 100 meters (328 feet). Barriers such as high vegetation or channels may reduce these distances.

A study completed in pine forest and mixed grass prairie ecosystem found elevated rates of nest predation near trails (Knight). It was unclear if the effect came from the physical presence of the trail or from associated human disturbance. The study noted that predators are attracted to narrow, open corridors. Knight concluded that trails affect the distribution, abundance, and reproductive success of bird species is those particular habitats. On the other hand, he found that trail placement and user management and education can be effective in mitigating the negative effects of trails. Taylor, too, concludes that user education could be a valuable tool in protecting wildlife from disturbance. He interviewed trail users and found that they do not recognize their impacts on wildlife and that they felt it acceptable to approach wildlife more closely than the wildlife would allow.

These studies suggest that the issues of vegetation and wildlife must be addressed in trail management plans prepared as specific trail segments are added to the Ala Kahakai NHT. The goal of trail management under all alternatives would be to have as little adverse effect on native vegetation and wildlife as possible, protecting native populations from harvest, harassment, or harm by human activities associated with trail use.

Information was obtained through relevant literature, best management practices, and consultation with experts and resource managers. Defining potential impacts from management actions is based on professional judgment and experience with similar actions in other areas. The following criteria define impact intensities as follows:

Impact Intensity	Impact Description
Negligible	The effects on native ecosystems (vegetation and wildlife) would not be measurable. The abundance or distribution of individuals would not be affected or would be slightly affected. Ecological processes and biological productivity would not be affected.
Minor	The effects on native ecosystems (vegetation and wildlife) would be detectable, but localized, small, and of little consequence to the species' populations. Ecological processes and biological productivity would not be affected. Mitigation measures, if needed to offset adverse effects, would be simple and successful.
Moderate	Effects on native ecosystems (vegetation and wildlife) would be readily detectable but localized, with consequence at the population level. Changes to ecological processes would be of limited extent. Mitigations measures, if needed to offset adverse effects, and would be extensive and likely successful.
Major	Effects on native ecosystems (vegetation and wildlife) would be obvious and would have substantial consequences for vegetation or wildlife populations at the regional level. Populations could be affected to the extent that they would not be likely to return to their former levels (adverse) or would return to sustainable levels (beneficial).

Effects on Native Ecosystems from Alternative A: No Action

Analysis

Actions in alternative A would affect the trail within the four national parks and a few segments of trail on nonfederal land added to the Ala Kahakai NHT. Trail management would contribute as possible in the national parks to the overall goal of protecting and perpetuating native vegetation and wildlife as part of the natural ecosystem. On nonfederal lands, trail management would have limited opportunities to meaningfully protect vegetation and wildlife due to the small area of direct effect; however, education of trail users can contribute to indirect minor beneficial effects.

Vegetation

Many nonnative species occur in well-established populations within the trail corridor, and trail users could increase the migration of noxious and invasive weeds into the national parks by using connecting trails not necessarily part of the Ala Kahakai NHT. Off-trail trampling within the trail corridor could effect native species and spread nonnative species, but under alternative A, little of this effect would be attributable to use of the national trail itself. Trail management proposals include the removal of non-native species from the trail and buffers and planting of native species, as appropriate. Enforcing the requirement for users to stay on trails would help minimize the effects of trampling and soil compaction.

Wildlife

Under alternative A, effects on wildlife would generally occur as they do now. Wildlife would be protected within the national parks. Use of the Ala Kahakai NHT would be expected to occur in mostly urbanized areas in which sensitive wildlife may already have been displaced. Use of the national trail could have minor short-term adverse impacts, but is expected to have negligible long-term impacts.

Cumulative Effects

Under alternative A, negligible beneficial effects to native plant populations could result from removal of alien species and planting of natives within the trail right-of-way and negotiated adjacent protected areas. Minor short-term adverse effects on wildlife and negligible long-term effects are expected.

Cumulative projects would have a moderate to major, adverse, short and long-term effects on native ecosystems, both vegetation and wildlife resources, within the region. Most of the projects outside of the state parks in the cumulative projects scenario will result in the loss of plants, wildlife, and habitat. Increased development will further segment or marginalize the native natural areas. Some projects will decrease corridors for species migration and habitation. Activities affecting vegetation outside of the trail area on nonfederal lands could negatively affect vegetation resources along the trail and in the region.

Conclusion

Direct effects from the actions of alternative A would be negligible on native ecosystems. Cumulative projects would have a moderate to major adverse long-term effect on vegetation and wildlife making up native ecosystems; the Ala Kahakai NHT would contribute little to this cumulative effect.

No impairment of native ecosystems on NPS lands is anticipated.

Effects on Native Ecosystems from Alternative B: Single Trail

Analysis

Actions in alternative B would affect the trail within the four national parks and a continuous linear trail on nonfederal land added to the Ala Kahakai NHT. Trail administration and management would have a direct effect on only the trail right-of-way and any negotiated adjacent protected areas negotiated with adjacent public and private landowners. Indirect effects would occur on lands adjacent to the trail.

Vegetation
Implementing the requirement for alien plant removal and planting of natives incorporated into the management plans for trail segments would provide minor short-term adverse effects but minor long-term benefits to native vegetation. Enforcing the requirement for users to stay on trails would help minimize the effects of trampling and soil compaction.

Wildlife
Trail management would contribute as possible in the national parks to the overall goal of protecting and perpetuating native wildlife as part of the natural ecosystem. On nonfederal lands, trail management would have limited opportunities to meaningfully protect wildlife due to the small area of direct effect; however, consideration of trail location, temporary closures during nesting seasons, removal of predators, education of trail users and other measures would contribute to direct and indirect minor beneficial effects.

Cumulative Effects

Cumulative impacts would be the same as alternative A.

Conclusion

Implementing the requirement for alien plant removal and planting of natives incorporated into the management plans for trail segments would provide minor short-term adverse effects but minor long-term benefits to native vegetation. Consideration of trail location, temporary closures during nesting seasons, removal of predators, education of trail users and other measures would contribute to direct and indirect minor beneficial effects.

Cumulative projects would have a moderate to major, adverse, long-term effect on vegetation and wildlife making up native ecosystems; the Ala Kahakai NHT would contribute little to this cumulative effect.

No impairment of native ecosystems on NPS lands is anticipated.

Effects on Native Ecosystems from Alternative C: Ahupua'a Trail System

Analysis

Alternative C would affect a continuous linear trail and an *ahupua'a* system of trails on federal, state, and county public lands. Across private lands, trail administration and management would have direct effect on the linear trail right-of-way and any negotiated adjacent protected areas negotiated with adjacent landowners; on public lands, it would have direct effect on the landscapes associated with a traditional system of trails.

Vegetation
Implementing the requirement for alien plant removal and planting of natives incorporated into the management plans for trail segments crossing private lands would provide minor short-term adverse effects but minor long-term benefits to native vegetation. Implementing this requirement on public lands incorporated into the Ala Kahakai NHT would have moderate beneficial effects on native vegetation. Enforcing the requirement for users to stay on trails would help minimize the effects of trampling and soil compaction.

Wildlife
Trail management would contribute as possible in the national parks to the overall goal of protecting and perpetuating native wildlife as part of the natural ecosystem. On private lands, trail management would have limited opportunities to meaningfully protect wildlife due to the small area of direct effect; however, consideration of trail location, temporary closures during nesting seasons, removal of predators, education of trail users and other measures would contribute to direct and indirect minor beneficial effects. The *ahupua'a* trail system approach on public lands provides flexibility in selecting trails for seasonal use to protect nesting wildlife and the opportunity to positively affect wildlife habitat through NPS collaboration with state land managers in habitat management resulting in moderate to major beneficial effects on wildlife habitat on public lands. Although

alternative C provides the opportunity for loop trails, care would be taken to avoid loop trails around fish ponds or in other areas that might separate wildlife from their habitat.

Cumulative Effects

Cumulative impacts would be the same as alternative A.

Conclusion

Implementing the actions of alternative C would have short-term minor adverse effects on vegetation and wildlife but long-term moderate to major beneficial effects. Cumulative projects would have a moderate to major, adverse, long-term effect on vegetation and wildlife making up native ecosystems; the Ala Kahakai NHT would contribute a minor beneficial effect.

No impairment of native ecosystems on NPS lands is anticipated.

Effects on Special Status Species[51]

Methodology and Assumptions

Threats to special status plants from increased use include trampling off the trail, human-aided distribution of alien species, increased risk of fire, and contamination of water or soil by human waste. Garbage left uncovered could attract rats and mongooses who then might chew on endangered plants and their seeds. The nesting sites of endangered animal species could be disturbed by simple human presence or by human activity such as camping. Examples of species along the trail that could be affected are endemic stilt and coot that nest at Aimakapā Fish Pond, which is also host to many rare and migrating birds, and the hawksbill turtle which nests only at Kamehame on Hawai'i Island. Habitats of endangered invertebrates can be lost as anchialine ponds are overtaken by alien fish, overused, or polluted from dumping. Although very limited in scope, facility development at specific sites along the trail could temporarily displace or disturb endangered species.

Some information regarding special status species and trail use is available from the Appalachian National Scenic Trail (AT) which has developed a natural heritage monitoring program to track the status of an identified 2,050 occurrences of rare, threatened, or endangered (RTE) species along the 2160-mile route. The 88% RTE species occurrences are plants and 12% animals. The most frequent threats to plants are trampling, trail maintenance, exotic plants, and exotic insect pests. Recommended management actions include rerouting the trail, controlling exotic species, removing competing species, controlling erosion, and use of signs to educate users. Monitoring workshops have trained volunteers to monitor rare, threatened, and endangered plants, animals, and communities within the AT corridor. The success rate of volunteer monitoring program is high after a workshop, but declines over time (Schwarzkopf: 6).

Informing volunteer maintenance groups of the presence, identification, and location of RTE species has shown to prevent inadvertent harm to these species during trail maintenance activities. Training, including rare plant identification sheets and details on how to avoid harming these plants, led to substantially fewer occurrences of damage to RTE species (Schwartzkopf: 7).

Owen and Elkinton note that for the most part "national trails are too narrow or have too small a land base to afford significant protection for rare natural communities or sensitive plant or animal species, independent of surrounding protected lands (Owen: 5). On the other hand, they note that "studies conducted along the Appalachian National Scenic Trail… have shown that when a trail's protective corridor is wide enough, it can provide significant habitat benefits for many types of fauna and flora" (Owen: 4).

[51] This evaluation includes rare, threatened, and endangered species listed by the U.S. Fish and Wildlife Service and listed and candidate species and species of concern named by the Hawaii Natural Heritage Program. See Appendix D for lists of these species.

Information was obtained through relevant literature, best management practices, and consultation with experts and resource managers. The analysis is qualitative rather than quantitative due to the lack of specific information about the treatment of special status Hawaiian species on nonfederal lands. Impacts were assessed using best professional judgment and the following criteria to define impact intensities:

Monk Seal, NPS photo

Impact Intensity	Impact Description
Negligible	The action would have no measurable effect to a listed species, suitable, potential, or critical habitat, resulting in a no effect determination. There would be no measurable effect to species of concern.
Minor	The effects would be discountable (extremely unlikely to occur), insignificant (not able to be meaningfully measured, detected, or evaluated), or completely beneficial for special status species. Any change would be small and localized and of little consequence, and result in a *not likely to adversely affect* determination and require informal consultation with the U.S. Fish and Wildlife Service for rare, threatened, and endangered (RTE) species.
Moderate	The action would result in some change to a population or individual of a species or designated critical habitat for sensitive species. The change would be measurable and of consequence but would most likely result in a *not likely to adversely affect* determination and require informal consultation with the U.S. Fish and Wildlife Service for RTE species.
Major	The action would result in a noticeable change to a population or individual of a species or designated critical habit for special status species. Any adverse effect to the species that may occur as a direct or indirect result of the alternative and the effect is not discountable, insignificant, or completely beneficial. Incidental take is anticipated to occur as a result of the action. The change would result in a *likely to adversely affect* determination and would require formal consultation with the U.S. Fish and Wildlife Service for RTE species.

Effects on Special Status Species from Alternative A: No Action

Analysis

Under alternative A, within the national parks, the beneficial effects from the protection of special status species and their habitat within the parks would continue. An effort would be made to inventory special status species along the trail within the parks. In cases where an endangered species appears to be declining as with the stilt at Aimakapā Fish Pond, trail administration would cooperate with park resource managers to ensure that trail use is not contributing to the effect. Negligible effects are anticipated to special status species on federal lands due to trail use.

Under alternative A, few nonfederal trail segments would be added to the Ala Kahakai NHT. When they are added, plant and animal inventories along the immediate trail segment would be conducted to determine if special status species are present. Through consultation with resource experts, early consideration in planning, and coordination with trail managing entities, trail development would be planned to avoid adverse impacts to special status species to the greatest extent possible.

Management measures to prevent adverse impacts would include avoidance of nesting sites or other key areas, limitation of trail use during breeding seasons, user education, encouragement of users to stay on the trail to

avoid plant trampling, or other appropriate measures. Minor benefits to native plant populations would result from removal of alien species and planting of natives within the immediate area of the trail. Given the proposed planning and mitigation measures and the limited number of national trail segments available to the public, negligible to minor short and long-term, neither adverse nor beneficial, impacts are anticipated to special status species on nonfederal lands included in the NHT.

Use of existing trails that are not yet included in the Ala Kahakai NHT would continue to occur and could potentially adversely affect special status species. State laws for protection of special status plant and animal species would continue to apply within the entire trail corridor on nonfederal lands and would reduce the degree of impacts.

Cumulative Effects

Extensive disturbance and reduction of native habitats has caused the extinction of many native Hawaiian species and has placed in peril most of those that remain. Many projects listed in the cumulative impacts scenario have potential for direct and indirect, short and long-term, moderate to major adverse effects on special status species. Development in the state parks has potential to protect special status species if mitigation measures are put in place. Since planning is not complete for these parks, damage to special status species could continue, depending upon the application of state environmental laws. Alternative A's contribution to these impacts would be small and potentially beneficial. Impacts to special status species in NPS parks would be negligible, neither adverse nor beneficial, and nonfederal land incorporated into the Ala Kahakai NHT could have a minor, long-term beneficial effect.

Impacts to special status species on nonfederal land not incorporated into the Ala Kahakai NHT would continue to occur as they do now.

Conclusion

Although short-term minor effects to special status species may occur, no long-term adverse impacts from trail use on federal lands or along trail segments included in the Ala Kahakai NHT would occur under alternative A. Minor benefits to native plant populations would result from removal of alien species and planting of natives within the immediate area of the trail. Along trail segments not incorporated into the national trail, the potential for adverse impacts would continue, but would be mitigated by enforcement of state laws.

Along trail segments not incorporated into the national trail, the potential for adverse impacts would continue, but would be mitigated by enforcement of state laws.

No impairment to special status species in NPS areas is anticipated.

Effects on Special Status Species from Alternative B: Single Trail

Analysis

Impacts to special status species in the national parks would be similar to alternative A; however, the potential increase in use facilitated by the continuous linear trail proposed in alternative B could create additional pressure on special status species within the national parks and on nonfederal lands. Inventory of species and monitoring of trail use for localized effects of trampling, disturbance of nesting sites, distribution of nonnative species, and other potential effects would help ensure that, while special status species might suffer short-term minor adverse effects, they do not suffer long-term adverse effects.

Planning and mitigation measures for trail segments on nonfederal lands would occur as in alternative A, but more trail segments would be brought under the administration and oversight of the NPS. The area over which trail administration would have influence would be

the linear trail right-of-way and a possible negotiated adjacent protected area as defined in each trail segment management plan. Trail use could affect areas outside of the negotiated adjacent protected area that would need to be considered in planning. The NPS would work closely with the state on state lands, and all special status species would be considered and protection measures put in place in trail segment management plans. Segment management planning would include adjacent landowners or land managers to solicit their help in protecting special status species. Short-term minor adverse effects and long-term minor beneficial effects are expected to accrue to special status species.

As trail and site development occur and site-specific surveys identify species which have been listed or proposed by the US Fish and Wildlife Service (USFWS), the NPS would contact the USFWS to initiate consultation under Section 7 of the Federal Endangered Species Act of 1973, as amended (Act). Potential adverse impacts to listed species would be eliminated or reduced to a level of insignificance through such actions as trail relocation, seasonal closings, or other measures in compliance with the provisions of the Act for a determination of *not likely to adversely affect*.

State and county laws would continue to apply on nonfederal lands.

Cumulative Effects

Cumulative impacts would be the same as alternative A.

Conclusion

Impacts from trail use to special status species on federal lands would be negligible, neither adverse nor beneficial. Impacts from trail use along segments included in the Ala Kahakai NHT would be expected to be minor short-term adverse effects and long-term minor beneficial effects. Along trail segments not incorporated into the national trail, the potential for adverse impacts would continue, but would be mitigated by enforcement of state laws. Cumulative effects would be moderate to major and adverse; the contribution of alternative B to these effects would be negligible.

No impairment in NPS areas is anticipated.

Effects on Special Species from Alternative C: Ahupua'a Trail System

Analysis

The concept of alternative C includes the protection of native ecosystems, plants, and animals to provide the setting to teach and practice protocols of social and environmental behavior that reflect Hawaiian values. Under alternative C, within the national parks special status species would continue to be protected and the beneficial effects from the protection of and their habitat within the parks would continue. With the inclusion of *mauka-makai* trails and other coastal trails, more park land would be included in the area of affect and more visitors could come to the park with the intent of using the Ala Kahakai NHT. This wider protection area could benefit special status species. "Studies conducted along the Appalachian National Scenic Trail… have shown that when a trail's protective corridor is wide enough, it can prove significant habitat benefits for many types of fauna and flora" (Owen: 4).

Alternative C includes not only a continuous linear trail but areas on public lands, mostly state parks, that encompass a network of trails and their landscapes. The area of influence of trail administration on trails crossing private lands would include only the linear trail right-of-way and a possible negotiated adjacent protected area as defined in the trail segment management plan, as in alternative B. The area of influence on public lands would be the linear trail and the area encompassing a traditional network of trails. This broader scope provides the potential to affect plant and animal habitat rather than only specific species that might be found along a linear trail as with alternatives A and B.

Trail administration and the Ala Kahakai Trail Association would work with national park staff to help ensure that special status species are protected and the public educated about them. Mitigation to prevent adverse impacts could include avoidance of nesting sites or other key areas, limitation of trail use during breeding seasons, encouragement of users to stay on the trails to avoid plant trampling, user education, or other appropriate measures.

Monitoring of trail use within the national parks for localized effects of trampling, disturbance of nesting sites, distribution of nonnative species, and other potential effects would help ensure that, while special status species might suffer localized short-term minor adverse effects, they do not suffer long-term adverse effects.

Management plans would be prepared for all trail areas on public lands. All special status species would be considered and protection measures put in place in these management plans, including monitoring protocols to evaluate the health of special status plant and animal species over time. Mitigation measures would be applied on nonfederal public lands as on national park lands. Alternative C provides flexibility of trail location to avoid adverse impacts and more capacity to consider habitat and plant community conservation

As trail and site development occur and site-specific surveys identify species which have been listed or proposed by the US Fish and Wildlife Service (USFWS), the NPS would contact the USFWS to initiate consultation under Section 7 of the Federal Endangered Species Act of 1973, as amended (Act). Potential adverse impacts to listed species would be eliminated or reduced to a level of insignificance in compliance with the provisions of the Act.

State and county laws would continue to apply on nonfederal lands.

Cumulative Effects

Cumulative impacts would be expected to be similar to alternatives A and B.

Conclusion

There should be no long-term adverse effects to special status plant and animal species under alternative C although there could be short-term minor adverse impacts. If protocols are followed, inventory and preservation of habitats would provide some opportunity for long-term beneficial effects. Impacts from trail use to special status species in the national parks would be negligible, neither adverse nor beneficial. Impacts from trail use along segments included in the Ala Kahakai NHT would be expected to be minor short-term adverse effects and long-term minor beneficial effects. Along trail segments not incorporated into the national trail, the potential for adverse impacts would continue, but would be mitigated by enforcement of state laws. Cumulative effects would be moderate to major and adverse; the contribution of alternative C to these effects would be negligible.

No impairment in NPS areas is anticipated.

Effects on Scenic and Visual Resources

Methodology and Assumptions

Approaches to assessment of scenic and visual resources were obtained through relevant literature and consultation with experts and resource managers. The analysis is qualitative. Impacts were assessed using best professional judgment and the following criteria to define impact intensities:

Shorline Residence, Mauna Kea Beach Resort, S. Kohala, NPS photo

Impact Intensity	Impact Description
Negligible	Effects to the visual quality of the landscape would be at or below the level of detection; changes would be so slight that they would not be of any measurable or perceptible consequence to the visitor experience. Actions would not detract from significant views from the trail to the ocean, mountains, or other features or create a cluttered appearance.
Minor	Effects to the visual quality of the landscape would be detectable, localized, and would be small and of little consequence to the visitor experience. Actions would somewhat detract from significant views from the trail to the ocean, mountains, or other features or create a cluttered appearance Mitigation measures, if needed to offset adverse effects, would be simple and successful.
Moderate	Effects to the visual quality of the landscape would be readily detectable, localized, with consequences at the regional level. Actions would detract from significant views from the trail to the ocean, mountains, or other features or create a cluttered appearance Mitigation measures, if needed to offset adverse effects, would be extensive and likely successful.
Major	Effects to the visual quality of the landscape would be obvious, with substantial consequence to the visitor experience in the region. Extensive mitigation measures would be needed to offset any adverse effects and their success would not be guaranteed.

Effects on Scenic and Visual Resources from Alternative A: No Action

Analysis

Alternative A involves the four national parks and a limited number of trail segments on nonfederal lands on which there would be little development beyond the placement of trail markers. These markers would be located with attention to the visual environment. On the whole, scenic visual resources would continue to be affected as they are now, and effects from the Ala Kahakai NHT would be negligible, neither adverse nor beneficial.

Development actions taken on nonfederal lands along the trail corridor would provide major long-term adverse affects to the visual environment of the trail. Currently, many sections of the *ala loa* that may become the Ala Kahakai NHT are incorporated into resort developments where they are often paved or rerouted and travel across or next to golf courses and residential developments. Views to the mountains, the ocean, or culturally significant landmarks are often obscured by these developments.

Cumulative Effects

Impacts to scenic qualities within the national parks would be negligible; however, their visual environment can be adversely impacted by development on their boundaries such as the Kohanaiki development adjacent to Kaloko-Honokōhau NHP.

Culturally important views from the trail would be impacted by many actions described in the cumulative impacts scenario. The scenic quality on nonfederal land along the trail corridor, with the exception of state parks, would suffer major, long-term adverse effects by development that changes the natural character of the area. Even though developments such as golf courses are considered to be amenities by developers, they have negative effects on the visual character of the native environment and *wahi pana*. Landform changes, housing, fences, commercial developments, and similar projects, all would have long-term direct adverse affects on the visual character of the trail experience.

Conclusion

There would be negligible impacts to scenic and visual resources as a result of implementing alternative A. Development within the trail

corridor on nonfederal land could have minor to major generally adverse effects on the trail visual environment and scenic resources.

No impairment of visual resources in NPS areas is anticipated.

Effects Scenic and Visual Resources from Alternative B: Single Trail

Analysis

Effects on visual resources within national parks would be the same as alternative A.

Alternative B proposes a continuous linear trail and negotiated adjacent protected areas on nonfederal lands. Trail facility development such as parking areas, rest rooms, trash receptacles, shelters, and signs have potential to affect the scenic quality of the trail corridor.

Alternative B includes management measures that would reduce the effects on scenic and visual resources. Design guidelines would be developed for the length of the trail. All planning before any trail development would be site specific and would locate improvements in a manner to least affect the area's scenic character and views. Trail markers would be kept to the minimum required to guide visitors and would be designed to be appropriate to the area. Wayside exhibits and signs would be installed along the trail only at those sites that require interpretation for user safety, understanding, and enjoyment. Actions to minimize potential adverse effects to scenic resources of trail facility construction would be addressed in trail segment management plans and implemented as the facilities are designed and built. With mitigation measures in place, adverse impacts to visual resources would be expected to be minor to moderate short and negligible to minor long-term.

The scenic environment outside the area of NPS administrative oversight of the of the linear trail segments and negotiated adjacent protected areas incorporated into the Ala Kahakai NHT could be adversely affected by development, changes in land use, or activities such as littering or trash dumping.

Cumulative Effects

With careful planning and design and attention to the visual environment, the Ala Kahakai NHT would have minor adverse impacts on scenic resources. Trail design standards, sustainable and site-appropriate construction, and aesthetic marking would mitigate potential adverse effects. Development within the trail corridor outside of the control of the NPS would most likely have long-term direct moderate to major adverse effects on the visual environment of the trail.

Conclusion

There would be negligible to minor impacts to visual resources from development of the Ala Kahakai NHT or related trail facilities by implementing alternative B. Development outside of the immediate area of effect of the trail and negotiated adjacent protected areas would be expected to have moderate to major adverse impacts on scenic resources related to the trail. Development within the trail corridor on nonfederal land along segments of trail before they are incorporated into the Ala Kahakai NHT could have long-term adverse impacts on the trail scenic resources.

No impairment of scenic or visual resources in NPS areas is anticipated.

Effects on Scenic and Visual Resources from Alternative C: Ahupua'a Trail System

Analysis

Effects on visual resources within national parks would be similar to alternatives A and B, except that the network of trails included in alternative C would require more trail markers to identify the various trails included in the network. To minimize this impact, the marker would be relatively inconspicuous and mounted to fit the landscape character of each area. The need for signs and markers would be reduced with the

use of maps and self-guided tour brochures and pamphlets. Alternative C could result in long-term minor adverse effect on the scenic and visual resources of the parks.

Alternative C would include a linear trail and a system of traditional trails on public lands. Management measures would be applied as in alternative B; however, because of the need to mark and interpret several trails, more trail markers, informational signs, and wayside exhibits would be needed. Mitigations for these effects would be the same as for NPS parks. Greater opportunities would exist on public lands to evaluate and protect scenic resources, especially those associated with Hawaiian stories and values, resulting in a moderate beneficial effect.

Affects to visual resources along the linear trail across private lands would be the same as alternative B. On private lands and some state lands, such as Kona Kai Ola, scenic resources of areas outside of the trail right-of-way and negotiated adjacent protected areas of segments incorporated into the Ala Kahakai NHT would continue to be affected by development, changes in land use, or activities such as littering or trash dumping.

Cumulative Effects

Cumulative projects would result in moderate to major adverse, long-term effects on scenic and visual resources. Growing developments in areas surrounding the trail such as the state project, Kona Kai Ola, and the private development, Shores at Kohanaiki, would have an overall negative effect on the scenic and visual resources of the region. On the other hand, for the park at Kīholo, the state has the goal of insuring retention of the fast-disappearing natural open space and the open coastal views from the highway. That project would have long-term major beneficial effects on scenic and visual resources and on the setting of the Ala Kahakai NHT.

Conclusion

Implementation of alternative C would result in minor adverse long-term effects on visual resources. The cumulative projects would result in both moderate to major long-term adverse and beneficial effects depending upon the project.

No impairment of scenic or visual resources in NPS areas is anticipated.

Effects on Wilderness Values

Methodology and Assumptions

Fourteen miles of the Ala Kahakai NHT are within the wilderness area of Hawaii Volcanoes NP. The park's draft wilderness management plan identifies certain resources values and protocols including minimum requirement and minimum tool.

In addition, the wilderness area through which the Ala Kahakai NHT travels is encompassed by the Puna-Kaʻū Historic District. Included in this district are over 107 designated sites identified by the 4,596 features including several petroglyph fields, village complexes, historic trails, and caves. One of the petroglyph fields within the wilderness includes approximately 21,000 individual images or carvings in stone. In these areas, often the natural environment has been modified to such an extent that the constructed environment dominates the landscape and does not meet the definition of wilderness. These areas are included in the wilderness area because they predate the Wilderness Act. The campsites along the coastal trail are located in these areas. Management of the wilderness area at Hawaiʻi Volcanoes NP is committed to protecting these cultural resources that are also significant to the Ala Kahakai NHT. In these cases, the area is managed according to cultural resource guidelines while maintaining the minimum requirement and minimum tool.

In addition, an area on the coastal flats west of Kaʻaha totaling over 6,450 acres was set aside during World War II as a bombing range by special legislation. This area has not been completely cleaned of live munitions and has limitations on scientific and visitor use until this is accomplished.

The thresholds of change for the intensity of impacts on wilderness values are defined as follows:

Impact Intensity	Impact Description
Negligible	The action would have no discernable effect on opportunities for solitude, for primitive and unconfined forms of recreation, and the prevalence of natural conditions. The wilderness are would continue to be primarily affected by forces of nature.
Minor	The action would have a slightly beneficial or adverse effect on opportunities for solitude in a limited area of wilderness, such as along a singe trail. The action would slightly reduce or improve opportunities for primitive and unconfined forms of recreation in limited areas of the wilderness. The action would result in slightly detectable beneficial or adverse human-caused impacts to the natural environment in limited areas of the wilderness. Natural conditions would continue to predominate.
Moderate	The actions would result in readily apparent beneficial or adverse effects on opportunities for solitude in limited areas of wilderness. It would noticeably improve or reduce opportunities for primitive and unconfined forms of recreation in limited area of wilderness. It would result in readily apparent beneficial or adverse human-caused impacts in limited areas of the wilderness. Natural conditions would continue to predominate.
Major	The action would have readily apparent beneficial or adverse impacts on opportunities for solitude throughout the wilderness. The action would substantially improve or reduce opportunities for primitive and unconfined forms of recreation throughout the wilderness area. The action would result in readily apparent beneficial or adverse human-caused impacts to the natural environment throughout the wilderness.

Effects on Wilderness Values for Alternative A: No Action

Analysis

Under alternative A, wilderness within Hawai'i Volcanoes NP would be managed under the park's wilderness management plan, now in draft, and in coordination with the park's resource managers. Historic trails in the wilderness area would be retained. Although not mentioned specifically in the draft wilderness plan, the Ala Kahakai NHT would most likely fall into semi-primitive, Class II[52], or primitive, class III categories.

Within the wilderness area encompassing the Ala Kahakai NHT corridor, wilderness opportunities would remain, and visitors could continue to experience wilderness values such as solitude and freedom from human impact. In this area, the current trail inventory would be retained, but trail maintenance would depend upon the specific trail. Trail tread would not be constructed specifically for the national trail. The Ala Kahakai NHT would be marked with cairns and, as appropriate, with a small unobtrusive logo and arrow. There would be little change from current uses of the wilderness in the park, and actions specific to the Ala Kahakai NHT are anticipated to have negligible to minor long-term adverse impacts on wilderness values.

Wilderness visits for overnight users would be managed by the wilderness permit system. Campsites that are currently designated in the wilderness area within the Ala Kahakai NHT corridor would remain and could be used by trail users with permits. Use of campsites by Ala

[52] In the semi-primitive zone (Class II), trails are regularly maintained and kept in generally good condition with occasional problems with erosion. Campsites are generally indicated by the presence of bare ground and vegetation trampling. Pit toilets are provided to prevent environmental and health problems. Hikers encounter between 1 to 10 groups enroute to camping locations. Other campers are routinely encountered and should be anticipated at camping sites.

In the primitive zone (Class III) trail routes are marked with cairns; there is no brushing or tread maintenance. Camping areas are generally indicated. There are few if any signs of previous use. No toilet facilities are provided. Hikers encounter less than one other group per day on the trail. Campers may have pne other group in proximity to their campsite (Draft Wilderness Management Plan, Hawai'i Volcanoes National Park)

Kahakai NHT users is anticipated to cause little change to the wilderness experience now offered by the park and is expected to have negligible to minor adverse impacts on wilderness values.

Interpretation of cultural sites related to the *ala loa* would be offered at trail heads away from the wilderness area or in brochures or other written media minimizing the effect on the wilderness area. Interpretation of the former village sites and associated cultural resources and the knowledge that all of the wilderness campsites are located on former village sites would have minor long-term beneficial effects on the user experience of the wilderness area, but it would have negligible effects, neither adverse nor beneficial, on wilderness values.

Cumulative Effects

The Hawai'i Volcanoes NP wilderness area was designated in 1975. Existing impacts within the Ala Kahakai NHT corridor include a trail network, trail shelters, water caches, and signs. Most of these were in place prior to the establishment of the wilderness area. The effects could include the impacts on the naturalness of the area, and distractions associated with the presence and maintenance of the trail and facilities and other reminders of modern society. Continued management and operation of these facilities could result in adverse, short and long-term, minor to moderate impacts in limited areas of the wilderness from the use of mechanized equipment if determined to be the minimum tool, other noise related to project work, and the presence of work crews. However, designation as a part of the wilderness preservation system has resulted in long-term, major beneficial effects on the resources and visitor experience in the area.

Implementing alternative A would contribute slightly to the adverse effects of ongoing operations through trail use, but there would still remain opportunities for solitude in the areas away from the trails and campsites. Therefore, the overall cumulative effects on wilderness values would be short-term, minor, both beneficial and adverse.

Conclusion

Implementing alternative A, would result in long-term negligible adverse impacts on wilderness values, short-term minor adverse effects on operations, and short-term either minor adverse or beneficial effects on visitor experience depending upon if the user is seeking solitude or cultural information.

There would be no impairment of wilderness values as a result of this alternative.

Effects on Wilderness Values for Alternative B: Single Trail

Analysis

Since the trail would be recognized within the national park in all alternatives, analysis for alternative B is the same as alternative A.

Cumulative Effects

The same as alternative A.

Conclusion

The same as alternative A.

Effects on Wilderness Values for Alternative C: Ahupua'a Trail System

Analysis

Since the trail would be recognized within the national park in all alternatives, analysis for alternative B is the same as alternative A.

Cumulative Effects

The same as alternative A.

Conclusion

The same as alternative A.

Effects on User Experience

Methodology and Assumptions

"User" includes residents and others who now use portions of the Ala Kahakai as access to the shoreline and nearshore resources, Native

Hawaiians exercising their subsistence rights to nearshore resources, and tourists. The user may be from outside the area or a local resident—a Native Hawaiian could fit either category—each having very different needs and expectations for a trail experience.

Three components of user experience are discussed: social, recreational, and intellectual/emotional. The social aspects of user experience include crowding or the perception of crowding to local users and the effects of trail use on Native Hawaiians exercising their traditional rights. Recreational aspects include the range of experiences available and the health and safety challenges of using the trail. The intellectual/emotional aspects of user experience include the presence or absence and quality of information, interpretation, and education; the opportunities to experience and understand traditional Hawaiian culture; and the provision of opportunities for Native Hawaiians to walk in the footsteps of their ancestors or to exercise their traditional rights.

Public scoping input combined with information from other national scenic and historic trails was used to estimate the effects of the actions of the alternatives. The impact on the ability of the user to experience a full range of Ala Kahakai NHT resources was analyzed by applying the significance statements and fundamental resources and values presented in chapter 1 of this document. The potential for change in user experience proposed by the alternatives was evaluated by identifying projected increases or decreases in user experience and enjoyment and determining whether or how these projected changes would affect the desired user experience and to what degree.

The thresholds of change for the intensity of impacts on user experience are defined as follows:

Impact Intensity	Impact Description
Negligible	Changes in user experience would be below or at the level of detection. The user would not likely be aware of the effects associated with the alternative.
Minor	Changes in user experience would be detectable, although the changes would be slight. The user would be aware of the effects associated with the alternative, but the effects would be slight.
Moderate	Changes in user experience would be readily apparent. The user would be aware of the effects associated with the alterative and would likely be able to express an opinion about the changes.
Major	Changes in user experience would be readily apparent and severely adverse or exceptionally beneficial. The user would be aware of the effects associated with the alternative and would likely express a strong opinion about the changes.

Hiking on the 1800 Lava Flow, N. Kona, NPS photo

Manini‘owali, N. Kona NPS photo

Effects on User Experience from Alternative A: No Action

Analysis

Under alternative A, the Ala Kahakai NHT would consist of the segments of the trail within the four national parks and a few of the nonfederal segments included in the Nā Ala Hele inventory, most likely the state-owned segments of the state designated Ala Kahakai. Because visits to the island of Hawai'i are expected to increase and because the parks are key destinations on the auto tour for the Ala Kahakai NHT, the trail may contribute to increased visits to the parks. Since groups touring the Ala Kahakai NHT would be most likely to follow the auto tour route, the potential for crowding or perceived crowding at auto tour sites would affect the visitor experience. These effects could be lessened by instituting a tour permit system that would monitor site visits.

Traditional users would continue with the access they have today to the parks and other sites associated with the trail, but may experience a sense of crowding or a lack of solitude with added visitors along the shoreline.

Under alternative A, the NPS would have limited ability to incorporate trail segments into the Ala Kahakai NHT. Visits to publicly accessible areas of the trail route that are not incorporated in the Ala Kahakai NHT would be expected to increase in conjunction with expected growth in tourism to the Island of Hawai'i. Trail users on these parts of the trail route could unknowingly impinge on Native Hawaiians' traditional practices. Crowding or perceived crowding in areas expected to provide solitude may occur.

Because the Ala Kahakai NHT is discontinuous under alternative A, the recreational user could be confused by a variety of signs and allowable uses depending upon whether the trail segment is incorporated into the NHT or is part of another jurisdiction. There would be no opportunity for through-hiking or overnight camping along a continuous Ala Kahakai NHT.

Health hazards, such as air quality, lava, tsunami, poisonous insects, and so forth, along official components of the Ala Kahakai NHT would be addressed through safety messages and other forms of education. The users of the numerous nonfederal segments of the trail route that could not be included in the Ala Kahakai NHT under alternative A could be exposed to unsafe conditions without warning and appropriate preparation. Limiting use of the Ala Kahakai NHT to walkers would protect the serenity of the trail experience from motorized uses; however, regulating use may cause impacts to current users who may find that regulations limit their use and enjoyment of trails.

Interpretive materials regarding the Ala Kahakai NHT offered at the parks and along the auto tour route would provide the potential to increase public understanding of the significance of the trail and its relationship to the Hawaiian culture increasing visitor understanding and experience. An increased number of people would experience the ancient and historic *ala loa* without knowing or understanding its significance, missing out on enrichment of their experience and resulting in a minor adverse impact.

Cumulative Effects

Alternative A would have negligible affects on regional recreational opportunities. On the other hand, the expected increase in population and tourism will fuel demand for more recreational opportunities that could have an impact on the Ala Kahakai NHT. The general increase of visitors to Hawai'i Island provides the potential for crowding or perceived crowding along the shoreline, affecting all users including those of the Ala Kahakai NHT.

The potential threat would remain from unregulated private business operators who lead tours or other activities along the trail that may crowd the trail or misinform visitors.

Conclusion

Implementing alternative A would result in minor beneficial long-term effects on the current visitor experience in the national parks, on official components of the Ala Kahakai NHT on nonfederal lands, and along the auto tour route. The potential to visit trail sites and segments that are protected, interpreted, and monitored, would provide a long-term minor beneficial effect of visitor experience.

Traditional users would continue with the access they have today to the parks and other sites associated with the trail, but may experience a sense of crowding or a lack of solitude resulting in short-term adverse effects. Increased crowding and impacts to Native Hawaiian traditional rights along segments of the route not incorporated into the national trail could result in minor to major adverse effects on these users.

The limited ability of the NPS to incorporate trail segments into the Ala Kahakai NHT would result in short and long-term minor to moderate adverse impacts on recreational use of the trail. The lack of trail continuity and varying jurisdictional approaches along the trail route would result in short and long-term moderate to major adverse effects on recreational trail user experience.

Addressing health hazards along official components of the Ala Kahakai NHT through safety messages and other forms of education would result in short and long-term minor to moderate direct beneficial effects to trail users. The users of the numerous nonfederal segments of the trail route that could not be included in the Ala Kahakai NHT under alternative A could be exposed to unsafe conditions without warning and appropriate preparation resulting in short and long-term moderate to major adverse effects on their health and safety.

Limiting use of the Ala Kahakai NHT to walkers would protect the serenity of the trail experience from motorized uses resulting in short-term minor beneficial effects. Regulating use may cause some short-term, minor impacts to current users who may find that the regulations limit their use and enjoyment of trails.

Interpretive materials regarding the Ala Kahakai NHT offered at the parks and along the auto tour route would provide the potential to increase public understanding of the significance of the trail and its relationship to the Hawaiian culture, resulting in minor to moderate beneficial impacts on visitor understanding and experience. Because the trail would be discontinuous, trail users could experience the ancient and historic *ala loa* without knowing or understanding its significance, missing out on enrichment of their experience and resulting in a minor adverse impact to their experience. Benefits would be limited by the few opportunities to experience the ancient and historic *ala loa* and learn of the traditional Hawaiian use of trails.

Opportunities for education and experience of the Hawaiian culture, though limited, would be available to users of the Ala Kahakai NHT, resulting in minor beneficial effects. The lack of needed safety messages along those portions of the trail corridor not incorporated into the Ala Kahakai NHT could have minor to moderate adverse effects on visitors.

Effects on User Experience from Alternative B: Single Trail

Analysis

This alternative includes a continuous trail incorporating segments of the ancient and historic *ala loa*. Development of the Ala Kahakai NHT would increase public access to the shoreline and encourage recreational trail use. Promotion of protected trail segments would result in more tourists visiting the trail. The number of residents who would intentionally use the Ala Kahakai NHT is unpredictable. Given that it is parallel to or along the shoreline and that most resident of Hawai‘i prefer beach or ocean activities (DLNR, 2003), it would seem that a substantial portion of the local population might

encounter the trail, at least casually, as they access nearshore ocean recreation activities. Trail segment management plans would address the potential adverse effects of higher levels of use expected near population centers and resorts in the South Kohala and North Kona districts. A permit system for commercial tours would reduce the potential to impact local communities with oversized or inappropriate vehicles or crowd the trail with tour groups resulting in moderate beneficial effects. More remote sections of trail or those in less developed areas that may be valued for their primitive qualities and opportunities for solitude would be protected.

Under alterative B, Native Hawaiians would have more opportunities to access cultural resources and gathering areas along the Ala Kahakai NHT; however, they might also experience more intrusion on their activities by tourists or local users. The user capacity analysis and permit system included in each trail segment management plan would attempt to ensure the quality of visitor experience and reduce these impacts to a negligible effect.

Under alternative B, trail users would be provided access to additional segments of the ancient and historic trail. A continuous trail would provide through-hiking and overnight camping opportunities. Elimination of unauthorized uses such as ATVs would provide positive effects to trail users seeking quiet, solitude, and a historical experience, but would be experienced as adverse to users who want to continue their ATV activities. A variety of hazards along the trail would be addressed at appropriate places through signs, informational publications, and possibly barriers or other means to prevent harm.

Development of a comprehensive interpretive plan would coordinate overall interpretive and educational planning for the trail and additional interpretive and educational opportunities would result. For instance, as the trail becomes marked and interpreted, especially at public access points to the shoreline, many residents as well as visitors from other places could learn of its significance and better understand and appreciate the trail's role in Hawaiian culture. Linking cultural sites and telling place-related stories along a 175-mile trail, the Ala Kahakai NHT would provide the opportunity to experience the range of Hawaiian culture and the unfolding of Hawaiian experience on the land. Educating property owners about the history and location of ancient and historic trail on their properties would provide the benefits of alerting them to the opportunities and responsibilities of recognizing the trail.

Visitors would enjoy the benefits of the auto tour as in alternative A. Organized, coordinated, and well-informed educational programs, ecotourism, and heritage tourism would result in additional moderate beneficial effects.

Cumulative Effects

Under alternative B, the Ala Kahakai NHT would help meet a regional recreation need identified in the State Comprehensive Outdoor Recreation Plan (SCORP) for "cultural and historical parks that promote preservation and interpretation of archaeological and sacred sites, restoration of ancient fishponds, and workshops that perpetuate cultural traditions" (DLNR, 2003). A continuous protected and interpreted trail and associated resources would provide moderate beneficial effects to Native Hawaiian traditional rights and uses.

Conclusion

Experiencing evidence of ancient and historic places, events, activities, and changes over time along a continuous trail route would result in moderate to major short and long-term beneficial effects on visitor understanding and appreciation of the Hawaiian culture.

Trail segment management plans would address the potential adverse effects of higher levels of use expected near population centers and resorts in the South Kohala and North Kona districts. An established approach to carrying capacity would

contribute to a positive short-term recreational experience and result in minor to moderate beneficial effects on trail user experience. A permit system for commercial tours would reduce the potential to impact local communities with oversized or inappropriate vehicles or crowd the trail with tour groups resulting in moderate beneficial effects.

Commercial tours that operate without permits would result in moderate to major adverse short-term effects on trail users seeking quiet, solitude, or a historical experience of the trail.

The opportunity for extensive travel on a continuous trail with through-hiking and overnight camping would result in moderate short-term beneficial effects on recreational opportunity. Protection of more remote sections of trail or those in less developed areas that may be valued for their primitive qualities and opportunities for solitude would provide moderate to major beneficial effects.

Elimination of unauthorized uses such as ATVs would provide moderate to major beneficial effects to trail users seeking quiet, solitude, and a historical experience, but could be experienced as adverse to users who want to continue their ATV activities.

Linking cultural sites and telling place-related stories along the entire Ala Kahakai NHT would provide the opportunity to experience the range of Hawaiian culture and the unfolding of Hawaiian experience on the land. Better public understanding of resource significance and the ability of Native Hawaiians and local users to walk in the footsteps of the ancient people and experience the diversity of the Hawaiian culture would result in moderate to major short and long-term beneficial effects.

Addressing the variety of hazards along the trail at appropriate places through signs, informational publications, and barriers or other means to prevent harm would result in moderate beneficial effects on user health and safety.

A comprehensive interpretive plan would coordinate overall interpretive and educational planning for the trail resulting in long-term moderate beneficial impacts on planning for interpretation and education. Additional interpretive and educational opportunities would result in moderate to major beneficial effects.

Effects on User Experience from Alternative C: Ahupua‘a Trail System

Analysis

Alternative C would incorporate all the trail user values included in alternative B, but these would be expanded to include more opportunities for education and experience of the Hawaiian culture on public lands. As in alternative B, promotion of protected trail segments would result in more trail users. They would have additional access to ancient or historic trail segments, gaining lateral shoreline access to areas not now easily accessible and using *mauka* trail segments to experience the traditional Hawaiian trail system. Users would benefit from added interpretive, educational, and recreational opportunities tied to on-the-ground resources, *mo‘olelo* (stories), and *wahi pana* (storied and sacred places). Educational programs would promote hands-on application, understanding, and appreciation of Hawaiian conservation values and ethics. The trail would become a setting where people can learn from *kūpuna* or other traditional practitioners about land management and conservation. Geotourism that sustains the environment, cultures, aesthetics, heritage, and well-being of the residents and enhances community-based economic development and revenue generating activities would be encouraged.

Higher levels of use would be expected near population centers and resorts in the South Kohala and North Kona districts providing opportunities to educate many trail users into the history and culture of Hawai‘i. The more remote sections of trail or those in less developed areas would have less tourism and may become valued for their primitive qualities and opportunities for solitude.

Cumulative Impacts

Cumulative impacts described in alternative B would apply with the addition that opportunities for visitors interested in gaining knowledge of Hawaiian history and culture through the experience of the living culture along the route would result in moderate beneficial effects.

Conclusion

All impacts described for alternative B would apply, but in addition, visitors interested in gaining knowledge of Hawaiian history and culture through the experience of the living culture along the route would experience moderate to major beneficial effects. Providing opportunities for local residents, Native Hawaiians, and tourists to experience the ancient and historic Hawaiian system of trails would result in moderate to major short and long-term beneficial effects. Increased opportunities for local Hawaiians to practice their traditional culture would result in short and long-term moderate to major beneficial effects.

Using the trail as a setting where people can learn from *kūpuna* or other traditional practitioners about land management and conservation would result in short and long-term moderate to major benefits to trail users. Encouraging that sustains the environment, cultures, aesthetics, heritage, and well-being of the residents would result in minor to major short and long-term benefits to the trail user and the local communities.

Mamalahoa Trail Clearing by Kealakehe HS Students, N. Kona, NPS photo

Effects on the Socioeconomic Environment

Methodology and Assumptions

Socioeconomic factors considered are effects on the economy and nearby communities and landownership.

To identify and discuss potential impacts to the economy of nearby communities, factors considered were economic and tourist data developed by the state of Hawaii.

To identify and discuss potential impacts to landowners, concerns expressed by landowners and applications of the state law as it affects properties with cultural resources and ancient trail were considered. On state-owned segments of trail crossing private property, landowners may have concerns with the trail alignment across their property. Landowners have expressed concerns for the potentially negative actions of recreational trail users who may trespass to camp, picnic, litter, or vandalize their property if trail rules are unenforced. They have concerns that the Ala Kahakai NHT could leverage public opinion to affect their ability to use their lands. They are concerned that everything that can be seen from the trail, not just the trail right-of-way and negotiated adjacent protected areas, would be affected. They also have concerns for their liability if the public uses a trail across their land.

Public agencies could be impacted by having to manage more land or to manage it in a new way. Impacts to private landowners and public agencies could be reduced through NPS technical and financial assistance.

Socioeconomic impacts were determined based on professional expertise and judgment. A qualitative analysis is sufficient to compare the effects of the alternatives for decision-making purposes.

The thresholds of change for the intensity of impacts on socioeconomic environment are defined as follows:

Impact Intensity	Impact Description
Negligible	No effects occur or the effects on socioeconomic conditions and on landowners are below or at the level of detection.
Minor	The effects on socioeconomic conditions and on landowners are small but detectable, and only affect a small number of firms, a small portion of the population, or a few landowners. The impact is slight and not detectable outside the affected area.
Moderate	The effects on socioeconomic conditions and landowners are readily apparent. Any effects result in changes to socioeconomic conditions on a local scale or on a large number of landowners.
Major	The effects on socioeconomic conditions are readily apparent. Measurable changes in social or economic conditions at the district level. The impact is severely adverse or exceptionally beneficial within the area of the trail.

Effects on the Socioeconomic Environment from Alternative A: No Action

Analysis

Under alternative A, the Ala Kahakai NHT would exist only in the four national parks and along the few nonfederal segments able to be incorporated into the trail under current funding. The auto tour route would be marked and an interpretive brochure available to guide visitors. This tour could possibly extend visitor days to the island for those visitors who visit the national parks by encouraging them to experience the other 14 historic sites along the auto tour route. Visitor surveys would be required to determine whether site visits are due to trail use or to other tourism activities. No change would be expected to local uses within the trail corridor as a result of this alternative.

The Economy and Nearby Communities

The national trail designation and the auto tour route may attract tourists to the trail. A study on the economic impacts of long-distance trails found that visitors to the Overmountain Victory National Historic Trail[53] (Moore *et al.*) generated $5.38 million in "new money" and $7.55 million in total economic impacts. The biggest beneficiaries were the eating and drinking, retail, and hotel and lodging industries (Moore: viii).

This study also found that visitors came to the sites associated with the trail to learn history, be in nature, and have a good time. Interpretive information and natural settings were the most favored aspects of the trail experience.

This CMP assumes that few travelers would come to the island of Hawai'i specifically to experience the Ala Kahakai NHT. Nonetheless, since the trail incorporates sites already heavily visited such as the national parks and state parks and monuments, it is possible that trail use could encourage tourists to extend their stay on the island of Hawai'i to learn more about the history and culture of the island. The actual economic impact generated by the Ala Kahakai NHT cannot be determined at this time.

Landowners

Participation of landowners in the Ala Kahakai NHT is voluntary. However, under state law, the Highways Act of 1892, the state owns and holds for the public segments of trail identified as ancient and historic and the landowner is required to protect and often to mange these cultural assets. Some of those trail segments may be recognized as part of the Ala Kahakai NHT, and interested landowners would be eligible for technical assistance of the NPS to help with resource protection and management.

[53] Located in the states of Virginia, Tennessee, North and South Carolina, the Overmountain Victory National Historic Trail is the only trail in the National Trail System to have a completed economic impacts study.

Under alternative A, landowners, state and county land managing agencies could be affected, especially State Parks and Nā Ala Hele, by the need to manage more trail segments or to manage trails according to NPS standards. Impacts on these agencies could be reduced through added NPS technical assistance and limited funding resulting in a minor beneficial effect.

A few trail segments either in resorts or large developments crossing private land would be incorporated into the Ala Kahakai NHT under alternative A. Mitigations to landowner concerns include involving landowners on trail planning teams for any segment of trail that affects their property; clearly marking private property adjacent to the trail; promoting trail segments for public use only after an entity such as the NPS, the state, or a Native Hawaiian or local volunteer group is identified to maintain the trail and monitor its use.

Under alternative A, trail designation does not impact private landowners regarding federal acquisition because land would be acquired, if at all, only from willing sellers or donors. Private landowner liability would not be an issue on state-owned trail across private property as the state would be liable. People straying from the trail would be trespassing and would be subject to related laws. If a private landowner owns the trail and allows public use, Hawaii State law would provide liability protection. (See Appendix A for legislation.)

Under alternative A, landowners would continue to experience whatever impacts of recreational use that occur now. As the public becomes aware of segments of the *ala loa* that are land banked by the state, pressure may be applied to landowners to open the trail on their property to public use resulting in minor or moderate adverse impacts on landowners. Under alternative A, the amount of public use would be limited by Nā Ala Hele's ability, with limited funds, to prepare cultural resource management plans and to manage and maintain the trail segments.

Cumulative Effects

No cumulative impacts to the economy would be expected under alternative A. Impacts would continue as they are today. Landowners would feel little more than they do today under state and county laws and regulations.

Conclusion

Negligible effects to the economy and nearby communities would result from alternative A.

Landowners would feel little more than they do today under state and county laws and regulations. It is possible that a landowner could feel pressure from the public to open a trail to public use across private lands resulting in a short to long-term term minor adverse effect on the landowner. This would occur as a state requirement of the landowner. On the other hand, the landowner could also receive technical and limited financial assistance in trail and resource management from the NPS resulting in short and long-term minor beneficial effects.

Effects on the Socioeconomic Environment from Alternative B: Single Trail

Analysis

The Economy and Nearby Communities

The auto tour route could attract visitors as in alternative A, but as in that alternative, visitor surveys would need to be conducted to determine whether site visits are due to trail use or to other tourism activities. Local users would find more recreational opportunities under alternative B, but their uses would most likely not contribute to the overall economy. Any actions taken to implement this alternative would be spread out over time and space, thereby limiting the degree of beneficial effect. Efforts to protect, develop, maintain, and manage the trail would create some new localized and relatively minor spending. Expenditures for labor and materials would be short-term and would accrue to a few individuals or firms. Some of the smaller communities along

the route could benefit from increased tourist spending as trail use increases. Local businesses such as food service, lodging, camping, sporting goods, and bookstores could receive some benefits from sales to trail users. Increased trail use would not be expected to affect the overall profitability of these businesses. Some trail proponents have envisioned small bed and breakfast establishments along the trail operated by local landowners. It is possible that minor economic benefit could accrue to landowners in this instance.

Landownership

Under alternative B, which proposes a linear trail alignment, ownership records would be reviewed for ancient and historic trail segments along the trail route. For state-owned segments, even if crossing private land, the trail would be made available to the public after management plans are completed and a trail segment manager in place. More trail users would be attracted to use the public trail as it passes through private land on state-owned trail, increasing the potential for trespassing.

Trail designation would not impact private landowners regarding federal acquisition because land would be acquired, if at all, only from willing sellers and donors. Under alternative B, the NPS would not seek to manage the state-owned segments of trail, but would provide technical assistance and limited financial assistance to State Parks and Nā Ala Hele for their management of the trail resulting in minor to moderate beneficial effects on these agencies.

Federal laws would apply only to the trail and agreed upon adjacent areas and not to the rest of the landowner's property. The state of Hawai'i has many laws that address similar concerns to federal laws and in some cases these laws are more stringent. These laws apply to landowners now and would continue to do so. Generally, for any action regarding any segment of the Ala Kahakai NHT, joint state and federal environmental assessments (EAs) or statements (EISs) would be prepared. It is not anticipated that meeting federal requirements would add significantly to existing requirements of state and local regulations. Adding NPS technical and limited financial assistance could result in benefits to landowners

It is possible that a landowner may wish to protect for public use and enjoyment resources adjacent to and associated with the trail. Participation by landowners in the national trail is voluntary, though encouraged, and requires an agreement with the NPS. Experience on other national trails indicates that many landowners take pride in preserving trail resources. Recognition of trail sites provides a positive way for landowners to help preserve resources without giving up ownership rights. Interested landowners could be encouraged to incorporate their resources into the Ala Kahakai NHT so that they would receive the benefits of NPS technical and possible financial assistance in protecting those resources. Easements and partial interests in land can sometimes provide significant tax relief under the National Trails System Act, as amended, section 7(k).

Those landowners not wishing to participate may receive public pressure to do so, especially if the land represents a linking segment that could help create a continuous trail. The degree of pressure and the need for landowner response cannot be estimated at this time.

Cumulative Effects

The auto tour could add an undetermined number of visitors to trail sites and to experience the trail.

Over time, the Ala Kahakai NHT would become a continuous 175-200 mile trail. Only the trail right-of-way and agreed upon adjacent areas would be directly affected. Approximately 35 miles of state-owned trail across private property would be affected. State and county parks and trails in Nā Ala Hele jurisdiction would also be affected as approximately 46 miles within state land are affected by the Ala Kahakai NHT. With NPS

technical and financial assistance, these impacts could be positive for the private landowner and the agencies. Without help, the state could have many more miles of trail to protect and manage than if can effectively care for.

Conclusion

Even if tourists do extend their stays to experience the trail, the effects on the local economy would be expected to be negligible given the $1.31 billion visitors already spend on island of Hawai'i visits (County, 2004).

Effects to private landowners from federal actions as a result of development of the Ala Kahakai NHT would generally be negligible to minor under alternative B as the state already requires protection of ancient and historic trails. The landowner could experience adverse effects if required to protect trail fabric and segments in place instead of moving a trail to a more convenient location for project purposes. If a landowner chooses to include resources associated with the Ala Kahakai NHT in the trail management, effects could be beneficial to the landowner and the public.

Adding NPS technical and limited financial assistance could result in short and long-term minor to moderate benefits to landowners.

Effects on the Socioeconomic Environment from Alternative C: Ahupua'a Trail System

Analysis

The Economy and Nearby Communities

Alternative C includes a linear trail alignment and a traditional system of trails on public lands, one purpose of which is to enhance cultural conservation through protection and interpretation of cultural sites and landscapes. These settings would offer opportunities for local Hawaiians to perpetuate their culture by taking care of the land in traditional and semi-traditional ways. This alternative provides for increased learning, skill building, livelihood and career track development for local people and offers a platform from which to launch culturally appropriate non-profit entrepreneurial or concession opportunities for revenue generation. These activities would fund trail resource management activities aimed at cultural and natural resource conservation and could bring some limited income to local communities resulting in negligible to moderate beneficial effects.

Landownership

Private landowners would experience the same effects under alternative C as in alternative B. However, under alternative C, the NPS would consider less-than-fee interest and management responsibilities for those trail segments along the Ala Kahakai NHT in the Nā Ala Hele inventory. State Parks would also be affected as this alternative includes public lands adjacent to the linear alignment of the Ala Kahakai NHT that contain other lateral and *mauka* segments of ancient and historic trails. With NPS assistance, State Parks could experience minor to moderate beneficial impacts. The NPS and the state would work out their relationship through an agreement. Without NPS assistance, State Parks could experience moderate to major adverse impacts.

Cumulative Impacts

The Ala Kahakai NHT would provide the setting for members of local communities to practice their culture and thereby develop culturally-linked economic opportunities and gain training that could improve their job and career options.

Cumulative impacts would be the same as described in alternative B except that larger areas state parkland would be incorporated into the trail.

Conclusion

Effects on the local economy and nearby communities would be similar to alternative B, but local communities would experience minor beneficial effects through participation in cultural conservation.

Effects would be the same as alternative B, for private landowners. Relieving Nā Ala Hele of

Mauna Lani Resort, S. Kohala, NPS photo

responsibility for trails in its jurisdiction along the Ala Kahakai NHT could be a moderate beneficial effect on the agency. State Parks would receive moderate to major beneficial effects if the NPS assists it with parklands adjacent to the linear alignment of the Ala Kahakai NHT that contain other lateral and *mauka* segments of ancient and historic trails. If NPS assistance were unavailable, State Parks could experience moderate to major adverse impacts.

Effects on Trail Operations

Methodology and Assumptions

Park operations refers to the capacity of trail administration to provide policy direction for the protection, public use, and appreciation of the trail and the ability of staff to adequately protect and preserve trail resources and provide for an effective user experience. The discussion of impacts on park operations focuses on the type of management structure, the number of staff available to ensure public safety and provide interpretation, and the ability of the staff to protect and preserve trail resources.

The trail superintendent and persons knowledgeable of administration and management of national historic trails were consulted to evaluate the impacts of implementing each alternative.

The thresholds of change for the intensity of impacts on trail operations are defined as follows:

Impact Intensity	Impact Description
Negligible	No effects would occur, or the effects on trail administration, management, and operations are below or at the level of detection.
Minor	The effects would be detectable, but would be of a magnitude that it would not have an appreciable adverse or beneficial effect on trail administration, management, and operations.
Moderate	Impacts would be readily apparent and would result in a substantial adverse or beneficial change in trail administration, management, and operations in a manner noticeable to staff and the public.
Major	Impacts would be readily apparent and would result in a substantial adverse or beneficial change in trail administration, management, and operations in a manner noticeable to staff and the public and would be markedly different from existing operations.

Shoreline Access Sign, Waikoloa, S. Kohala, NPS photo

Beach Trail sign, Mauna Lani Resort, S. Kohala, NPS photo

Effects on Trail Operations from Alternative A: No Action

Analysis

The Ala Kahakai NHT would continue to be administered by a superintendent and one full-time community planner. The four national parks would oversee their segments of the trail with little capacity for trail staff to assist. The Ala Kahakai NHT staff would continue to encourage the development of the Ala Kahakai Trail Association. Limited staff capacity and funding to assist the association would have moderate adverse effects on its growth and development. The NPS would support with technical and limited financial assistance Nā Ala Hele, State Parks, and non-profit community groups that want to care for official components of the Ala Kahakai NHT; however, limited staff numbers and funds would cause moderate adverse effects on the ability of NPS to provide support. Limited capacity to provide interpretation and education other than a trail brochure would have moderate adverse effects on user understanding and appreciation of the trail. The part of the public aware of the trail would be likely to notice deficiencies in the administration's ability to add trail segments and sites and to interpret them to a broader public. Public safety would be a concern of trail administration but could suffer negligible adverse effects.

Cumulative Impacts

Limited staff levels during the extended period of this plan would result in long-term moderate adverse cumulative impacts to public awareness and appreciation of the trail.

Conclusion

Under alternative A, staff levels would be inadequate to meet the goal of adding trail segments and sites to the Ala Kahakai NHT to create a presence for the trail, resulting in long-term moderate to major impacts to trail values.

Effects on Trail Operations from Alternative B: Single Trail

Analysis

Alternative B has a goal of adding needed staff positions focused on skills that can be most helpful to getting the trail on the ground, providing interpretation and education, and encouraging state agencies and local organizations in the development, management, and maintenance of the trail. Adding, along with the superintendent, a community planner, interpretive specialist, and volunteer coordinator/trainer would provide long-term major beneficial impacts to trail administration. Seeking other needed disciplines—archeologist, administrative assistant, GIS specialist, and trail maintenance coordinator—by sharing positions with the national or state parks, or Nā Ala Hele or through contracts would provide long-term minor benefits through reduced cost and moderate benefits of added staff. If these staff positions are achieved over the period of this plan, they will provide expertise needed to complete the linear trail; the capacity for resource protection; information, maps, interpretation, and education to the public; and training and support to state agencies and local organizations to help them manage, maintain, and monitor trail segments in a manner that protects trail values.

Cumulative Impacts

Operations under alternative B would have long-term moderate to major beneficial cumulative effects on trail resources and values.

Conclusion

Under alternative B, added funding and staff with skill in community planning, resource management, interpretation, and other disciplines would have long-term moderate to major beneficial effects on trail resources and values.

Effects on Trail Operations from Alternative C: Ahupua'a Trail System

Analysis

Alternative C has similar operational goals of alternative B, but in the event of taking on management responsibilities for state-owned trail, would add a law enforcement/interpretive ranger. In addition to alternative B staff goals, two trail maintenance crew members would be sought through sharing with the national or state parks or Nā Ala Hele or through contracts. If these staff positions are achieved over the long term, they will provide expertise needed to complete the linear trail and a system of trails on public lands; the capacity for resource protection; information, maps, interpretation, and education to the public; and training and support to state agencies and local organizations to help them manage, maintain, and monitor trail segments in a manner to protect trail values. Alternative C emphasizes development of the Ala Kahakai Trail Association to become a major partner with the NPS is development, protection, management, and interpretation of the trail, thus expanding operational capacity.

Cumulative Impacts

Operations under alternative C would have long-term moderate to major beneficial cumulative effects on trail resources and values. NPS management of state-owned segments of trail could have long-term beneficial effects on trail management and on the relationship between Nā Ala Hele and the NPS. Long-term moderate to major beneficial effects would result from the Ala Kahakai Trail Association becoming a fully-functioning partner in trail development, protection, management, and interpretation.

Conclusion

Operations under alternative C would have long-term moderate to major beneficial effects on trail resources and values would provide long-term minor benefits through reduced costs.

Unavoidable Adverse Environmental Effects

Alternative A: No Action

Trail fabric and associated archeological, cultural, and historic resources would remain highly susceptible to natural deterioration, inadvertent human damage, and vandalism. It is likely that some important resources would be lost. Increasing unregulated visitor use and potential piecemeal private development along the Ala Kahakai NHT route could contribute to the loss of trail resources.

Alternative B and Alternative C

With proper planning and management, few long-term adverse impacts to trail resources would be anticipated from either of the action alternatives. The physical activities with potential for adverse effect would be installing route markers and interpretive exhibits in areas of public use, limited trail construction and reconstruction, and facility development associated with trailheads. These activities would have a long-term visual impact. With appropriate siting these effects could be minimized, but not done away with; most likely, they would be seen if the viewer is close by. If facilities were located in barren areas or areas of undesirable non-native plants (which would be removed as part of construction), then there would be no effect on native and endemic plant species. Construction activity could result in short-term disturbance of wildlife near construction sites, but construction would be so located that there would be no permanent disturbance. Visitor use could result in temporary displacement of species when people were present. The extent of impacts to vegetation and wildlife would have to be determined on a site-specific basis and cannot be predicted at this time; none are foreseen.

The potential for long-term soil compaction resulting from increased visitor use exists although much of the trail is either on lava or on sand and not readily subject to compaction. Soil

compaction could result in increased run-off and erosion, but again, this is not a major concern in the arid area of the trail.

Short-Term Uses and Long-Term Productivity

Alternative A: No Action

Illegal or negligent uses within the Ala Kahakai corridor could damage or destroy trail segments and associated resources and adversely affect the long-term opportunity to reestablish a continuous trail.

Alternative B and Alternative C

In the long-term, a portion of the *ala loa* and its associated cultural and natural resources would be protected. Any short-term use would contribute to this long-term effect. Recognition and reestablishment of the trail would have negligible effect on the long-term productivity of adjacent land.

Irreversible and Irretrievable Commitment of Resources

Irreversible And Irretrievable Commitment of Resources of Alternative A: No Action

There would be no additional commitment of federal resources under the no action alternative.

Irreversible And Irretrievable Commitment of Resources of Alternative B And Alternative C

It is possible, but highly unlikely, that over time and with effort and funds, any trail segments or facilities which would be constructed for the Ala Kahakai NHT could be removed and the land restored. Even though most developed areas could be restored to previous condition over time, the use of the land and financial resources to implement this alternative would, in a practical sense, be an irretrievable commitment of resources. In areas that were restored, the biological productivity would be expected to increase.

While this category of impacts is concerned with biological resources, the primary benefit of trail designation would be its enhanced protection and reestablishment of the ancient and historic trail. Reversal of this process would be counter-productive even if, by some measure, it might increase biological productivity to do so.

The Environmentally Preferred Alternative

The environmentally preferred alternative causes the least damage to the biological and physical environment. It is also the alternative that best protects, preserves, and enhances historic, cultural, and natural resources. It is the alternative that will promote the national environmental policy expressed in NEPA (§101(b)) and includes:

1. Fulfilling the responsibilities of each generation as trustee of the environment for succeeding generations;
2. Ensuring for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;
3. Attaining the widest range of beneficial uses of the environment without degradation, risk of health or safely, or other undesirable and unintended consequences;
4. Preserving important historic, cultural and natural aspects of our national heritage and maintaining, wherever possible, an environment that supports diversity and variety of individual choice;
5. Achieving a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and
6. Enhancing the quality of renewable resources and approaching the maximum attainable recycling of depletable resources. (The planners determined criteria six to be inapplicable to this planning effort.)

Alternative C (the preferred alternative) is the environmentally preferred alternative because it surpasses the other alternatives in the potential to realize the full range of national environmental policy goals. It provides a high level of protection of natural and cultural resources while also providing for a wide range of neutral and beneficial uses of the environment. This alternative maintains an environment that supports a diversity and variety of individual choices. It integrates resource protection with an appropriate and more diverse range of Native Hawaiian, resident, and visitor (tourist) uses than the other two alternatives. It provides the potential to go beyond the protection of singular archeological and cultural sites and individual species to protect cultural landscapes and plant and animal habitat on public land. This alternative provides greater sharing of the culture of Hawai‘i with visitors and better protection of traditional uses of the environment by Native Hawaiians than the other alternatives.

Alternative A, which describes the current and potential administration and management of the Ala Kahakai NHT under existing conditions, fails to satisfy the NEPA requirements outlined above. Shortage of staff, programs, and interpretive services limit existing staff to minimal operational effectiveness. The first two goals are limited to the four national parks, a few trail segments, and in the future, sites on the auto tour. The third and fourth goals are unlikely to be attained without additional funding and increased public support. Resource impacts would be expected to increase along most of the trail corridor as few trail segments would be brought under the administration of the NPS. Under this alternative, the fifth goal remains unattainable due to population increase, development pressures, and increased use of the trail route without a management presence.

Alternative B would meet the national policy goals but at a lower level than alternative C, the preferred alternative. It would care for the environment of the trail for future generations, but would not preserve examples of the traditional Hawaiian system of trails as does alternative C (goal 1). It provides for healthful and culturally pleasing experiences along a linear trail, but does not provide for the broader scope of experience of alternative C (goal 2). It provides a wide range of beneficial uses of the environment, but alternative C provides additional settings in which the Native Hawaiian culture can be more broadly experienced (goal 3). It better protects the trail environment and provides for a greater range of user experiences than alternative A, but the area protected and the diversity of choices is less than the preferred alternative (goal 4). While both alternatives B and C provide a balance between population and resource use through carrying capacity evaluation, alternative B does not provide the wide sharing of life’s amenities potential in alternative C through its cultural conservation programs (goal 5).

Keolonahihi, N. Kona, NPS photo

Consultation and Coordination

Photos above: public meetings and community events; bottom: Kīholo, N. Kona; NPS photos

Chapter 5: Consultation and Coordination

Scoping

On April 4, 2003, the *Federal Register* published the Notice of Intent to prepare an environmental impact statement for the comprehensive management plan for the Ala Kahakai National Historic Trail. The scoping period extended from that date through June 28, 2003.

The NPS mailed 1830 public scoping meeting announcements using an address list that included hiking enthusiasts affiliated with Ē Mau Nā Ala Hele, relevant legislators, the Kaloko-Honokōhau NHP contact list, and interested individuals, organizations and agencies that provided their contact information to the trail staff. The NPS advertised meetings in the *West Hawaii Today* and *Hawaii Tribune-Herald*, with notices appearing one to three days prior to the event and posted large signs on the meeting days in high-visibility areas on adjacent roadways and on buildings where the meetings were held to encourage walk-by and drive-by participation. Meeting announcements also appeared in the Ala Kahakai NHT and Ē Mau Nā Ala Hele newsletters.

The NPS conducted nine open house scoping meetings between March 22 and June 28, 2003. At the meetings, attendees were encouraged to submit formal input through a *Mana'o Form,* a questionnaire about how the trail should be managed. A total of 200 people representing the general public, private landowners, trail advocacy groups, native Hawaiian organizations, and state, county, and federal agencies attended these meetings. About 25 *Mana'o* Forms were returned to the trail office.

In addition, the planning team met with numerous individuals, community groups, private landowners, and government agency representatives to understand their concerns and visions for the Ala Kahakai NHT. Using the information for all these sources, the planning team prepared draft versions of the purpose and significance statements, management prescriptions, and management alternatives.

Alternatives Development

Between July 2003 and March 2004, the planning team developed five alternatives for management based on information gained from the scoping process: alternative A, No Action; alternative B, Single Ala Kahakai Trail; alternative C: Ahupua'a Trail Systems; alternative D: Historic Trail Clusters; alternative E: Public Lands. The NPS provided a booklet to the public describing these alternatives and inviting comment. In addition, the NPS conducted nine public meetings between April 17 and June 19, 2004 to gather comments on the alternatives. The comment period for the draft alternatives closed on June 25, 2004.

The planning team prepared a draft alternatives document that eliminated alternative E because it was favored in public meetings only as a step to completing the entire trail.

In October 2004, after preparing a partial draft comprehensive management plan with the four alternatives and an outline environmental impact statement, the project planner took another job. In March 2005, a second planner was hired to complete the plan. This change in the project team caused a significant delay in completing the draft plan for public for review.

Study Review

In December 2006, to ensure that issues were properly stated and addressed, an internal review draft of this document was sent to the four national parks on Hawai'i Island, other National Park Service reviewers, and non-agency reviewers in Hawai'i who have been involved in the study process and have knowledge of the Ala Kahakai NHT. These reviewers' comments were incorporated into the public review draft. In addition, NPS policy review was completed in June 2007 and revisions made to the document in preparation for the public review draft.

Stakeholders/Document Recipients

Federal Government

Senator Daniel Akaka
Senator Daniel Inouye
Representative Mazie Hirono
Representative Neil Abercrombie
National Marine Fisheries Service
U.S. Department of Agriculture, Natural Resources Conservation Service
U.S. Department of the Army – Pohakuloa Training Area (PTA)
U.S. Coast Guard
U.S. Army Corps of Engineers
U.S. Department of Transportation, Federal Highway Administration
U.S. Department of the Interior
Environmental Policy and Compliance
National Park Service
- Puʻukoholā Heiau NHS
- Kaloko-Honokōhau NHP
- Puʻuhonua o Hōnaunau NHP
- Hawaiʻi Volcanoes NP

U.S. Environmental Protection Agency, Regional Project Manager
U.S. Fish & Wildlife Service
U.S. Geological Survey

State Government

Department of Business and Economic Development & Tourism
Department of Hawaiian Home Lands
Department of Health
- Access Board (DCAB)

Health Promotion and Education
Land use Planning and Review Program
Department of Land & Natural Resources
- State Historic Preservation Division
- Division of Forestry & Wildlife
  - Nā Ala Hele Trails & Access Program
  - Natural Areas Reserve System
- Division of State Parks
- Land Management Division
- Office of Environmental Quality Control
- Division of Boating & Ocean Recreation
- Division of Conservation and Resource Enforcement

Office of State Planning, Coastal Zone Management Program
Department of Transportation
- Airports Division
- Harbors Division
- Highways Division

Hawaii Tourism Authority
Hawaii Visitors and Convention Bureau
Office of the Governor
Office of Hawaiian Affairs
State Legislature
University of Hawaii
- Environmental Center

Sea Grant

County Government

County Council
Department of Parks & Recreation
Department of Planning & Permitting
Department of Research & Development
Hawaii County Civil Defense
Hawaii County Police Department
Office of the Mayor

Native Hawaiian Groups

Waimea Hawaiian Civic Club
Kohala Hawaiian Civic Club
Kona Hawaiian Civic Club
Prince David Kawananakoa Hawaiian Civic Club
Hilo Hawaiian Civic Club

Educational Institutions

University of Hawaii
- UHH-West Hawaii Hawaiian Studies Program
- Environmental Center

U.H. Sea Grant

Public Libraries

Hawaiʻi State Library
Bond Memorial Public Library
Hilo Public Library
Holualoa Public Library
Honokaʻa Public Library
Kailua-Kona Public Library
Keaʻau Public Library
Kealakekua Public Library
Laupahoehoe Public Library
Mountain View Public Library
Naʻalehu Public Library
Pahala Public Library
Thelma Parker Public Library

Organizations

E Mau Na Ala Hele – Hiking Club
Kona Hiking Club
Ka ʻĀina Hoʻopulapula
Sierra Club
Hui Laulima o Kekaha Kai

Kona Chamber of Commerce
Pu‘uwa‘awa‘a Advisory Council

Private Landowners/ Representatives

Kamehameha Schools
C. Brewer
Earl Bakken
Pauoa Beach
McCandless Ranch
Kennedy-Wilson
John Michael White - Hawaii Land Company
The Nature Conservancy
Kahua Ranch
Kohala Coast Resort Association
Hokulia
Queen Lili‘uokalani Children’s Center
Queen Emma Foundation
Kona Village
WB Kukio
Mauna Lani Bay Resort
Mauna Kea Properties
Waikoloa Beach Resort
Surety Kohala
Parker Ranch
Hawaii Leeward Planning Conference
Roger Harris
Alan Brown
Christopher Norrie

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Glossary

Anchialine pool: generally small brackish standing waters in rocky (lava) basins that vary in salinity and exhibit tidal fluctuations, although in most cases they lack a surface connection to the ocean.

Ancient trail: Used in this plan to refer to trails made in Hawaiian antiquity, predating western contact in 1778.

Archeological resource: any material remains or physical evidence of past human life or activities which are of archeological interest, including the effects of human activities on the environment (NPS 1998c).

Auto Tour Route: a route designated along existing roads. The route allows reasonably simple and direct travel either on or parallel to coastal *ala loa* route, keeping in mind traveler convenience and year–round safety. All roads selected for the auto route accommodate two wheel drive vehicles and are open year–round. The route will be marked with an identifying sign and the official trail marker.

Challenge cost-share agreement: any agreement entered into between the NPS and any cooperator for the purpose of sharing costs or services in carrying out authorized functions and responsibilities of the Secretary of the Interior with respect to any unit or program of the National Park System [Sec. 8(a) of the National Park Service Administrative Reform Act of 1996]. Challenge cost-share programs were developed to increase and strengthen partnerships in the preservation and improvement of cultural, natural and recreational resources for which federal land-managing agencies are responsible. Program funds are authorized at the discretion of the U.S. Congress each year.

Compliance: refers to a plan's conformity with federal regulations. Compliance with 12 federal laws, executive orders, and regulations and associated state regulations must be considered with actions related to this plan. The federal laws and executive orders are the American Indian Religious Freedom Act of 1979; Archeological Resources Protection Act of 1979; Endangered Species Act of 1973; Federal Cave Protection Act of 1998; National Environmental Policy Act of 1969; Native American Graves Protection and Repatriation Act of 1990; Section 106 of the National Historic Preservation Act of 1966, as amended; Section 110 of the National Historic Preservation Act and Executive Order 11593; Wilderness Act of 1964; and Executive Orders 11988 (Floodplain Management) , 11990 (Protection of Wetlands), and 12898 (Environmental Justice in Minority Populations and Low-Income Populations).

The NPS will coordinate compliance with federal laws and regulations for this plan. Compliance requirements and the NPS role in meeting them will depend on the type of action, its relationship to the trail, and the project sponsor.

For actions carried out by other federal, state, or local organizations, the NPS will provide technical assistance to meet the requirements of NEPA or other federal laws.

For actions of private owners or others at trail sites or segments not directly related to this plan and having no federal involvement through funding, licensing, permitting, endorsement, or other support, compliance with NEPA or other federal regulations will not be required. State and local requirements may apply.

Actions involving federal funding that are not implementing recommendations in this plan may still have an impact on trail resources. For example, a federally assisted highway project proposed by a state government could adversely affect historic resources. In this case, the project sponsor would be responsible for meeting NEPA and other compliance requirements. The NPS would provide comments and other assistance in addressing impacts on trail resources.

Comprehensive Interpretive Plan (CIP) consists of three separate components. The Long-Range Interpretive Plan (LRIP), the centerpiece of the CIP, outlines the vision and goals for the

interpretive program for several years and provides the interpretive guide for the trail. Annual Implementation Plans outline the measurable actions taken yearly to implement the LRIP. Finally, the CIP includes an Interpretive Database – an inventory of legislative history, trail plans, visitor surveys, and interpretive media as it is developed for the trail.

Cooperative Agreement: a clearly defined, written arrangement between two or more parties that allows some specific action to be taken while protecting the landowner interests (for example, to allow access for resource protection and management, interpretation or recreation; to allow the posting of markers or signs; or to allow others to manage activities or developments).

Cultural Landscape: a geographic area, including natural and cultural resources and the wildlife and domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. There are four general types of cultural landscape: ethnographic landscape, historic designated landscape; historic site; and historic vernacular landscape (NPS 1998c).

Cultural Landscape Report (CLR): the primary report that documents the history, significance and treatment of a cultural landscape. A CLR evaluates the history and integrity of the landscape including any changes to its geographical context, features, materials, and use. A CLR will often yield new information about a landscape's historic significance and integrity, even for those already listed on the national register. Where appropriate, national register files should be amended to reflect the new findings (NPS 1998c).

Ethnobotany: the study of plants used by specific cultures for various reasons. The field acknowledges those who are in continual contact with plants permitting them to classify, in their way, the plants and to generate cultural rules for manipulating the plants and their local environments.

Ethnographic Landscape: areas containing a variety of natural and cultural resources that associated people define as heritage resources, including plant and animal communities, geographic features, and structures, each with their own special local names (NPS 1998c).

Ethnographic Landscape Study: a field study that typically involves working with stakeholders in visits to park landscapes. These studies differ from the more generic cultural landscape studies conducted by NPS because primary ability and authority to identify and describe it are given to the traditionally associated stakeholders themselves (NPS 1998c).

Ethnographic Overview and Assessment: a comprehensive background study, this document reviews existing information on park resources traditionally valued by stakeholders. The information comes mostly from archives and publications; interviews with community members and other constituents—often on trips to specific sites—supply missing data. This study also identifies the need for further research (NPS 1998c).

Ethnographic Resource: a site, structure, landscape, or natural resource feature assigned traditional legendary, religious, subsistence or other significance in the cultural system of a group traditionally associated with the resource. An ethnographic resource is defined by its significance to a traditionally associated group (NPS 1998c).

Endemic Species: native to a particular place; in this case, occurring naturally in Hawai`i and nowhere else.

General Authorities Act (1970): includes all areas administered by the National Park Service in one National Park System and clarifies the authorities applicable to the system. Areas of the National Park System, the act states, "though distinct in character, are united through their inter-related purposes and resources into one national park system as cumulative expressions of a single national heritage; that, individually and collectively,

these areas derive increased national dignity and recognition of their superb environmental quality through their inclusion jointly with each other in one national park system preserved and managed for the benefit and inspiration of all people of the United States..."

High Potential Historic Site or Route Segment: a site or segment identified according to the procedures outlined in section 5(e) of the National Trails System Act. Each site or segment must provide opportunities to interpret the trail's historical significance and to provide high quality recreation along a portion of the route. Route segments should have greater than average scenic values and should also help visitors appreciate the experience of the original trail users. Criteria include historical significance, the presence of visible historic remains, scenic quality, and relative freedom from intrusion. The management planning process determines if sites, trail segments, or associated resources are to be included as official components of the national historic trail.

Historic Designed Landscape: a landscape significant as a design or work of art (NPS 1998c).

Historic Site: a landscape significant for association with a historic event, activity, or person (NPS 1998c).

Historic Structure: a constructed work, usually immovable by nature or design, consciously created to serve some human activity. This category includes trails and ancient earthen structures as well as buildings, bridges, among others (NPS 1998c).

Historic trail: used in this plan to refer to trails developed in Hawai'i post-western contact after 1778 until 1892 when the Highways Act was passed.

Historic Vernacular Landscape: a landscape whose use construction, or physical layout reflects endemic tradition, customs, beliefs, or values (NPS 1998c).

Indigenous Species: occurring naturally in a particular region or environment; in this case, native to Hawai'i but occurring naturally outside of Hawai'i also.

Interpretation: communicates the significance of the history and resources of a park or trail. A synonym might be "education." It aims to reveal meanings and relationships through original objects, firsthand experience, and illustrative media rather than only to convey factual information. If done well, interpretation can convey the *quality* of experience.

Laze: clouds of mist formed when hot lava reaches sea water.

Memorandum of Understanding: a mutual understanding between the National Park Service and a state or local government or another party that is set forth in a written document to which both parties are participants. A memorandum of understanding does not obligate funds. It is comparable to nonfederal cooperative agreements that may be negotiated between other parties.

Minimum Impact Tactics (MIT): guidelines that assist fire personnel in the choice of procedures, tools, and equipment used in fire suppression and post-fire rehabilitation that will maintain a high standard of caring for the land. These techniques reduce soil disturbance, impact to water quality, noise disturbance, intrusions in the wilderness, and cutting or trampling of vegetation. NPS guidelines, outlined in DO-18, are applied to site conditions, and current and expected fire behavior to determine the appropriate MST actions.

National Historic Trail: a trail designated by an act of Congress. In addition to meeting the requirements of feasibility and desirability, a national historic trail must meet the following criteria:

1) It must be a trail or route established by historic use and must be historically significant as a result of that use. The route need not currently

exist as a discernible trail to qualify, but its location must be sufficiently known to permit evaluation of public recreation and historical interest potential.

2) It must be of national significance with respect to any of several broad facets of American history, such as trade and commerce, exploration, or migration and settlement. To qualify as nationally significant, historic use of the trail must have had a far–reaching effect on broad patterns of American culture.

3) It must have significant potential for public recreational use or historical interest based on historic interpretation and appreciation.

National Register of Historic Places (NRHP): the Nation's official list of cultural resources worthy of preservation. It is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archeological resources. It is defined in section 106 of the National Historic Preservation Act (NHPA) and 36 CFR Part 800, the implementing regulations for the NHPA. Archeological resources, historic structures, cultural landscapes, traditional cultural properties, and ethnographic resources may be eligible for the register. A resource needs to be 50 years old to be considered eligible for national register listing unless the resource is of exceptional significance.

Criteria for consideration include the quality of significance in American history, architecture, archeology, engineering, and culture present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or

B. That are associated with the lives of significant persons in or past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded or may be likely to yield, information important in history or prehistory.

National Trails System: a system of national recreation trails, national scenic trails, and national historic trails established by the National Trails System Act. Refer to appendix A for the Act.

Oral and Life History Study: chronicles important events and associated places in parks, and relates them to the context of individual and community ways of life. These studies involve prolonged collaboration between interviewer and interviewee, essential when rapid change threatens a traditional culture, when elders and their stories are unrecorded, and when subsistence areas, practices, and knowledge require documentation. Methods include a wide range of open-ended and focused interviews which can be compared against documentation, when it is readily available (NPS 1998c).

Organic Act (1916): the act establishing the National Park Service to "promote and regulate the use of the Federal areas known as national parks, monuments, and reservations … by such means and measures as conform to the fundamental purpose to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment for the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

Preservation: the act or process of applying measures to sustain the existing form, integrity, and material of a historic structure, landscape or object. Work may include preliminary measures to protect and stabilize the property, but generally focuses upon the ongoing preservation maintenance and repair of historic materials and features rather than extensive replacement and new work. Preservation involves the least change, and is the most respectful of historic

materials. It maintains the form and material of the existing landscape (NPS 1998c).

Rapid Ethnographic Assessment (REAP): a package of interview, observation, focus group, site walks, mapping, and documentary analysis techniques used when there is a need for information in advance of specific actions—like establishing a new park—that may affect a group's resources and thus its traditions. More focused than the Overview and Assessment, REAP helps satisfy the requirements of the National Environmental Policy Act, and considers the views of various stakeholders as its primary focus. This package can yield new ways to manage places deemed important by group members, as well what they want to share with the public (NPS 1998c).

Rehabilitation: Rehabilitation usually accommodates contemporary alterations or additions without altering significant historic features or materials, with successful projects involving minor to major change. Rehabilitation attempts to recapture the appearance of a property, or an individual feature at a particular point in time, as confirmed by detailed historic documentation (NPS 1998c).

Reconstruction: the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location. Reconstruction attempts to recapture the appearance of a property, or an individual feature at a particular point in time, as confirmed by detailed historic documentation (NPS 1998c).

Restoration: the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period (NPS 1998c).

Traditional Coastal Fishing and Harvesting: a subsistence practice of those fishers who engage in limited fishing and gathering activities to feed their extended families identified with a specific region and associated through bloodlines and friendships which have developed over generations.

Traditional Cultural Property: a site or place that is eligible for inclusion on the national register because of its association with cultural practices and beliefs (1) that are rooted in the history of a community and passed own through the generations in oral literature or history, and are (2) important to maintaining the continuity of the community's traditional beliefs and practices.

Tsunami: a large, rapidly moving ocean wave triggered by a major disturbance of the ocean floor, which is usually caused by an earthquake but sometimes can be produced by a submarine landslide or a volcanic eruption. Tsunamis are also referred to as "tidal waves," but they have no relation to tides (USGS).

Universal Design: related to "inclusive design" and "design for all," the design and production of products, services, and environments that promote equal opportunity for use by individuals with or without disability regardless of age, ability, or circumstance.

View Plane: Viewshed; the entire area an individual can see from a fixed vantage point; in Hawai'i, a significant landscape element seen from a public road or trail.

Vog: Volcanic smog.

Wayside exhibit: a display which provides orientation or briefly tells a site–specific story in an outdoor setting. Encountered on a casual basis by the visitor, a wayside exhibit often explains a natural scene, historic resource, or an event at a place where a visitor would have questions. A wayside incorporates graphics such as photos, art, or maps as well as text. Without graphics, the medium becomes an interpretive sign.

Top left: Keolonahihi, N. Kona; middle left: Crown flower; bottom left: Ke'ei, S. Kona; right: Kaloko-Honokōhau NHP, N. Kona. NPS photos

Appendices

Top left: Mahukona, N. Kohala; top right: Opae Ula, Kaloko-Honokōhau NHP; bottom: Trail, 1801 Lava Flow, N. Kona. NPS photos

Appendices

Appendix A: Relevant Legislation

Ala Kahakai National Historic Trail Act
National Trails System Act, as amended
National Parks Omnibus Management Act of 1998 (Thomas Act)
State of Hawaii Liability Law, Hawaii Revised Statutes 520
Hawaii Statewide Trails and Access System, Hawaii Revised Statutes 198D
Act 50 of the State of Hawaii (HRS Ch. 343)

Ala Kahakai National Historic Trail Act

Public Law 106-509--Nov. 13, 2000 114 Stat.2361
November 13, 2000
[S. 700]

One Hundred Sixth Congress
of the
United States of America
AT T H E S E C O N D S E S S I O N

Begun and held at the City of Washington on Monday,
the twenty-fourth day of January, two thousand

An Act
To amend the National Trails System Act to designate the Ala Kahakai Trail as a National Historic Trail.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ``Ala Kahakai National Historic Trail Act''.

SEC. 2. FINDINGS.

Congress finds that--

(1) the Ala Kahakai (Trail by the Sea) is an important part of the ancient trail known as the ``Ala Loa'' (the long trail), which circumscribes the island of Hawaii;

(2) the Ala Loa was the major land route connecting 600 or more communities of the island kingdom of Hawaii from 1400 to 1700;

(3) the trail is associated with many prehistoric and historic housing areas of the island of Hawaii, nearly all the royal centers, and most of the major temples of the island;

(4) the use of the Ala Loa is also associated with many rulers of the kingdom of Hawaii, with battlefields and the movement of armies during their reigns, and with annual taxation;

(5) the use of the trail played a significant part in events that affected Hawaiian history and culture, including--

(A) Captain Cook's landing and subsequent death in 1779;

(B) Kamehameha I's rise to power and consolidation of the Hawaiian Islands under monarchical rule; and

(C) the death of Kamehameha in 1819, followed by the overthrow of the ancient religious system, the Kapu, and the arrival of the first western missionaries in 1820; and

(6) the trail--

(A) was used throughout the 19th and 20th centuries and continues in use today; and

(B) contains a variety of significant cultural and natural resources.

SEC. 3. AUTHORIZATION AND ADMINISTRATION.

Section 5(a) of the National Trails System Act (16 U.S.C. 1244(a)) is amended--

[S. 700--2]

(1) by designating the paragraphs relating to the California National Historic Trail, the Pony Express National Historic Trail, and the Selma to Montgomery National Historic Trail

as paragraphs (18), (19), and (20), respectively; and

(2) by adding at the end the following:

``(21) ALA KAHAKAI NATIONAL HISTORIC TRAIL.--

``(A) IN GENERAL.--The Ala Kahakai National Historic Trail (the Trail by the Sea), a 175 mile long trail extending from 'Upolu Point on the north tip of Hawaii Island down the west coast of the Island around Ka Lae to the east boundary of Hawaii Volcanoes National Park at the ancient shoreline temple known as `Waha'ula', as generally depicted on the map entitled `Ala Kahakai Trail', contained in the report prepared pursuant to subsection (b) entitled `Ala Kahakai National Trail Study and Environmental Impact Statement', dated January 1998.

``(B) MAP.--A map generally depicting the trail shall be on file and available for public inspection in the Office of the National Park Service, Department of the Interior.

``(C) ADMINISTRATION.--The trail shall be administered by the Secretary of the Interior.

``(D) LAND ACQUISITION.--No land or interest in land outside the exterior boundaries of any federally administered area may be acquired by the United States for the trail except with the consent of the owner of the land or interest in land.

``(E) PUBLIC PARTICIPATION; CONSULTATION.--The Secretary of the Interior shall--

``(i) encourage communities and owners of land along the trail, native Hawaiians, and volunteer trail groups to participate in the planning, development, and maintenance of the trail; and

``(ii) consult with affected Federal, State, and local agencies, native Hawaiian groups, and landowners in the administration of the trail.''.

Speaker of the House of Representatives.

Vice President of the United States and President of the Senate.

National Trails System Act, as Amended (Selected Sections)

(P.L. 90-543, as amended through P.L. 107-325, December 4, 2002)
(also found in *United States Code*, Volume 16, Sections 1241-1251)

AN ACT

To establish a national trails system, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE

SECTION l. This Act may be cited as the "National Trails System Act".

STATEMENT OF POLICY

SEC. 2. [16USC1241]

(a) In order to provide for the ever-increasing outdoor recreation needs of an expanding population and in order to promote the preservation of, public access to, travel within, and enjoyment and appreciation of the open-air, outdoor areas and historic resources of the Nation, trails should be established (i) primarily, near the urban areas of the Nation, and (ii) secondarily, within scenic areas and along historic travel routes of the Nation which are often more remotely located.

(b) The purpose of this Act is to provide the means for attaining these objectives by instituting a national system of recreation, scenic and historic trails, by designating the Appalachian Trail and the Pacific Crest Trail as the initial components of that system, and by prescribing the methods by which, and standards according to which, additional components may be added to the system.

(c) The Congress recognizes the valuable contributions that volunteers and private, nonprofit trail groups have made to the development and maintenance of the Nation's trails. In recognition of these contributions, it is further the purpose of this Act to encourage and assist volunteer citizen involvement in the planning, development, maintenance, and management, where appropriate, of trails.

NATIONAL TRAILS SYSTEM

SEC. 3. [16USC1242] (a) The national system of trails shall be composed of the following:

(l) National recreation trails, established as provided in section 4 of this Act, which will provide a variety of outdoor recreation uses in or reasonably accessible to urban areas.
(2) National scenic trails, established as provided in section 5 of this Act, which will be extended trails so located as to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass. National scenic trails may be located so as to represent desert, marsh, grassland, mountain, canyon, river, forest, and other areas, as well as landforms which exhibit significant characteristics of the physiographic regions of the Nation.
(3) National historic trails, established as provided in section 5 of this Act, which will be extended trails which follow as closely as possible and practicable the original trails or routes of travel of national historic significance. Designation of such trails or routes shall be continuous, but the established or developed trail, and the acquisition thereof, need not be continuous onsite. National historic trails shall have as their purpose the identification and protection of the historic route and its historic remnants and artifacts for public use and enjoyment. Only those selected land and water based components of a historic trail which are on federally owned lands and which meet the national historic trail criteria established in this Act are included as Federal protection components of a national historic trail. The appropriate Secretary may certify other lands as protected segments of an historic trail upon application from State or local governmental agencies or private interests involved if such segments meet the national historic trail criteria established in this Act and such criteria supplementary thereto as the appropriate Secretary may prescribe, and are administered by such agencies or interests without expense to the United States.
(4) Connecting or side trails, established as provided in section 6 of this Act, which will provide additional points of public access to national recreation, national scenic or national historic trails or which will provide connections between such trails.

The Secretary of the Interior and the Secretary of Agriculture, in consultation with appropriate governmental agencies and public and private organizations, shall establish a uniform marker for the national trails system.

(b) For purposes of this section, the term 'extended trails' means trails or trail segments which total at least one hundred miles in length, except that historic trails of less than one hundred miles may be designated as extended trails. While it is desirable that extended trails be continuous, studies of such trails may conclude that it is feasible to propose one or more trail segments which, in the aggregate, constitute at least one hundred miles in length.

NATIONAL RECREATION TRAILS

SEC. 4. [16USC1243]

(a) The Secretary of the Interior, or the Secretary of Agriculture where lands administered by him are involved, may establish and designate national recreation trails, with the consent of the Federal agency, State, or political subdivision having jurisdiction over the lands involved, upon finding that—

(i) such trails are reasonably accessible to urban areas, and, or
(ii) such trails meet the criteria established in this Act and such supplementary criteria as he may prescribe.

(b) As provided in this section, trails within park, forest, and other recreation areas administered by the Secretary of the Interior or the Secretary of Agriculture or in other federally administered areas may be established and designated as "National Recreation Trails" by the appropriate Secretary and, when no Federal land acquisition is involved —

(i) trails in or reasonably accessible to urban areas may be designated as "National Recreation Trails" by the appropriate Secretary with the consent of the States, their political subdivisions, or other appropriate administering agencies;
(ii) trails within park, forest, and other recreation areas owned or administered by States may be designated as "National Recreation Trails" by the appropriate Secretary with the consent of the State; and
(iii) trails on privately owned lands may be designated 'National Recreation Trails' by the appropriate Secretary with the written consent of the owner of the property involved.

NATIONAL SCENIC AND NATIONAL HISTORIC TRAILS

SEC. 5. [16USC1244] (a) National scenic and national historic trails shall be authorized and designated only by Act of Congress. There are hereby established the following National Scenic and National Historic Trails: *[Trail descriptions are omitted except for the Ala Kahakai NHT.]*

(1) The Appalachian National Scenic Trail,
(2) The Pacific Crest National Scenic Trail
(3) The Oregon National Historic Trail,
(4) The Mormon Pioneer National Historic Trail
(5) The Continental Divide National Scenic Trail,
(6) The Lewis and Clark National Historic Trail,
(7) The Iditarod National Historic Trail,
(8) The North Country National Scenic Trail
(9) The Overmountain Victory National Historic Trail,
(l0) The Ice Age National Scenic Trail
(ll) The Potomac Heritage National Scenic Trail,
(12) The Natchez Trace National Scenic Trail,
(l3) The Florida National Scenic Trail,
(l4) The Nez Perce National Historic Trail
(15) The Santa Fe National Historic Trail,
(l6) The Trail of Tears National Historic Trail,
(17) The Juan Bautista de Anza National Historic Trail
(18) The California National Historic Trail
(19) The Pony Express National Historic
(20) The Selma to Montgomery National Historic Trail,
(21) El Camino Real de tierra adentro
(22) Ala Kahakai National Historic Trail

(A) IN GENERAL - The Ala Kahakai National Historic Trail (the Trail by the Sea), a 175 mile long trail extending from 'Upolu Point on the north tip of Hawaii Island down the west coast of the

Island around Ka Lae to the east boundary of Hawaii Volcanoes National Park at the ancient shoreline temple known as 'Waha'ula,' as generally depicted on the map entitled 'Ala Kahakai Trail,' contained in the report prepared pursuant to subsection (b) entitled 'Ala Kahakai National Trail Study and Environmental Impact Statement,' dated January, 1998.

(B) MAP - A map generally depicting the trail shall be on file and available for public inspection in the Office of the National Park Service, Department of the Interior.

(C) ADMINISTRATION - The trail shall be administered by the Secretary of the Interior.

(D) LAND ACQUISTION - No land or interest in land outside the exterior boundaries of any federally administered area may be acquired by the United States for the trail except with the consent of the owner of the land or interest in land.

(E) PUBLIC PARTICIPATION; CONSULTATION - The Secretary of the Interior shall —

(i) encourage communities and owners of land along the trail, native Hawaiians, and volunteer trail groups to participate in the planning, development, and maintenance of the trail; and

(ii) consult with affected Federal, State, and local agencies, native Hawaiian groups, and landowners in the administration of the trail.

(23) Old Spanish National Historic Trail –

(b) The Secretary of the Interior, through the agency most likely to administer such trail, and the Secretary of Agriculture where lands administered by him are involved, shall make such additional studies as are herein or may hereafter be authorized by the Congress for the purpose of determining the feasibility and desirability of designating other trails as national scenic or national historic trails. Such studies shall be made in consultation with the heads of other Federal agencies administering lands through which such additional proposed trails would pass and in cooperation with interested interstate, State, and local governmental agencies, public and private organizations, and landowners and land users concerned. The feasibility of designating a trail shall be determined on the basis of an evaluation of whether or not it is physically possible to develop a trail along a route being studied, and whether the development of a trail would be financially feasible. The studies listed in subsection (c) of this section shall be completed and submitted to the Congress, with recommendations as to the suitability of trail designation, not later than three complete fiscal years from the date of enactment of their addition to this subsection, or from the date of enactment of this sentence, whichever is later. Such studies, when submitted, shall be printed as a House or Senate document, and shall include, but not be limited to:

(1) the proposed route of such trail (including maps and illustrations);
(2) the areas adjacent to such trails, to be utilized for scenic, historic, natural, cultural, or developmental purposes;
(3) the characteristics which, in the judgment of the appropriate Secretary, make the proposed trail worthy of designation as a national scenic or national historic trail; and in the case of national historic trails the report shall include the recommendation of the Secretary of the Interior's National Park System Advisory Board as to the national historic significance based on the criteria developed under the Historic Sites Act of 1935 (40 Stat. 666; 16 U.S.C. 461);
(4) the current status of land ownership and current and potential use along the designated route;
(5) the estimated cost of acquisition of lands or interest in lands, if any;
(6) the plans for developing and maintaining the trail and the cost thereof;
(7) the proposed Federal administering agency (which, in the case of a national scenic trail wholly or substantially within a national forest, shall be the Department of Agriculture);
(8) the extent to which a State or its political subdivisions and public and private organizations might reasonably be expected to participate in acquiring the necessary lands and in the administration thereof;
(9) the relative uses of the lands involved, including: the number of anticipated visitor-days for the entire length of, as well as for segments of, such trail; the number of months which such trail, or segments thereof, will be open for recreation purposes; the economic and social benefits which might accrue from alternate land uses; and the estimated man-years of civilian employment and expenditures expected for the purposes of maintenance, supervision, and regulation of such trail;
(10) the anticipated impact of public outdoor recreation use on the preservation of a proposed national

historic trail and its related historic and archeological features and settings, including the measures proposed to ensure evaluation and preservation of the values that contribute to their national historic significance; and

(11) To qualify for designation as a national historic trail, a trail must meet all three of the following criteria:

(A) It must be a trail or route established by historic use and must be historically significant as a result of that use. The route need not currently exist as a discernible trail to qualify, but its location must be sufficiently known to permit evaluation of public recreation and historical interest potential. A designated trail should generally accurately follow the historic route, but may deviate somewhat on occasion of necessity to avoid difficult routing through subsequent development, or to provide some route variations offering a more pleasurable recreational experience. Such deviations shall be so noted on site. Trail segments no longer possible to travel by trail due to subsequent development as motorized transportation routes may be designated and marked onsite as segments which link to the historic trail.

(B) It must be of national significance with respect to any of several broad facets of American history, such as trade and commerce, exploration, migration and settlement, or military campaigns. To qualify as nationally significant, historic use of the trail must have had a far reaching effect on broad patterns of American culture. Trails significant in the history of native Americans may be included.

(C) It must have significant potential for public recreational use or historical interest based on historic interpretation and appreciation. The potential for such use is generally greater along roadless segments developed as historic trails and at historic sites associated with the trail. The presence of recreation potential not related to historic appreciation is not sufficient justification for designation under this category.

(c) The following routes shall be studied in accordance with the objectives outlined in subsection (b) of this section. *[Names of 34 trails are omitted.]*

(35) Ala Kahakai Trail in the State of Hawaii, an ancient Hawaiian trail on the island of Hawaii extending from the northern tip of the Island of Hawaii approximately 175 miles along the western and southern coasts to the northern boundary of Hawaii Volcanoes National Park.

[Names of six trails are omitted.]

(d) The Secretary charged with the administration of each respective trail shall, within one year of the date of the addition of any national scenic or national historic trail to the system, and within sixty days of the enactment of this sentence for the Appalachian and Pacific Crest National Scenic Trails, establish an advisory council for each such trail, each of which councils shall expire ten years from the date of its establishment, except that the Advisory Council established for the Iditarod Historic Trail shall expire twenty years from the date of its establishment. If the appropriate Secretary is unable to establish such an advisory council because of the lack of adequate public interest, the Secretary shall so advise the appropriate committees of the Congress. The appropriate Secretary shall consult with such council from time to time with respect to matters relating to the trail, including the selection of rights-of-way, standards for the erection and maintenance of markers along the trail, and the administration of the trail. The members of each advisory council, which shall not exceed thirty-five in number, shall serve for a term of two years and without compensation as such, but the Secretary may pay, upon vouchers signed by the chairman of the council, the expenses reasonably incurred by the council and its members in carrying out their responsibilities under this section. Members of each council shall be appointed by the appropriate Secretary as follows:

(1) the head of each Federal department or independent agency administering lands through which the trail route passes, or his designee;
(2) a member appointed to represent each State through which the trail passes, and such appointments shall be made from recommendations of the Governors of such States;
(3) one or more members appointed to represent private organizations, including corporate and individual landowners and land users, which in the opinion of the Secretary, have an established and recognized interest in the trail, and such appointments shall be made from recommendations of the heads of such organizations: Provided, That the Appalachian Trail Conference shall be represented by a sufficient number of persons to represent the various sections of the country through which the Appalachian Trail passes; and
(4) the Secretary shall designate one member to be chairman and shall fill vacancies in the same manner as the original appointment.

(e) Within two complete fiscal years of the date of enactment of legislation designating a national scenic trail, except for the Continental Divide National Scenic Trail and the North Country National Scenic Trail, as part of the

system, and within two complete fiscal years of the date of enactment of this subsection for the Pacific Crest and Appalachian Trails, the responsible Secretary shall, after full consultation with affected Federal land managing agencies, the Governors of the affected States, the relevant advisory council established pursuant to section 5(d), and the Appalachian Trail Conference in the case of the Appalachian Trail, submit to the Committee on Interior and Insular Affairs of the House of Representatives and the Committee on Energy and Natural Resources of the Senate, a comprehensive plan for the acquisition, management, development, and use of the trail, including but not limited to, the following items:

(1) specific objectives and practices to be observed in the management of the trail, including the identification of all significant natural, historical, and cultural resources to be preserved (along with high potential historic sites and high potential route segments in the case of national historic trails), details of any anticipated cooperative agreements to be consummated with other entities, and an identified carrying capacity of the trail and a plan for its implementation;
(2) an acquisition or protection plan, by fiscal year for all lands to be acquired by fee title or lesser interest, along with detailed explanation of anticipated necessary cooperative agreements for any lands not to be acquired; and
(3) general and site-specific development plans including anticipated costs.

(f) Within two complete fiscal years of the date of enactment of legislation designating a national historic trail or the Continental Divide National Scenic Trail or the North Country National Scenic Trail as part of the system, the responsible Secretary shall, after full consultation with affected Federal land managing agencies, the Governors of the affected States, and the relevant Advisory Council established pursuant to section 5(d) of this Act, submit to the Committee on Interior and Insular Affairs of the House of Representatives and the Committee on Energy and Natural Resources of the Senate, a comprehensive plan for the management, and use of the trail, including but not limited to, the following items:

(1) specific objectives and practices to be observed in the management of the trail, including the identification of all significant natural, historical, and cultural resources to be preserved, details of any anticipated cooperative agreements to be consummated with State and local government agencies or private interests, and for national scenic or national historic trails an identified carrying capacity of the trail and a plan for its implementation;
(2) the process to be followed by the appropriate Secretary to implement the marking requirements established in section 7(c) of this Act;
(3) a protection plan for any high potential historic sites or high potential route segments; and
(4) general and site-specific development plans, including anticipated costs.

CONNECTING AND SIDE TRAILS

SEC. 6. [16USC1245] Connecting or side trails within park, forest, and other recreation areas administered by the Secretary of the Interior or Secretary of Agriculture may be established, designated, and marked by the appropriate Secretary as components of a national recreation, national scenic or national historic trail. When no Federal land acquisition is involved, connecting or side trails may be located across lands administered by interstate, State, or local governmental agencies with their consent, or, where the appropriate Secretary deems necessary or desirable, on privately owned lands with the consent of the landowners. Applications for approval and designation of connecting and side trails on non-Federal lands shall be submitted to the appropriate Secretary.

ADMINISTRATION AND DEVELOPMENT

SEC. 7. [16USC1246]
(a)
(1)

(A) The Secretary charged with the overall administration of a trail pursuant to section 5(a) shall, in administering and managing the trail, consult with the heads of all other affected State and Federal agencies. Nothing contained in this Act shall be deemed to transfer among Federal agencies any management responsibilities established under any other law for federally administered lands which are components of the National Trails System. Any transfer of management responsibilities may be carried out between the Secretary of the Interior and the Secretary of Agriculture only as provided under subparagraph (B).

(B) The Secretary charged with the overall administration of any trail pursuant to section 5(a) may transfer management of any specified trail segment of such trail to the other appropriate Secretary pursuant to a joint memorandum of agreement containing such terms and conditions

as the Secretaries consider most appropriate to accomplish the purposes of this Act. During any period in which management responsibilities for any trail segment are transferred under such an agreement, the management of any such segment shall be subject to the laws, rules, and regulations of the Secretary provided with the management authority under the agreement except to such extent as the agreement may otherwise expressly provide.

(2) Pursuant to section 5(a), the appropriate Secretary shall select the rights-of-way for national scenic and national historic trails and shall publish notice thereof of the availability of appropriate maps or descriptions in the Federal Register; Provided, That in selecting the rights-of-way full consideration shall be given to minimizing the adverse effects upon the adjacent landowner or user and his operation. Development and management of each segment of the National Trails System shall be designed to harmonize with and complement any established multiple-use plans for the specific area in order to insure continued maximum benefits from the land. The location and width of such rights-of-way across Federal lands under the jurisdiction of another Federal agency shall be by agreement between the head of that agency and the appropriate Secretary. In selecting rights-of-way for trail purposes, the Secretary shall obtain the advice and assistance of the States, local governments, private organizations, and landowners and land users concerned.

(b) After publication of notice of the availability of appropriate maps or descriptions in the Federal Register, the Secretary charged with the administration of a national scenic or national historic trail may relocate segments of a national scenic or national historic trail right-of-way with the concurrence of the head of the Federal agency having jurisdiction over the lands involved, upon a determination that: (I) Such a relocation is necessary to preserve the purposes for which the trail was established, or (ii) the relocation is necessary to promote a sound land management program in accordance with established multiple-use principles: Provided, That a substantial relocation of the rights-of-way for such trail shall be by Act of Congress.

(c) National scenic or national historic trails may contain campsites, shelters, and related-public-use facilities. Other uses along the trail, which will not substantially interfere with the nature and purposes of the trail, may be permitted by the Secretary charged with the administration of the trail. Reasonable efforts shall be made to provide sufficient access opportunities to such trails and, to the extent practicable, efforts be made to avoid activities incompatible with the purposes for which such trails were established. The use of motorized vehicles by the general public along any national scenic trail shall be prohibited and nothing in this Act shall be construed as authorizing the use of motorized vehicles within the natural and historical areas of the national park system, the national wildlife refuge system, the national wilderness preservation system where they are presently prohibited or on other Federal lands where trails are designated as being closed to such use by the appropriate Secretary: Provided, That the Secretary charged with the administration of such trail shall establish regulations which shall authorize the use of motorized vehicles when, in his judgment, such vehicles are necessary to meet emergencies or to enable adjacent landowners or land users to have reasonable access to their lands or timber rights: Provided further, That private lands included in the national recreation, national scenic, or national historic trails by cooperative agreement of a landowner shall not preclude such owner from using motorized vehicles on or across such trails or adjacent lands from time to time in accordance with regulations to be established by the appropriate Secretary. Where a national historic trail follows existing public roads, developed rights-of-way or waterways, and similar features of man's nonhistorically related development, approximating the original location of a historic route, such segments may be marked to facilitate retracement of the historic route, and where a national historic trail parallels an existing public road, such road may be marked to commemorate the historic route. Other uses along the historic trails and the Continental Divide National Scenic Trail, which will not substantially interfere with the nature and purposes of the trail, and which, at the time of designation, are allowed by administrative regulations, including the use of motorized vehicles, shall be permitted by the Secretary charged with administration of the trail. The Secretary of the Interior and the Secretary of Agriculture, in consultation with appropriate governmental agencies and public and private organizations, shall establish a uniform marker, including thereon an appropriate and distinctive symbol for each national recreation, national scenic, and national historic trail. Where the trails cross lands administered by Federal agencies such markers shall be erected at appropriate points along the trails and maintained by the Federal agency administering the trail in accordance with standards established by the appropriate Secretary and where the trails cross non-Federal lands, in accordance with written cooperative agreements, the appropriate Secretary shall provide such uniform markers to cooperating agencies and shall require such agencies to erect and maintain them in accordance with the standards established. The appropriate Secretary may also provide for trail interpretation sites, which shall be located at historic sites along the route of any national scenic or national historic trail, in order to present information to the public about the trail, at the lowest possible cost, with emphasis on the portion of the trail passing through the State in which the site is located. Wherever possible, the sites shall be maintained by a State agency under a cooperative agreement between the appropriate Secretary and the State agency.

(d) Within the exterior boundaries of areas under their administration that are included in the right-of-way selected for a national recreation, national scenic, or national historic trail, the heads of Federal agencies may use lands for trail purposes and may acquire lands or interests in lands by written cooperative agreement, donation, purchase with donated or appropriated funds or exchange.

(e) Where the lands included in a national scenic or national historic trail right-of-way are outside of the exterior boundaries of federally administered areas, the Secretary charged with the administration of such trail shall encourage the States or local governments involved (1) to enter into written cooperative agreements with landowners, private organizations, and individuals to provide the necessary trail right-of-way, or (2) to acquire such lands or interests therein to be utilized as segments of the national scenic or national historic trail: Provided, That if the State or local governments fail to enter into such written cooperative agreements or to acquire such lands or interests therein after notice of the selection of the right-of-way is published, the appropriate Secretary, may (I) enter into such agreements with landowners, States, local governments, private organizations, and individuals for the use of lands for trail purposes, or (ii) acquire private lands or interests therein by donation, purchase with donated or appropriated funds or exchange in accordance with the provisions of subsection (f) of this section: Provided further, That the appropriate Secretary may acquire lands or interests therein from local governments or governmental corporations with the consent of such entities. The lands involved in such rights-of-way should be acquired in fee, if other methods of public control are not sufficient to assure their use for the purpose for which they are acquired: Provided, That if the Secretary charged with the administration of such trail permanently relocates the right-of-way and disposes of all title or interest in the land, the original owner, or his heirs or assigns, shall be offered, by notice given at the former owner's last known address, the right of first refusal at the fair market price.

(f)

(1) The Secretary of the Interior, in the exercise of his exchange authority, may accept title to any non-Federal property within the right-of-way and in exchange therefor he may convey to the grantor of such property any federally owned property under his jurisdiction which is located in the State wherein such property is located and which he classifies as suitable for exchange or other disposal. The values of the properties so exchanged either shall be approximately equal, or if they are not approximately equal the values shall be equalized by the payment of cash to the grantor or to the Secretary as the circumstances require. The Secretary of Agriculture, in the exercise of his exchange authority, may utilize authorities and procedures available to him in connection with exchanges of national forest lands.

(2) In acquiring lands or interests therein for a National Scenic or Historic Trail, the appropriate Secretary may, with consent of a landowner, acquire whole tracts notwithstanding that parts of such tracts may lie outside the area of trail acquisition. In furtherance of the purposes of this act, lands so acquired outside the area of trail acquisition may be exchanged for any non-Federal lands or interests therein within the trail right-of-way, or disposed of in accordance with such procedures or regulations as the appropriate Secretary shall prescribe, including: (I) provisions for conveyance of such acquired lands or interests therein at not less than fair market value to the highest bidder, and (ii) provisions for allowing the last owners of record a right to purchase said acquired lands or interests therein upon payment or agreement to pay an amount equal to the highest bid price. For lands designated for exchange or disposal, the appropriate Secretary may convey these lands with any reservations or covenants deemed desirable to further the purposes of this Act. The proceeds from any disposal shall be credited to the appropriation bearing the costs of land acquisition for the affected trail.

(g) The appropriate Secretary may utilize condemnation proceedings without the consent of the owner to acquire private lands or interests, therein pursuant to this section only in cases where, in his judgment, all reasonable efforts to acquire such lands or interest therein by negotiation have failed, and in such cases he shall acquire only such title as, in his judgment, is reasonably necessary to provide passage across such lands: Provided, That condemnation proceedings may not be utilized to acquire fee title or lesser interests to more than an average of one hundred and twenty-five acres per mile. Money appropriated for Federal purposes from the land and water conservation fund shall, without prejudice to appropriations from other sources, be available to Federal departments for the acquisition of lands or interests in lands for the purposes of this Act. For national historic trails, direct Federal acquisition for trail purposes shall be limited to those areas indicated by the study report or by the comprehensive plan as high potential route segments or high potential historic sites. Except for designated protected components of the trail, no land or site located along a designated national historic trail or along the Continental Divide National Scenic Trail shall be subject to the provisions of section 4(f) of the Department of Transportation Act (49 U.S.C. 1653(f)) unless such land or site is deemed to be of historical significance under appropriate historical site criteria such as those for the National Register of Historic Places.

(h)

(1) The Secretary charged with the administration of a national recreation, national scenic, or national historic trail shall provide for the development and maintenance of such trails within federally administered areas, and shall cooperate with and encourage the States to operate, develop, and maintain portions of such trails which are located outside the boundaries of federally administered areas. When deemed to be in the public interest, such Secretary may enter written cooperative agreements with the States or their political subdivisions, landowners, private organizations, or individuals to operate, develop, and maintain any portion of such a trail either within or outside a federally administered area. Such agreements may include provisions for limited financial assistance to encourage participation in the acquisition, protection, operation, development, or maintenance of such trails, provisions providing volunteer in the park or volunteer in the forest status (in accordance with the Volunteers in the Parks Act of 1969 and the Volunteers in the Forests Act of 1972) to individuals, private organizations, or landowners participating in such activities, or provisions of both types. The appropriate Secretary shall also initiate consultations with affected States and their political subdivisions to encourage —

(A) the development and implementation by such entities of appropriate measures to protect private landowners from trespass resulting from trail use and from unreasonable personal liability and property damage caused by trail use, and

(B) the development and implementation by such entities of provisions for land practices compatible with the purposes of this Act, for property within or adjacent to trail rights-of-way. After consulting with States and their political subdivisions under the preceding sentence, the Secretary may provide assistance to such entities under appropriate cooperative agreements in the manner provided by this subsection.

(2) Whenever the Secretary of the Interior makes any conveyance of land under any of the public land laws, he may reserve a right-of-way for trails to the extent he deems necessary to carry out the purposes of this Act.

(i) The appropriate Secretary, with the concurrence of the heads of any other Federal agencies administering lands through which a national recreation, national scenic, or national historic trail passes, and after consultation with the States, local governments, and organizations concerned, may issue regulations, which may be revised from time to time, governing the use, protection, management, development, and administration of trails of the national trails system. In order to maintain good conduct on and along the trails located within federally administered areas and to provide for the proper government and protection of such trails, the Secretary of the Interior and the Secretary of Agriculture shall prescribe and publish such uniform regulations as they deem necessary and any person who violates such regulations shall be guilty of a misdemeanor, and may be punished by a fine of not more $500 or by imprisonment not exceeding six months, or by both such fine and imprisonment. The Secretary responsible for the administration of any segment of any component of the National Trails System (as determined in a manner consistent with subsection (a)(1) of this section) may also utilize authorities related to units of the national park system or the national forest system, as the case may be, in carrying out his administrative responsibilities for such component.

(j) Potential trail uses allowed on designated components of the national trails system may include, but are not limited to, the following: bicycling, cross-country skiing, day hiking, equestrian activities, jogging or similar fitness activities, trail biking, overnight and long-distance backpacking, snowmobiling, and surface water and underwater activities. Vehicles which may be permitted on certain trails may include, but need not be limited to, motorcycles, bicycles, four-wheel drive or all-terrain off-road vehicles. In addition, trail access for handicapped individuals may be provided. The provisions of this subsection shall not supersede any other provisions of this Act or other Federal laws, or any State or local laws.

(k) For the conservation purpose of preserving or enhancing the recreational, scenic, natural, or historical values of components of the national trails system, and environs thereof as determined by the appropriate Secretary, landowners are authorized to donate or otherwise convey qualified real property interests to qualified organizations consistent with section 170(h)(3) of the Internal Revenue Code of 1954, including, but not limited to, right-of-way, open space, scenic, or conservation easements, without regard to any limitation on the nature of the estate or interest otherwise transferable within the jurisdiction where the land is located. The conveyance of any such interest in land in accordance with this subsection shall be deemed to further a Federal conservation policy and yield a significant public benefit for purposes of section 6 of Public Law 96-541.

STATE AND METROPOLITAN AREA TRAILS

SEC. 8. [16USC1247] (a) The Secretary of the Interior is directed to encourage States to consider, in their comprehensive statewide outdoor recreation plans and proposals for financial assistance for State and local projects submitted pursuant to the Land and Water Conservation Fund Act, needs and opportunities for establishing park, forest, and other recreation and historic trails on lands owned or administered by States, and recreation and historic trails on lands in or near urban areas. The Secretary is also directed to encourage States to consider, in their comprehensive statewide historic preservation plans and proposals for financial assistance for State, local, and private projects submitted pursuant to the Act of October 15, 1966 (80 Stat. 915), as amended, needs and opportunities for establishing historic trails. He is further directed in accordance with the authority contained in the Act of May 28, 1963 (77 Stat. 49), to encourage States, political subdivisions, and private interests, including nonprofit organizations, to establish such trails.

(b) The Secretary of Housing and Urban Development is directed, in administering the program of comprehensive urban planning and assistance under section 701 of the Housing Act of 1954, to encourage the planning of recreation trails in connection with the recreation and transportation planning for metropolitan and other urban areas. He is further directed, in administering the urban open space program under title VII of the Housing Act of 1961, to encourage such recreation trails.

(c) The Secretary of Agriculture is directed, in accordance with authority vested in him, to encourage States and local agencies and private interests to establish such trails.

(d) The Secretary of Transportation, the Chairman of the Interstate Commerce Commission, and the Secretary of the Interior, in administering the Railroad Revitalization and Regulatory Reform Act of 1976, shall encourage State and local agencies and private interests to establish appropriate trails using the provisions of such programs. Consistent with the purposes of that Act, and in furtherance of the national policy to preserve established railroad rights-of-way for future reactivation of rail service, to protect rail transportation corridors, and to encourage energy efficient transportation use, in the case of interim use of any established railroad rights-of-way pursuant to donation, transfer, lease, sale, or otherwise in a manner consistent with the National Trails System Act, if such interim use is subject to restoration or reconstruction for railroad purposes, such interim use shall not be treated, for purposes of any law or rule of law, as an abandonment of the use of such rights-of-way for railroad purposes. If a State, political subdivision, or qualified private organization is prepared to assume full responsibility for management of such rights-of-way and for any legal liability arising out of such transfer or use, and for the payment of any and all taxes that may be levied or assessed against such rights-of-way, then the Commission shall impose such terms and conditions as a requirement of any transfer or conveyance for interim use in a manner consistent with this Act, and shall not permit abandonment or discontinuance inconsistent or disruptive of such use.

(e) Such trails may be designated and suitably marked as parts of the nationwide system of trails by the States, their political subdivisions, or other appropriate administering agencies with the approval of the Secretary of the Interior.

RIGHTS-OF-WAY AND OTHER PROPERTIES

SEC. 9. [16USC1248] (a) The Secretary of the Interior or the Secretary of Agriculture as the case may be, may grant easements and rights-of-way upon, over, under, across, or along any component of the national trails system in accordance with the laws applicable to the national park system and the national forest system, respectively: Provided, That any conditions contained in such easements and rights-of-way shall be related to the policy and purposes of this Act.

(b) The Department of Defense, the Department of Transportation, the Interstate Commerce Commission, the Federal Communications Commission, the Federal Power Commission, and other Federal agencies having jurisdiction or control over or information concerning the use, abandonment, or disposition of roadways, utility rights-of-way, or other properties which may be suitable for the purpose of improving or expanding the national trails system shall cooperate with the Secretary of the Interior and the Secretary of Agriculture in order to assure, to the extent practicable, that any such properties having values suitable for trail purposes may be made available for such use.

(c) Commencing upon the date of enactment of this subsection, any and all right, title, interest, and estate of the United States in all rights-of-way of the type described in the Act of March 8, l922 (43 U.S.C. 9l2), shall remain in the United States upon the abandonment or forfeiture of such rights-of-way, or portions thereof, except to the extent that any such right-of-way, or portion thereof, is embraced within a public highway no later than one year after a determination of abandonment or forfeiture, as provided under such Act.

(d)

(1) All rights-of-way, or portions thereof, retained by the United States pursuant to subsection (c) which are located within the boundaries of a conservation system unit or a National Forest shall be added to and incorporated within such unit or National Forest and managed in accordance with applicable provisions of law, including this Act.

(2) All such retained rights-of-way, or portions thereof, which are located outside the boundaries of a conservation system unit or a National Forest but adjacent to or contiguous with any portion of the public lands shall be managed pursuant to the Federal Land Policy and Management Act of l976 and other applicable law, including this section.

(3) All such retained rights-of-way, or portions thereof, which are located outside the boundaries of a conservation system unit or National Forest which the Secretary of the Interior determines suitable for use as a public recreational trail or other recreational purposes shall be managed by the Secretary for such uses, as well as for such other uses as the Secretary determines to be appropriate pursuant to applicable laws, as long as such uses do not preclude trail use.

(e)

(l) The Secretary of the Interior is authorized where appropriate to release and quitclaim to a unit of government or to another entity meeting the requirements of this subsection any and all right, title, and interest in the surface estate of any portion of any right-of-way to the extent any such right, title, and interest was retained by the United States pursuant to subsection (c), if such portion is not located within the boundaries of any conservation system unit or National Forest. Such release and quitclaim shall be made only in response to an application therefor by a unit of State or local government or another entity which the Secretary of the Interior determines to be legally and financially qualified to manage the relevant portion for public recreational purposes. Upon receipt of such an application, the Secretary shall publish a notice concerning such application in a newspaper of general circulation in the area where the relevant portion is located. Such release and quitclaim shall be on the following conditions:

(A) If such unit or entity attempts to sell, convey, or otherwise transfer such right, title, or interest or attempts to permit the use of any part of such portion for any purpose incompatible with its use for public recreation, then any and all right, title, and interest released and quitclaimed by the Secretary pursuant to this subsection shall revert to the United States.

(B) Such unit or entity shall assume full responsibility and hold the United States harmless for any legal liability which might arise with respect to the transfer, possession, use, release, or quitclaim of such right-of-way.

(C) Notwithstanding any other provision of law, the United States shall be under no duty to inspect such portion prior to such release and quitclaim, and shall incur no legal liability with respect to any hazard or any unsafe condition existing on such portion at the time of such release and quitclaim.

(2) The Secretary is authorized to sell any portion of a right-of-way retained by the United States pursuant to subsection (c) located outside the boundaries of a conservation system unit or National Forest if any such portion is —

(A) not adjacent to or contiguous with any portion of the public lands; or

(B) determined by the Secretary, pursuant to the disposal criteria established by section 203 of the Federal Land Policy and Management Act of l976, to be suitable for sale. Prior to conducting any such sale, the Secretary shall take appropriate steps to afford a unit of State or local government or any other entity an opportunity to seek to obtain such portion pursuant to paragraph (l) of this subsection.

(3) All proceeds from sales of such retained rights of way shall be deposited into the Treasury of the United States and credited to the Land and Water Conservation Fund as provided in section 2 of the Land and Water Conservation Fund Act of l965.

(4) The Secretary of the Interior shall annually report to the Congress the total proceeds from sales under

paragraph (2) during the preceding fiscal year. Such report shall be included in the President's annual budget submitted to the Congress.

(f) As used in this section —

(1) The term "conservation system unit" has the same meaning given such term in the Alaska National Interest Lands Conservation Act (Public Law 96-487; 94 Stat. 237l et seq.), except that such term shall also include units outside Alaska.

(2) The term "public lands" has the same meaning given such term in the Federal Land Policy and Management Act of l976.

AUTHORIZATION OF APPROPRIATIONS

SEC. 10. [16USC1249] (a)

(1) There are hereby authorized to be appropriated for the acquisition of lands or interests in lands not more than $5,000,000 for the Appalachian National Scenic Trail and not more than $500,000 for the Pacific Crest National Scenic Trail. From the appropriations authorized for fiscal year 1979 and succeeding fiscal years pursuant to the Land and Water Conservation Fund Act (78 Stat. 897), as amended, not more than the following amounts may be expended for the acquisition of lands and interests in lands authorized to be acquired pursuant to the provisions of this Act: for the Appalachian National Scenic Trail, not to exceed $30,000,000 for fiscal year 1979, $30,000,000 for fiscal year 1980, and $30,000,000 for fiscal year 1981, except that the difference between the foregoing amounts and the actual appropriations in any one fiscal year shall be available for appropriation in subsequent fiscal years.

(2) It is the express intent of the Congress that the Secretary should substantially complete the land acquisition program necessary to insure the protection of the Appalachian Trail within three complete fiscal years following the date of enactment of this sentence.

(b) For the purposes of Public Law 95-42 (91 Stat. 211), the lands and interests therein acquired pursuant to this section shall be deemed to qualify for funding under the provisions of section 1, clause 2, of said Act.

(c)

(1) There is hereby authorized to be appropriated such sums as may be necessary to implement the provisions of this Act relating to the trails designated by paragraphs 5(a)(3), (4), (5), (6), (7), (8), (9) and (10): Provided, That no such funds are authorized to be appropriated prior to October 1, 1978: And provided further, That notwithstanding any other provisions of this Act or any other provisions of law, no funds may be expended by Federal agencies for the acquisition of lands or interests in lands outside the exterior boundaries of existing Federal areas for the Continental Divide National Scenic Trail, the North Country National Scenic Trail, the Ice Age National Scenic Trail, the Oregon National Historic Trail, the Mormon Pioneer National Historic Trail, the Lewis and Clark National Historic Trail, and the Iditarod National Historic Trail, except that funds may be expended for the acquisition of lands or interests therein for the purpose of providing for one trail interpretation site, as described in section 7(c), along with such trail in each State crossed by the trail.

(2) Except as otherwise provided in this Act, there is authorized to be appropriated such sums as may be necessary to implement the provisions of this Act relating to the trails designated by section 5(a). Not more than $500,000 may be appropriated for the purposes of acquisition of land and interests therein for the trail designated by section 5(a)(12) of this Act, and not more than $2,000,000 may be appropriated for the purposes of the development of such trail. The administrating agency for the trail shall encourage volunteer trail groups to participate in the development of the trail.

VOLUNTEER TRAILS ASSISTANCE

SEC. 11. [16USC1250] (a)

(1) In addition to the cooperative agreement and other authorities contained in this Act, the Secretary of the Interior, the Secretary of Agriculture, and the head of any Federal agency administering Federal lands, are authorized to encourage volunteers and volunteer organizations to plan, develop, maintain, and manage, where appropriate, trails throughout the Nation.

(2) Wherever appropriate in furtherance of the purposes of this Act, the Secretaries are authorized and encouraged to utilize the Volunteers in the Parks Act of 1969, the Volunteers in the Forests Act of 1972, and section 6 of the Land and Water Conservation Fund Act of 1965 (relating to the development of Statewide Comprehensive Outdoor Recreation Plans).

(b) Each Secretary or the head of any Federal land managing agency, may assist volunteers and volunteers organizations in planning, developing, maintaining, and managing trails. Volunteer work may include, but need not be limited to—

(1) planning, developing, maintaining, or managing (A) trails which are components of the national trails system, or (B) trails which, if so developed and maintained, could qualify for designation as components of the national trails system; or

(2) operating programs to organize and supervise volunteer trail building efforts with respect to the trails referred to in paragraph (1), conducting trail-related research projects, or providing education and training to volunteers on methods of trails planning, construction, and maintenance.

(c) The appropriate Secretary or the head of any Federal land managing agency may utilize and to make available Federal facilities, equipment, tools, and technical assistance to volunteers and volunteer organizations, subject to such limitations and restrictions as the appropriate Secretary or the head of any Federal land managing agency deems necessary or desirable.

DEFINITIONS

SEC. 12. [16USC1251] As used in this Act:

(1) The term "high potential historic sites" means those historic sites related to the route, or sites in close proximity thereto, which provide opportunity to interpret the historic significance of the trail during the period of its major use. Criteria for consideration as high potential sites include historic significance, presence of visible historic remnants, scenic quality, and relative freedom from intrusion.

(2) The term "high potential route segments" means those segments of a trail which would afford high quality recreation experience in a portion of the route having greater than average scenic values or affording an opportunity to vicariously share the experience of the original users of a historic route.

(3) The term "State" means each of the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Trust Territory of the Pacific Islands, the Northern Mariana Islands, and any other territory or possession of the United States.

(4) The term "without expense to the United States" means that no funds may be expended by Federal agencies for the development of trail related facilities or for the acquisition of lands or interest in lands outside the exterior boundaries of Federal areas. For the purposes of the preceding sentence, amounts made available to any State or political subdivision under the Land and Water Conservation Fund Act of 1965 or any other provision of law shall not be treated as an expense to the United States.

National Parks Omnibus Management Act of 1998 (Thomas Act)

Title II - National Park System
Resource Inventory and Management

Sec. 201. PURPOSES.

The purposes of this title are—

(1) to more effectively achieve the mission of the National Park Service;

(2) to enhance management and protection of national park resources by providing clear authority and direction for the conduct of scientific study in the National Park System and to use the information gathered for management purposes;

(3) to ensure appropriate documentation of resource conditions in the National Park System;

(4) to encourage others to use the National Park System for study to the benefit of park management as well as broader scientific value, where such study is consistent with the Act of August 25, 1916 (commonly known as the National Park Service Organic Act, 16 U.S.C. 1 et seq.); and

(5) to encourage the publication and dissemination of information derived from studies in the National Park System.

Sec. 202. RESEARCH MANDATE.

The Secretary [of the Interior] is authorized and directed to assure that management of units of the National Park System is enhanced by the availability and utilization of a broad program of the highest quality science and information.

Sec. 203. COOPERATIVE AGREEMENTS.

(a) COOPERATIVE STUDY UNITS.—The Secretary is authorized and directed to enter into cooperative agreements with colleges and universities, including but not limited to land grant schools, in partnership with other Federal and State agencies, to establish cooperative study units to conduct multidisciplinary research and develop integrated information products on the resources of the National Park System, or the larger region of which parks are a part.

(b) REPORT.—Within one year of the date of enactment of this title, the Secretary shall report to the Committee on Energy and Natural Resources of the United States Senate and the Committee on Resources of the House of Representatives on progress in the establishment of a comprehensive network of such college and university based cooperative study units as will provide full geographic and topical coverage for research on the resources contained in units of the National Park System and their larger regions.

Sec. 204. INVENTORY AND MONITORING PROGRAM.

The Secretary shall undertake a program of inventory and monitoring of National Park System resources to establish baseline information and to provide information on the long-term trends in the condition of National Park System resources. The monitoring program shall be developed in cooperation with other Federal monitoring and information collection efforts to ensure a cost-effective approach.

Sec. 205. AVAILABILITY FOR SCIENTIFIC STUDY.

(a) IN GENERAL.—The Secretary may solicit, receive, and consider requests from Federal or non-Federal public or private agencies, organizations, individuals, or other entities for the use of any unit of the National Park System for purposes of scientific study.

(b) CRITERIA.—A request for use of a unit of the National Park System under subsection (a) may only be approved if the Secretary determines that the proposed study—

(1) is consistent with applicable laws and National Park Service management policies; and

(2) will be conducted in a manner as to pose no threat to park resources or public enjoyment derived from those resources.

(c) FEE WAIVER.—The Secretary may waive any park admission or recreational use fee in order to facilitate the conduct of scientific study under this section.

(d) NEGOTIATIONS.—The Secretary may enter into negotiations with the research community and private industry for equitable, efficient benefits-sharing arrangements.

Sec. 206. INTEGRATION OF STUDY RESULTS INTO MANAGEMENT DECISIONS.

The Secretary shall take such measures as are necessary to assure the full and proper utilization of the results of scientific study for park management decisions. In each case in which an action undertaken by the National Park Service may cause a significant adverse effect on a park resource, the administrative record shall reflect the manner in which unit resource studies have been considered. The trend in the condition of resources of the National Park System shall be a significant factor in the annual performance evaluation of each superintendent of a unit of the National Park System.

Sec. 207. CONFIDENTIALITY OF INFORMATION.

Information concerning the nature and specific location of a National Park System resource which is endangered, threatened, rare, or commercially valuable, of mineral or paleontological objects within units of the National Park System, or of objects of cultural patrimony within units of the National Park System, may be withheld from the public in response to a request under section 552 of title 5, United States Code, unless the Secretary determines that—

(1) disclosure of the information would further the purposes of the unit of the National Park System in which the resource or object is located and would not create an unreasonable risk of harm, theft, or destruction of the resource or object, including individual organic or inorganic specimens; and

(2) disclosure is consistent with other applicable laws protecting the resource or object.

Source: *Congressional Record—Senate,* 14 October 1998, pp. S12494-12495.

State of Hawaii Liability Law, Hawaii Revised Statutes 520

LANDOWNERS' LIABILITY]

Section

520-1 Purpose

520-2 Definitions

520-3 Duty of care of owner limited

520-4 Liability of owner limited

520-5 Exceptions to limitations

520-6 Persons using land

520-7 Rights

520-8 Rules and regulations

[§520-1] Purpose. The purpose of this chapter is to encourage owners of land to make land and water areas available to the public for recreational purposes by limiting their liability toward persons entering thereon for such purposes. [L 1969, c 186, §1]

§520-2 Definitions. As used in this chapter:

"Charge" means the admission price or fee asked in return for invitation or permission to enter or go upon the land.

"House guest" means any person specifically invited by the owner or a member of the owner's household to visit at the owner's home whether for dinner, or to a party, for conversation or any other similar purposes including for recreation, and includes playmates of the owner's minor children.

"Land" means land, roads, water, watercourses, private ways and buildings, structures, and machinery or equipment when attached to realty, other than lands owned by the government.

"Owner" means the possessor of a fee interest, a tenant, lessee, occupant, or person in control of the premises.

"Recreational purpose" includes but is not limited to any of the following, or any combination thereof: hunting, fishing, swimming, boating, camping, picnicking, hiking, pleasure driving, nature study, water skiing, winter sports, and viewing or enjoying historical, archaeological, scenic, or scientific sites.

"Recreational user" means any person who is on or about the premises that the owner of land either directly or indirectly invites or permits, without charge, entry onto the property for recreational purposes. [L 1969, c 186, §2; gen ch 1985; am L 1997, c 272, §1]

§520-3 Duty of care of owner limited. Except as specifically recognized by or provided in section 520-6, an owner of land owes no duty of care to keep the premises safe for entry or use by others for recreational purposes, or to give any warning of a dangerous condition, use, structure, or activity on such premises to persons entering for such purposes, or to persons entering for a purpose in response to a recreational user who requires assistance, either direct or indirect, including but not limited to rescue, medical care, or other form of assistance. [L 1969, c 186, §3; am L 1997, c 272, §2]

§520-4 Liability of owner limited. (a) Except as specifically recognized by or provided in section 520-6, an owner of land who either directly or indirectly invites or permits without charge any person to use the property for recreational purposes does not:

(1) Extend any assurance that the premises are safe for any purpose;

(2) Confer upon the person the legal status of an invitee or licensee to whom a duty of care is owed;

(3) Assume responsibility for, or incur liability for, any injury to person or property caused by an act of omission or commission of such persons; and

(4) Assume responsibility for, or incur liability for, any injury to person or persons who enter the premises in response to an injured recreational user.

(b) An owner of land who is required or compelled to provide access or parking for such access through or across the owner's property because of state or county land use, zoning, or planning law, ordinance, rule, ruling, or order, to reach property used for recreation purposes, or as part of a habitat conservation plan, or safe harbor agreement, shall be afforded the same protection as to such access, including parking for such access, as an owner of land who invites or permits any person to use that owner's property for recreational purposes under subsection (a). [L 1969, c 186, §4; am L 1996, c 151, §2; am L 1997, c 272, §3 and c 380, §9]

[§520-5] Exceptions to limitations. Nothing in this chapter limits in any way any liability which otherwise exists:

(1) For willful or malicious failure to guard or warn against a dangerous condition, use, or structure which the owner knowingly creates or perpetuates and for willful or malicious failure to guard or warn against a dangerous activity which the owner knowingly pursues or perpetuates.

(2) For injury suffered in any case where the owner of land charges the person or persons who enter or go on the land for the recreational use thereof, except that in the case of land leased to the State or a political subdivision thereof, any consideration received by the owner for such lease shall not be deemed a charge within the meaning of this section.

(3) For injuries suffered by a house guest while on the owner's premises, even though the injuries were incurred by the house guest while engaged in one or more of the activities designated in section 520-2(3). [L 1969, c 186, §5]

[§520-6] Persons using land. Nothing in this chapter shall be construed to:

(1) Create a duty of care or ground of liability for injury to persons or property.

(2) Relieve any person using the land of another for recreational purposes from any obligation which the person may have in the absence of this chapter to exercise care in the person's use of such land and in the person's activities thereon, or from the legal consequences of failure to employ such care. [L 1969, c 186, §6; gen ch 1985]

[§520-7] Rights. No person shall gain any rights to any land by prescription or otherwise, as a result of any usage thereof for recreational purposes as provided in this chapter. [L 1969, c 186, §7]

[§520-8] Rules and regulations. The department of land and natural resources shall make rules and regulations pursuant to chapter 91, as it deems necessary to carry out the purpose of this chapter. [L 1969, c 186, §8]

Hawaii Statewide Trails and Access System, Hawaii Revised Statutes 198D

Section

198D-1 Definitions

198D-2 Establishment of Hawaii statewide trail and access

program

198D-3 Inventory

198D-4 Classification

198D-5 Identification of proposed, potential, and needed

trails and accesses

198D-6 Regulation of use of trails and accesses

198D-7 Examination of legal issues

198D-7.5 Agreements to defend and indemnify

198D-7.6 Limitation on liability

198D-8 Request to acquire rights for public use of additional

trails and accesses

198D-9 Other powers and duties of department

198D-10 Limitation on chapter's provisions

198D-11 Rules

198D-12 General administrative penalties

198D-13 Criminal penalties

[§198D-1] Definitions. For the purpose of this chapter:

"Access" means an easement or way:

(1) Over which the general public has the right to travel; and

(2) Which is used by the general public or intended for use by the general public primarily to reach or depart a public beach, shore, park, trail, or other public recreational area.

It includes a lateral easement along the shoreline, coastline, or beach.

"Department" means the department of land and natural resources.

"Trail" means an identifiable linear course used primarily for or used to get a recreational, educational, or inspirational experience. It includes, but is not limited to:

(1) A corridor trail, which is a designated route, segregated from a highway, providing a continuous linkage between or among major urban areas, fragmented accesses, and major trail areas;

(2) A segment or connector trail, which is a designated route from one locale to another; and

(3) A special use trail, which is a designated course for a special activity or function. [L 1988, c 236, pt of §2]

§198D-2 Establishment of Hawaii statewide trail and access program. (a) There is established the Hawaii statewide trail and access program, to be known as Na Ala Hele. The department of land and natural resources shall plan, develop, acquire land or rights for public use of land, construct, restore, and engage in coordination activities to implement the program in accordance with this chapter.

(b) The trail and access program shall use funding for the management, maintenance, and development of trails and trail accesses under the jurisdiction of the department from the following sources:

(1) A portion of the highway fuel taxes collected under chapter 243;

(2) Federal government grants;

(3) Private contributions;

(4) Fees, established pursuant to administrative rules and charged by the department for the commercial and other use of trails and trail accesses under the jurisdiction of the department; and

(5) Transient accommodations tax revenues pursuant to section 237D-6.5.

(c) The moneys specified in subsection (b)(2) shall be deposited in the state treasury; provided that moneys received as deposits or contributions from the federal government shall be accounted for in accordance with the conditions established by the agencies making the contribution.

(d) The moneys specified in subsection (b)(1), (3), (4), and (5) shall be deposited in the special land and development fund under section 171-19 for the management, maintenance, and development of trails and trail accesses under the jurisdiction of the department; provided that the moneys specified in subsection (b)(5) shall be expended for the management, maintenance, and development of trails and access areas frequented by visitors in response to a master plan developed in coordination with the Hawaii tourism authority. [L 1988, c 236, pt of §2; am L 1993, c 273, §1; am L 1997, c 106, §2; am L 2002, c 250, §3; am L 2005, c 235, §3]

§198D-3 Inventory. (a) The department shall establish, maintain, and amend, as required, an inventory of all trails and accesses in the State, whether wholly or partly on public or private lands and whether or not under the jurisdiction of the department, and a separate inventory of all trails and accesses to public hunting areas in the State. The inventories shall include:

(1) Maps and lists of all trails and accesses;

(2) Name and length of each trail or access;

(3) The person or agency having management responsibility for each trail or access;

(4) The predominant transportation mode for each trail or access;

(5) The development standard, condition, and grade of each trail and access;

(6) The description of amenities or other features on or in close proximity to each trail or access;

(7) The status of availability to the general public of each trail or access; and

(8) Other information for each trail or access deemed necessary or desirable by the department.

(b) The department shall publish and periodically update documents, which shall be available to the general public. The documents shall contain that portion of the inventories which include trails and accesses available for the use of the general public. The department may charge an appropriate fee for the documents and any updates. [L 1988, c 236, pt of §2; am L 1990, c 53, §1(1)]

§198D-4 Classification. The department shall classify each trail and access in the inventories according to the following:

(1) Function;

(2) Type;

(3) Theme;

(4) Actual and desired use intensity; and

(5) Any other classification deemed necessary or desirable by the department. [L 1988, c 236, pt of §2; am L 1990, c 53, §1(2)]

§198D-5 Identification of proposed, potential, and needed trails and accesses. (a) In addition to the inventories under section 198D-3, the department shall identify and maintain a listing of:

(1) Proposed trails and accesses which may be opened to the public;

(2) Potential expansions of trails and accesses;

(3) Potential or desirable connectors between existing trail systems;

(4) Public beach, shore, park, trail, and other recreational areas to which access is unavailable or inadequate; and

(5) Trails and accesses to public hunting areas.

(b) The listing may be published in the inventories required under section 198D-3. [L 1988, c 236, pt of §2; am L 1990, c 53, §1(3)]

§198D-6 Regulation of use of trails and accesses. The department, by rule adopted in accordance with chapter 91, may regulate the use of trails and accesses under the department's jurisdiction. Regulation of the use of trails and accesses shall be established for the following purposes:

(1) To preserve the integrity, condition, naturalness, or beauty of the trails or accesses;

(2) To protect the public safety; or

(3) To restrict or regulate public access to protected or endangered wildlife habitats, except for scientific or educational purposes. [L 1988, c 236, pt of §2; am L 1990, c 53, §1(4)]

[§198D-7] Examination of legal issues. The department, in consultation with the attorney general, shall examine legal issues relating to trails and accesses. The legal issues examined shall include:

(1) Theories, options, and doctrines by which trails and accesses may be placed into or retained in public use;

(2) The validity and feasibility of dedication requirements to obtain public use of trails and accesses;

(3) The extent of liability exposure of the State, counties, and private landowners when allowing trails and accesses under their respective jurisdictions to be used by the general public; and

(4) Strategies to reduce or limit the liability exposure of the State, counties, and private landowners in order to promote public use of trails and accesses under their respective jurisdictions which are closed to the general public. [L 1988, c 236, pt of §2]

§198D-7.5 Agreements to defend and indemnify. (a) The department may enter into agreements with owners of public or private land to further the purposes of this chapter. Agreements between the State and an owner may provide that the State will defend the owner, its affiliates, and their respective heirs, executors, administrators, representatives, successors, trustees, guardians, assigns, lessees, officers, directors, stockholders, employees, agents, and partners, from claims made by public users of the owner's land.

(b) These agreements may also provide that the State will indemnify the owner, its affiliates, and their respective

heirs, executors, administrators, representatives, successors, trustees, guardians, assigns, lessees, officers, directors, stockholders, employees, agents, and partners, for property losses incurred due to public use, subject to the following provisions:

(1) The attorney general may review any claim;

(2) The attorney general may refer a claim associated with property loss to the chairperson of the board of land and natural resources for informal resolution subject to the terms of an agreement;

(3) All claims of property loss that are subject to the terms of an agreement shall be reviewed in the first instance by the chairperson for resolution as provided for in an agreement. The chairperson may compromise or settle claims for property loss from the trail and access program special funds for an amount not exceeding $10,000 per fiscal year, and the chairperson may pay claims for property loss up to this amount without the review of the attorney general;

(4) Upon referral by the chairperson, the attorney general, in the attorney general's discretion, shall make determinations of whether a claim for property loss would or would not be subject to the terms of an agreement; and

(5) Claims greater than $10,000 per fiscal year shall be subject to appropriation and allotment.

(c) The existence of an agreement does not allow an action to be brought against the State. The State shall not be made a party in any action solely because of the existence of an agreement to defend or indemnify. Any action defended by the State pursuant to an agreement shall be deemed an action against the owner, and the State may assert all defenses available to the owner, its affiliates, and their respective heirs, executors, administrators, representatives, successors, trustees, guardians, assigns, lessees, officers, directors, stockholders, employees, agents, and partners.

(d) If the agreement provides for indemnification by the State, no judgment shall be executed against an owner, its affiliates, and their respective heirs, executors, administrators, representatives, successors, trustees, guardians, assigns, lessees, officers, directors, stockholders, employees, agents, and partners, until the legislature has reviewed and approved the judgment. [L 1992, c 216, §1; am L 2005, c 175, §2]

[§198D-7.6] Limitation on liability. The State shall not be liable for any injury to any person arising from the person's use of unimproved lands owned or controlled by the State and regulated under section 198D-6, unless the injury results from gross negligence on the part of the State. [L 1999, c 106, §1]

§198D-8 Request to acquire rights for public use of additional trails and accesses. The department may request the legislature for appropriations to acquire rights to trails and accesses which are closed to public use or which are necessary to effectuate the trail and access program. [L 1988, c 236, pt of §2; am L 1993, c 273, §2]

§198D-9 Other powers and duties of department. The department:

(1) May establish signing and design standards for classifications of trails and accesses;

(2) Shall establish advisory councils to solicit advice and assistance in the implementation of the trail and access program. The appointment of members to advisory councils shall be made by the department. If advisory councils are established, the members of the advisory councils shall serve part-time and shall not be compensated for official duties performed. Advisory councils may be established on regional, islandwide, countywide, or statewide bases. The statewide council shall include representatives of motorized as well as nonmotorized trail users;

3) Shall serve as the centralized information agency for matters relating to the trail and access program;

(4) Shall coordinate its activities under this chapter, including its compilation of the inventories and classifications of trails and accesses, with other public agencies;

(5) Shall advise and, when able, assist other public agencies in the development, construction, operation, maintenance, and regulation of trails and accesses under the other agencies' jurisdiction;

(6) Shall advocate before the legislature, governor, and public agencies, for the implementation of the trail

and access program; and

(7) Shall submit an annual report to the governor and legislature on activities engaged in under this chapter; provided that the annual report shall include a comprehensive description of the status of the trail and access program and the financial information specified in section 198D-2(b). [L 1988, c 236, pt of §2; am L 1990, c 53, §1(5); am L 1993, c 273, §3]

[§198D-10] Limitation on chapter's provisions. (a) Nothing in this chapter shall be construed as conferring or imposing upon the department any rights, powers, and duties over:

(1) Lands not under its jurisdiction; or

(2) The activities of other public agencies; except if provided by other law or agreement.

(b) The designation as part of the statewide trail and access system of trails and accesses, the use to which the public has no rights, shall not be construed as establishing public rights to use those trails and accesses. [L 1988, c 236, pt of §2]

[§198D-11] Rules. The department may adopt rules in accordance with chapter 91 for the purposes of this chapter. [L 1988, c 236, pt of §2]

[§198D-12] General administrative penalties. (a) Except as otherwise provided by law, the board or its authorized representative by proper delegation may set, charge, and collect administrative fines or bring legal action to recover administrative fees and costs as documented by receipts or affidavit, including attorneys' fees and costs; or bring legal action to recover administrative fines, fees, and costs, including attorneys' fees and costs, or payment for damages or for the cost to correct damages resulting from a violation of this chapter or any rule adopted pursuant to this chapter. The administrative fines shall be as follows:

(1) For a first violation, a fine of not more than $2,500;

(2) For a second violation within five years of a previous violation, a fine of not more than $5,000; and

(3) For a third or subsequent violation within five years of the last violation, a fine of not more than $10,000.

(b) Any criminal action against a person for any violation of this chapter or any rule adopted pursuant to this chapter shall not be deemed to preclude the State from pursuing civil legal action to recover administrative fines and costs against that person. Any civil legal action against a person to recover administrative fines and costs for any violation of this chapter or any rule adopted pursuant to this chapter shall not be deemed to preclude the State from pursuing any criminal action against that person. [L 2001, c 34, pt of §1]

[§198D-13] Criminal penalties. (a) In addition to any other penalties, any person violating this chapter, any rule adopted pursuant to this chapter, or the terms and conditions of any permit issued in accordance with this chapter shall be guilty of a petty misdemeanor and shall be fined not less than:

(1) $100 for a first offense;

(2) $200 for a second offense; and

(3) $500 for a third or subsequent offense.

(b) The fines specified in this section shall not be suspended or waived. Each day of each violation shall constitute a separate offense.

(c) Any criminal action against a person for any violation of this chapter or any rule adopted pursuant to this chapter shall not be deemed to preclude the State from pursuing civil legal action to recover administrative fines and costs against that person. Any civil legal action against a person to recover administrative fines and costs for any violation of this chapter or any rule adopted pursuant to this chapter shall not be deemed to preclude the State from pursuing any criminal action against that person. [L 2001, c 34, pt of §1]

Act 50 of the State of Hawaii (HRS Ch. 343)

A BILL FOR AN ACT

RELATING TO ENVIRONMENTAL IMPACT STATEMENTS.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

SECTION 1. The legislature finds that there is a need to clarify that the preparation of environmental assessments or environmental impact statements should identify and address effects on Hawai`i's culture, and traditional and customary rights.

The legislature also finds that native Hawaiian culture plays a vital role in preserving and advancing the unique quality of life and the "aloha spirit' in Hawaii. Articles IX and XII of the state constitution, other state laws, and the courts of the State impose on government agencies a duty to promote and protect cultural beliefs, practices, and resources of native Hawaiians as well as other ethnic groups.

Moreover, the past failure to require native Hawaiian cultural impact assessments has resulted in the loss and destruction of many important cultural resources and has interfered with the exercise of native Hawaiian culture. The legislature further finds that due consideration of the effects of human activities on native Hawaiian culture and the exercise thereof is necessary to ensure the continued existence, development, and exercise of native Hawaiian culture.

The purpose of this Act is to:
(1) Require that environmental impact statements include the disclosure of the effects of a proposed action on the cultural practices of the community and State; and
(2) Amend the definition of "significant effect" to include adverse effects on cultural practices.

SECTION 2. Section 343-2, Hawai`i Revised Statutes, is amended by amending the definitions of "environmental impact statement' or "statement" and "significant effect", to read as follows:

"'Environmental impact statement" or "statement" means an informational document prepared in compliance with the rules adopted under section 343-6 and which discloses the environmental effects of a proposed action, effects of a proposed action on the economic [and] <u>welfare</u>, social welfare<u>, and cultural practices</u> of the community and State, effects of the economic activities arising out of the proposed action, measures proposed to minimize adverse effects, and alternatives to the action and their environmental effects.

The initial statement filed for public review shall be referred to as the draft statement and shall be distinguished from the final statement which is the document that has incorporated the public's comments and the responses to those comments. The final statement is the document that shall be evaluated for acceptability by the respective accepting authority.

"Significant effect" means the sum of effects on the quality of the environment, including actions that irrevocably commit a natural resource, curtail the range of beneficial uses of the environment, are contrary to the State's environmental policies or long-term environmental goals as established by law, or adversely affect the economic [or] <u>welfare</u>, social welfare[.]<u>, or cultural practices of the community and State.</u>"

SECTION 3. Statutory material to be repealed is bracketed. New statutory material is underscored.

SECTION 4. This Act shall take effect upon its approval.Approved by the Governor as Act 50 on April 26, 2000

Appendix B: Trail Segment Descriptions with High Potential Segments Noted as 1 or 2

DISTRICT/AHUPUA ʻA OR SEGMENT END POINTS	DESCRIPTION (THESE DESCRIPTIONS AR E SUBJECT TO CHANGE AND ON-THE-GROUND VERIFICATION .)
North Kohala	
ʻUpolu Point to Honoipu	A dirt jeep road is traditionally used, but not continuous due to private lands. More recent subdivisions have approved lateral and *mauka-makai* public access. Railroad r.o.w. with sugar history has been incorporated for public access in at least one subdivision [Chang].
Honoipu to Puakea Bay	Puakea Bay subdivision; shoreline trail maintained by Nā Ala Hele has a few dangerous spots near cliff edges [Chang].
Puakea Bay to Kapaʻa	This segment has a concentration of historic sites. Parker Ranch subdivision is required to provide *mauka-makai* and lateral shoreline access. Lateral route is yet to be determined and *mauka-makai* is yet to be built [Chang].
Kapaʻa to Māhukona	A portion of the railroad right-of-way north of Māhukona is a public access easement. Māhukona Resort has public access requirements, but the resort not yet been built [Chang].
Māhukona to Lapakahi	Right of lateral public access is undefined [Chang]. In Kaoma and Hihiu the trail is set inland several hundred meters; visible as a faint depression with some stones slightly piled on either side [1][1] (Burgett and Rosendahl 1990).[2] At Lapakahi, the trail swings closer to the sea, just behind coastal housing compounds [1] (Cordy, 1995).
Lapakahi to Hawaiian Homelands	An *ala loa* is designated on maps and segments have been claimed by the state. No historic trail remnants have yet been identified. In the private lands where the question has arisen, the jeep road is regarded as the *ala loa* route in the absence of physical remains of the historic trail. The State Conservation Land Use District is mostly located from the jeep road *makai* to the ocean.
Private Lands	On private lands there are several public access requirements which have not yet been built: One Landowner has applied for a Conservation District Use Permit (CDUA) to build an extensive single family dwelling complex. *Mauka-makai* and lateral public accesses have been proposed for that property. The proposed access avoids numerous historic sites and moves the jeep road access out of their family compound. The CDUA is currently on hold. In *Kaiholena* subdivision *mauka-makai* and lateral public access have been required through subdivision approval process (per Hawaiʻi County Code Chapter 34).
Lapakahi to Hawaiian Homelands (cont.)	*Kahuā Ranch* and *Ponoholo Ranch* subdivisions are required to provide public access and an Archeological Preservation Plan is pending. *Gentry Pacific, Ltd.* (TMK 5-9-1:8) is undeveloped but has its SMA, REZ & SUB permits. Public access is required in those permits. *Kohala Waterfront* is the next subdivision with a public access. They have a public parking lot with *mauka-makai* access. The lateral access is a required easement, but large sections are overgrown. (TMK: 5-9-16:50)
State Lands	*Makai* of Kohala Ranch subdivision and *makai* of the Akoni Pule highway, TMK (5-9) a "Beach Trail" is shown leading to Waiakailio Bay crossing state lands [Chang].
DHHL to Kawaihae	Department of Hawaiian Homelands (DHHL) is generally not supportive of public access. Waikā and Kahuā Trail just behind coastal housing compounds (Cordy, 1995).

[1] Numbers in brackets [ ] indicate the trail classification outlined in chapter 2. These were determined from written reports or informal on-the-ground surveys and will be verified during the management planning process for each trail segment. Names in brackets [ ] reflect information from phone calls, emails, or other forms of communication.

[2] All names in parentheses ( ) refer to authors of printed material listed in the bibliography.

DISTRICT/AHUPUA ʻA OR SEGMENT END POINTS	DESCRIPTION (THESE DESCRIPTIONS AR E SUBJECT TO CHANGE AND ON-THE-GROUND VERIFICATION .)
South Kohala	
Kawaihae to Spencer Beach Park	Trail behind coastal housing enclosures until the sand shore of the bay; there it ran along the sand edge in front of house enclosures (Jackson 1883; Loebenstein 1903) Route of ala loa at Puʻukoholā Heiau and the kings' residence is not clear (may have been seaward of the *heiau* (Lobenstein 1903) Māhele documents of late 1840s label the trail the alanui (Kelly 1974). Harbor security permits public access during certain hours. A lateral trail exists between Pelekane Bay in the Puʻukoholā National Historic Site and Spencer Beach Park [Chang].
Spencer Beach Park to MKB	Portion of Nā Ala Hele State Ala Kahakai Trail to Mauʻumae and from Mauʻumae to Mauna Kea Beach Hotel (MKB) golf course. Nā Ala Hele is working with MKB to delineate the access through the golf course to Kaunaʻoa Beach [Chang].
MKB to Hāpuna Beach	A trail is open and visible on the ground. MKB responsible for management [Chang].
Hāpuna Beach to Puakō Bay	Trail is a dirt path. Nā Ala Hele has jurisdiction, has posted signs, and maintains a portion of it. Legal status of trail is not clear from Waialea Bay to Puakō Boat Ramp [Chang].
Puakō Bay to ʻAnaehoʻomalu Bay	Much of the lateral access along Puakō Bay is blocked by old sea walls. The lateral trail is continuous through Mauna Lani Resort all the way to ʻAnaehoʻomalu Bay. In sections it follows concrete sidewalks [Chang]. At Kalāhuipuaʻa, trail is a winding, crushed ʻaʻā footpath 2-3 feet wide across Kanikū lava flow (Cordy). Only portions remain after extensive shoreline development [Chang]. On pāhoehoe lava, straight 1880s trail runs through the Waikoloa petroglyph field [1]. Nearby is a footpath worn in the lava, the prehistoric *ala loa* [1]. It winds in and out and under the late 1800s *ala loa* (*alanui aupuni* --"government road") (Cordy 1994.; Barrera 1971; Walker and Rosendahl 1986; Donham 1988; Jensen 1988, 1989).
North Kona	
ʻAnaehoʻomalu to Kīholo Bay	The 1859 lava flow covered portions of the ancient ala loa. A network of historic trails on state land including extensive *mauka makai* trails; late1800s *ala loa* (*alanui aupuni*) is present. In Puʻu Anahulu, the *ala loa* runs along the shore. The Huʻehue to Kīholo Trail (*mauka makai*) is state-owned. The *makai* portion of that trail is maintained by Nā Ala Hele [Chang].
Kīholo to Kaʻūpūlehu	Near Lauahinewai Point, from Luahinewai Pond to Ka Lae Manō the ancient trail runs along the cliffs where it is a crushed ʻaʻā path [1] (Cordy, 1995) and is in good historic condition. There is a new development under construction with public access requirements south of Ka Lae Manō and north of Kona Village Resort [Chang].
Kaʻūpūlehu to Kūkiʻo	An ancient segment between Four Seasons and Kūkiʻo Resorts is present. Trail is partially a crushed ʻaʻā path with some beach stepping stones placed in the trail and partially on smooth pāhoehoe. [1] On intervening pāhoehoe lands and beaches, no remnant is visible (Cordy, 1995). Several significant *mauka-makai* historic trails in this area [Chang].
Kūkiʻo to Maniniowali	Some crushed ʻaʻā path is apparent with some beach stepping stones placed in trail (Cordy, 1995). Historic lateral trail in good condition [Chang].
Maniniowali to Mahaiʻula	Some ancient trail; Mahaiʻula and Makalawena have *mauka-makai* trails in good condition [Chang].
Mahaiʻula to Keahole Point	Informal jeep trail; historic preserve with anchialine ponds just north of Keahole Point; the jeep trail is blocked on the Keahole side, but can be hiked [Chang].
Keahole Point to Kaloko-Honokōhau NHP	Beyond the vast 1801 pāhoehoe flow, most of the route ran along the sand or pāhoehoe, leaving no visible remnants of the ancient trail (Cordy, 1995). The 1800s Mamalahoa Trail is still on the ground (absent where Queen Kaʻahumanu Highway covers it). It can be followed from NELHA through Kaloko NHP. It once extended all the way into Kailua-Kona. Access along the coast is a jeep trail; "The Shores" at Kohanaiki development has public access requirements. Public access routes and modes of travel will change with completion of Kohanaiki's development [Chang].

DISTRICT/AHUPUA ʻA OR SEGMENT END POINTS	DESCRIPTION (THESE DESCRIPTIONS AR E SUBJECT TO CHANGE AND ON-THE-GROUND VERIFICATION .)
Kaloko-Honokōhau NHP to ʻAlula Cove	ʻAlula Cove has a *heiau* nearby. State and DHHL lands surrounding Honokōhau Harbor and ʻAlula Cove are proposed to be developed commercially [Chang].
ʻAlula Cove to Pawai	Wayfinding is necessary on pāhoehoe. Queen Liliʻuokalani Children's Center (QLCC) land at Pawai [Chang].
Pawai to Old Kona Airport	An easy walk along the shore but QLCC has a private camping area at Pawai [Chang].
Old Kona Airport to Kailua Bay	A boat canal cuts off walking access to Kailua Bay. In Kona Bay Estates and Lanihau subdivisions traditional access rights were asserted via a law suit. As a result, the *ala loa* was restored by locating it on a low rock wall fronting both subdivisions' lots [Chang].
Kailua Bay to the end of Aliʻi Drive at Keauhou	Historically, the trail ran along the route of today's Aliʻi Drive to Kahaluʻu in today's Outrigger Keauhou Beach Resort. The trail was mostly on pāhoehoe land but today is urbanized (Allen 1986; Hammatt, Borthwirk & Shideler 1994:11; McEldowney 1983; Tomonari-Tuggle 1985). From Kahuluʻu, the path crossed rougher ʻaʻā flows with large, smooth stones placed about three or four feet apart (Ellis1863: 76). From Kailua to Hōkūkano, the *ala loa* was often flanked by houses. In the 1850s when houselots became walled with dry-laid stone, the trail passed through walled houselots (Iʻi 1959; Cordy 1994). The walled pattern can be seen today along the jeep road just south of Keauhou (Cordy 1994). Today there is public access next to the Ala Kala condominium sign that follows an ancient trail shown on the TMK; although extensively developed, there used to be several *mauka-makai* trails that have been preserved in various forms. Examples include the Judd Trail, Keauhou Trail and Makoleʻā Trail. The coastal trail at Outrigger Keauhou Beach was developed by Bishop Estate years ago when given permits to pave a lateral trail for a public shoreline access. Through the years the pavement has been extensively torn up by high surf, and use of the lateral coastal access is a liability concern for the landowners involved. Still it is a popular coast for shoreline fishing, and there is a small beach between Outrigger Keauhou Beach and Keauhou Surf and Racquet Club to the south which has recently taken care of its public access requirements (*mauka-makai* and lateral) [Chang].
End of Aliʻi Drive to Hokuliʻa	The Old Government Road (OGR) is at the end of Aliʻi Drive and extends along the coast into Hokuliʻa and beyond.
South Kona	
Hokuliʻa to Kealakekua Bay	The *ala loa* is approximated by today's jeep road although in the Hokukano-Keʻekeʻe area a new route was built to bypass the shore, evidently in the late 1880s (Kaschko 1984:12-15; Hammatt et al. 1994:186-187). Hokukano Village is on state land, but many unprotected historic sites are there. The Old Government Road and old cart road are in good physical condition crossing private land of several landowners from Hokuliʻa to Kaʻawaloa. (TMK 8-1-7:45) [Chang] [1,2]. Some trail near Kealakekua Bay is on ʻaʻā lava. The walled house pattern can be seen today at Nāpoʻopoʻo on the south shore of Kealakekua Bay [1] (Cordy, 1995). Steep cliffs cause the trail to be on top of Pali [Kawashima]. State Parks is in the process of including Kaʻawaloa in the Kealakekua State Historical Park to better protect historic sites there [Chang].
Kealakekua Bay to Hōnaunau Bay	There is a 100 foot stretch of paving stone just south of Kipu rock about 200 feet from shore [1]. For the rest of this 4.5 mile stretch, the old trail has either been destroyed by storm waves or the route was over bare pāhoehoe leaving little or no trace (Cordy, 1995). The TMK (see 8-3-6) shows trails, including a *mauka-makai* trail which is historic and considered to be publicly owned [Chang].
Hōnaunau Bay to Hoʻokena	The shoreline trail within Puʻuhonua o Hōnaunau NHP was washed away by storms, but well-documented segments of the 1868 trail and constructed stone ramp remain [1]. The trail passes through the ruins of Kiʻilae Village Trail. The first 2/3 of the trail to Hoʻokena is in impressive physical condition and has many historic sites. The trail in places is built up 5' to 8' high. The 8' trail surface has large flat inlaid lava rock with one foot high curbs. The last 1/3 has been bulldozed to accommodate jeep travel [Kawashima].

DISTRICT/AHUPUA'A OR SEGMENT END POINTS	DESCRIPTION (THESE DESCRIPTIONS ARE SUBJECT TO CHANGE AND ON-THE-GROUND VERIFICATION.)
Ho'okena to Ka'ohe Bay	Just outside of Ho'okena, trails have not been explored. There are cliff areas along the coast making passage difficult. Trails probably traveled at top of cliffs [1] [Kawashima]. Trails and old roads tend to be inland of coast when there are cliffs. Here goats are an issue as they move the rocks forming the curbstones and make it difficult to identify historic trails. On the other hand in some places, they eat the grass and make the trail more evident. Further south, lava flows have destroyed some historic areas [Kawashima]. Old trails and roads are noted on old maps and archeology reports in Pāhoehoe and Ka'ohe *ahupua'a*. Trail in Ka'ohe has curbstones and it extends north to where it is covered by the1950 lava flow [Chang].
Ka'ohe Bay to Pāpā Bay	Some jeep trail. At Kīpāhoehoe and Pāpā Bay, the trail is one meter wide and made of paved beachstones on *'a'ā* [1] (SHPD site inventory files for #4185 & #4182). This is an impressive stepping stone trail with big stones, sometimes two or three across. The trail stands out because it is on a lava flow with little vegetation [Kawashima]. In Kīpāhoehoe, cairns mark a portion of the trail. The trail at Pāpā Bay consists of smooth beachstone paving and runs by the house sites of this former community (Cordy 1995). At Kukuiopa'e at least one recent subdivision (TMK: 8-7-11:1) has set-aside the jeep road as the lateral, coastal public access right-of-way, presumably recognizing it as the rough equivalent of the *ala loa*. That subdivision has no archeological survey of its coastal area, so we don't know if there are historic trail remnants or sites. Another recent subdivision in Opihihale (TMK 8-7-14:6) has an archeological survey and several historic trail remnants were identified, both lateral coastal and *mauka makai* (as well as other sites). The subdivision approval required certain trails to be preserved in accordance with State Historic Preservation Division requirements [Chang].
Pāpā Bay to Miloli'i	Trail generally is apparent on open *'a'ā* fields, although obstructed by kiawe in some places. [1] The trail at Pāpā Bay is extremely attractive, being one meter wide and consists of paved beach stones (SHPD inventory files, 4185). Jeep roads overlay the trail in some places.
Miloli'i to Manukā	On the south side of Honomalino Bay the trail is one meter wide and consists of large paved beachstones laid on 'a'ā [1] (SHPD site inventory files # 1993) (TMK: 8-9). An aesthetically beautiful trail section is paved with large sized grey and white coral rubble. The area is filled with historic sites, *heiau*, the best preserved *hōlua* slide in the state, and much more [Chang]. The state legislature designated the areas of Kapu'a, Honomalino, Kaulanamauna, and Manukā a wilderness park which would allow State Parks to buy the private lands in Kapu'a. The Miloli'i area of the park is unencumbered State lands (Quinn)[3]. Footpath varying from well established crushed 'a'ā to *pāhoehoe* to soil to sand [1 or 2]. Some trail is overgrown with kiawe (NPS, 1998a, p. F-4).
Ka'ū	
Manukā to Humuhumu Point	Manukā Ahupua'a is state-owned and most is a Natural Area Reserve. The shoreline area is unencumbered State lands that could be used for a state park. From here to South Point there are discontinuous pieces of trail: over 'a'ā, the trail is visible as a crushed path with steppingstones; on *pāhoehoe*, the *ala loa* is sometimes apparent as a worn path and sometimes left no remains except for stone cairns and pieces of coral [1, 2] (Haun and Walker 1987). A privately owned road to Humuhumu Point, "Road to the Sea," marks the south boundary of the *ahupua'a*.
Humuhumu Point to South of Pōhue Bay	Pōhue Bay is a sandy beach, a rare feature in this area, with anchialine ponds nearby. It is accessible by a locked, private road. A *mauka-makai* ancient trail in good physical condition leads from the Hawaiian Ranchos subdivision down to just south of Pōhue Bay. The area contains a concentration of pre- and post-contact petroglyphs. Along the *mauka-makai* trail are fascinating geological features as well as petroglyphs. The revised County General Plan removed the Resort designation that existed for the area and changed it to Open. The area is considered to be in a hazardous volcanic zone [Chang].

[3] Unencumbered state lands are owned by the state, but no management entity has been assigned to them.

DISTRICT/AHUPUA ʻA OR SEGMENT END POINTS	DESCRIPTION (THESE DESCRIPTIONS AR E SUBJECT TO CHANGE AND ON-THE-GROUND VERIFICATION .)
Pōhue Bay to Ka Lae (The Point or South Point)	There are discontinuous pieces of trail: over ʻaʻā, the trail is visible as a crushed path with steppingstones; on *pāhoehoe*, the *ala loa* is sometimes apparent as a worn path and sometimes left no remains except for stone cairns and pieces of coral [1, 2] (Haun and Walker 1987).
Ka Lae to Kaʻaluʻalu	Little trail is visible at South Point where deep soils are present (Cordy 1995). A jeep road is present for the entire segment.
Kaʻaluʻalu to Kimo Point	Well-worn trail, some ʻaʻā and some worn into pāhoehoe [1]. Jeep roads cut across the path and some trail is overgrown with vegetation.
Kimo Point to Honuʻapo	A jeep road is shown on maps.
Honuʻapo to Punaluʻu	Between Hōkūkano and Hīlea, a rugged ʻaʻā field is present, and the "road across it was formed of large smooth round stones, placed in a line two to three feet apart" [1] (Ellis 1963: 142). In the Punaluʻu area, this trail was called the *alanui aupuni* in 1852 (Kelly 1972: 56). From Honuʻapo to Punaluʻu, a later, straighter 1800s version of the *ala loa* is present. It has curbing, is wider, and has causeways. Parts of the old trail on the edge of Nīnole Fishpond were damaged by the 1868 tidal wave [1,2] (Kelly 1972).
Punaluʻu to Kapāoʻo (boundary of Hawaiʻi Volcanoes NP)[4]	As elsewhere, the trail can be seen across the ʻaʻā flows as trodden surface with it disappearing on the *pāhoehoe* [1,2,3] (Cordy 1995).
Kapāoʻo to ʻOpihinehe	"Ancient trail from Kaʻū to Puna has been off the map for many years." [5]A faint trail and *ahu* guide walkers [1,2].
Kaʻū/Puna	
ʻOpihinehe to ʻĀpua Point	In 1930, Hudson noted that between Keauhou Landing and ʻĀpua Point the trail was a "worn track across the smooth pāhoehoe flows (Hudson 1932: 89)." The Puna Coastal Trail extends from Halapē to ʻĀpua.
Puna	
ʻĀpua Point to boundary of Hawaii Volcanoes NP	Portions of the trail are visible. Stretches of rough ʻaʻā are crossed by a trail made of waterworn boulders—one to three stones wide and continuous [1]. This continuous waterworn construction may be an architectural style somewhat unique to Puna although it is found in places in South Kona (Cordy 1995). Areas where this type of trail can be seen include ʻĀpua (Emory et al. 1959:82) and Pūlama (inland of the site of Wahaʻula heiau (Emory et al. 1959:71). In smooth pāhoehoe areas sometimes the trail is visible. [1]" This pattern continues on around the Puna shore and up to Hilo Bay (Cordy 1995).

Sources:

Ala Kahakai National Trail Study and Final Environmental Impact Statement, National Park Service, Pacific West Region, Pacific Great Basin Support Office, San Francisco, 1998

Ross Cordy, "The Ala Kahakai or the Ala Loa: An Archaeological and Historic Preservation Perspective." Ms. on file, State Historic Preservation Division, DLNR, Honolulu, HI.

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[4] The remainder of the trail is within the wilderness area of Hawaiʻi Volcanoes National Park. Overnight camping requires registration at the Kīlauea Visitor Center. Life threatening situations such as advancing lava flows, earthquakes, or tsunami occur in this area, and park rangers must be able to locate and account for all persons in the wilderness area. The native Hawaiian residents of Kalalpana and their guests have exclusive fishing and seafood-gathering rights from the eastern park boundary to a fenceline between Keauhou and Halapē.

[5] Noted on National Trails Day, June 1993

Appendix C: High Potential Sites and Complexes along the Ala Kahakai NHT

Cultural sites along national trails are especially vulnerable to impacts by uninformed users of trails. Many resources not readily apparent to the non-archaeologist and individuals who are not descended from traditional residents of the land area crossed by the trails can be inadvertently damaged, or they may be intentionally looted. For that reason in a public document such as this, there is no attempt to list all of sites along the *ala loa*. The text below describes selected examples of generally recognized sites, complexes, and potential traditional cultural properties. The basic text, with minor corrections, is quoted directly from Helene R. Dunbar, *Cultural Resources Assessment Ala Kahakai, Hawai`i Island*, U.S. National Park Service, Department of Interior, San Francisco Support Office, San Francisco, California, 1997. The Dunbar text does not incorporate much ethnographic material, and as sites are considered for inclusion in the Ala Kahakai NHT, this information will be added to the descriptions.

This appendix adds information prepared by Kepā Maly of *Kumu Pono Associates* in order to suggest the level of personal relationship Hawaiians have to their lands, trails, resources, and gods and to suggest the range of sites that could be considered for the Ala Kahakai NHT. These additions are indicated by an asterisk (*) placed before the site name. A list of trail studies prepared by Kumu Pono Associates LLC is appended to the bibliography.

Kohala District

Mo'okini Heiau and the Kamehameha I Birthplace, 'Ūpolu Point

Mo'okini is the largest temple on Hawai'i Island, and one of the most significant sacred traditional cultural properties in the Hawaiian Islands. This National Historic Landmark is associated with a number of historic figures and events (Dunbar and Napoka 1990):

> Construction is attributed to the priests Pā'ao and Mo'okini who arrived from *Kahiki* (a "foreign place" believed by some to refer to the ancestral Polynesian homeland) around the 13th or 14th centuries. Several families today claim descent from these individuals.
>
> The site has a long association with the Kohala District chiefs, including Kamehameha I's granduncle, Alapa'i nui who reigned as paramount chief of Hawai'i Island around 1740 A.D.
>
> Mo'okini was one of Kamehameha's major temples, and a *luakini heiau*.
>
> Kamehameha's high priest, Hewahewa, the last high priest of the Hawaiian kingdom, officiated here.
>
> Formerly there was also a chiefly residence for the sacred high chiefs in Pu'uepa-Kokoiki. Reportedly born at Kokoiki, Kamehameha I was most likely taken from his birth site nearby, to Mo'okini Heiau for his birth rituals.

According to tradition, the legendary priest-navigator Pā'ao first landed in Puna District where he built Waha'ula Heiau, a temple that shared some architectural similarities with Mo'okini Heiau (Emory *et al.* 1959). Finally he settled in Kohala District on the northern tip of land he named Uporu ('Ūpolu) after his home district somewhere to the south of the Hawaiian Islands. After an unspecified time interval, Pā'ao decided conditions were favorable for setting up a ruling chief of his own choosing, and obtained one from abroad ("Kahiki"). Pili Ka'aiea, himself a descendant of the ancient Polynesian gods, was installed as ruling chief of Hawai'i Island. Pili married into Hawaiian nobility and founded the chiefly family, which generation after generation, supplied the sacred rulers of the island of Hawai'i (Fornander 1969(1):86, 191-92, 201; (2):22, 38, 39). His descendants became the ruling chiefs of the six traditional chiefdoms of the island. With but one brief interlude, they ruled until 1893. Pā'ao himself became the high priest of an order he established, one that continued until 1819.

Only the temple remains. A state of Hawaii commemorative plaque marks the alleged birth site. The ancient trails, the former chiefly compound, and all other structural associations, were destroyed when the surrounding land was leveled for a sugarcane plantation in the 19th century.

The importance of Moʻokini Heiau has increased since recent lava flows covered Wahaʻula Heiau, the only other known structure associated with Pāʻao. The State of Hawaii in conjunction with Moʻokini Luakini, Inc., a non-profit private foundation, has partially developed this landmark for public interpretation. The site is maintained by personnel from nearby Lapakāhi State Park.

Lapakāhi State Historical Park

Lapakāhi provides a glimpse into the life of the common people in contrast to the great centers maintained by the ruling chiefs of ancient Hawaiʻi. This 600-year-old farming and fishing settlement is partially restored. Lapakāhi contains the rock-walled foundations of house sites and canoe sheds, as well as shrines, burial cairns, and other features associated with daily life. A major network of terraces comprising the vast agricultural system that supported the settlement is located several miles inland above the village on the slopes of the Kohala Mountains. Although no archaeological vestiges of the *ala loa* remain, multiple footpaths connect the coastal region with the upland agricultural fields. Lapakāhi is on both the State and National Registers of Historic Places.

Puʻukoholā Heiau, Kawaihae

Puʻukoholā National Historic Landmark is located within Puʻukoholā National Historic Site, overlooking Kawaihae Bay in the district of South Kohala. It was built between 1790 and 1791. In addition to what may be vestiges of the *ala loa*, the landmark district includes Puʻukoholā Heiau, Mailekini Heiau, the former Hale o Kapuni Heiau (a submerged shark temple), Pelekāne (the former chiefly residential complex), Kamehameha's "leaning post" (a *pōhaku* where he allegedly rested to watch sharks feeding at offshore Hale o Kapuni), and Pahukanilua, the homestead of John Young, the former British sailor who became a high chief under Kamehameha.

Kawaihae and Puʻukoholā formed the setting of Kamehameha I's rise to power and consolidation of the Hawaiian Islands under one rule. By late prehistoric times, warfare had become a frequent means for the descendants of Pili Kaʻaiea to enlarge territorial holdings. Kawaihae was a favored battleground; armies from the six kingdoms frequently fought here. Invading fleets from Maui Island also made Kawaihae their target. Apple (1969:12) says "remnants of defeated Maui war fleets, en route home from battles, refreshed at Kawaihae and sometimes cut down coconut trees there as final acts of defiance to the Hawaiʻi chiefs." Mailekini Heiau was an ancient and important prehistoric and historic site associated with the inter-chiefdom and inter-island rivalry of the time period prior to Kamehameha I's rise to power; it was one of the prizes gained by the Maui or Hawaiʻi chief who held Kohala (Kamakau 1961:56, 58, 66, 110-111, 150).

A number of prominent historic figures are associated with the residential complex known today as Pelekāne. Although earlier paramount chiefs such as Alapaʻi nui probably resided there sporadically, it achieved its greatest prominence between 1790 and 1810 when Kamehameha I was a frequent resident (Kamakau 1961:350). Pelekāne most likely was the birthplace of Queen Kamāmalu, daughter of Kamehameha I, in about 1802. She was the half-sister of Liholiho (Kamehameha II), and as permitted under ancient Hawaiian kinship rules, later became his wife. She died of measles, as did Kamehameha II, on a state visit to England in 1824 (Ii 1959:70). Liholiho, as Kamehameha II, was a periodic visitor to the king's residence at Kawaihae. We know that he retired there in the interim period following the death of Kamehameha I, and that he visited during journeys around the Island to the *luakini heiau* during the annual *Makahiki* ceremonial season. He began "...in Kailua, whence he went to Kawaihae and continued from there around the island to the Hale o Keawe" at Hōnaunau (Ii 1959:137). Tradition further indicates that Queen Emma, granddaughter of Kamehameha I and John Young, who became the bride of Kamehameha IV, may have been born or resided at Pelekāne (see Kelly 1974:16).

Finally, Kawaihae became the primary residence of John Young, who along with Isaac Davis, provided the technological knowledge of cannon, rifles, fortifications and martial arts that were indispensable to Kamehameha I's military successes and which served to preserve for history their role in Hawaiian unification. John Young in particular appears to have set the course that led Hawaiʻi into the sphere of American influence and ultimately to statehood (Apple 1969:22). His home in Kawaihae was the first western style structure built in the islands.

Kalāhuipuaʻa, and ʻAnaehoʻomalu, South Kohala

Waikoloa Beach Resort is located in ʻAnaehoʻomalu and the Mauna Lani Resort is located in the land unit

of Kalāhuipuaʻa. These resorts have incorporated historic preserves set aside in State historic preservation agreements. Sections of the ancient coastal trail, a prehistoric bypass trail, and the historic (1880s) Māmalahoa Trail have been recorded at various locations within these historic preserves.

Puakō Petroglyph Archeological Preserve (Mauna Lani Resort)

This extensive rock art site contains over three thousand units carved between 1000 and 1800 A.D. (Georgia Lee, personal communication, February 1996). Rock art specialist Edward Stasack (personal communication, February 1996) believes it may have been associated with the *ala loa* whose route may lie beneath the modern Puakō Road although there is no documentation or archaeological confirmation.

Hawaiian petroglyphs appear to have served a variety of purposes. Many appear to commemorate personal experiences, or are acknowledgements of the *ʻaumākua* (ancestral spirits). The place where the petroglyphs appear also may have had sacred importance. Other images may relate to mythology, and a few possibly depict pre-contact and early historic events. Common forms of stone carvings include dots, circles, straight lines, wavy and curved lines, and simple stick figures representing dogs, turtles, fish, birds, pigs, crabs and human beings. Some figures are fanciful anthropomorphs, but others depict men on surfboards, canoe paddlers with paddles in hand, sails and canoes. Post contact petroglyphs may depict western ships, horseback riders (*paniolo*), and Hawaiian words written in a style introduced by nineteenth century missionaries.

At Puakō, a large number of the rock art elements consist of cupules, sometimes covered with a stone. These holes (*lua*) are thought to be connected with a birth ritual of a new born child. It was believed that placing the umbilical cord stump (piko) in the pecked cup would generate helpful *mana* (spiritual power) to nourish the child. Many human forms also are depicted here including linear figures, family groups, triangular human figures and muscular figures. One of the most intriguing series of figures, close to the Kaʻeo Trail (a modern access trail from Puakō up to Petroglyph Field A) is a line of thirty figures lined up head to foot that are believed to represent a column of marching warriors or perhaps a family lineage.

Kalāhuipuaʻa (Mauna Lani Resort) (see Register Map No. 824, J.S. Emerson Surveyor, 1880)

This ancient land unit, containing a segment of the *ala loa*, centers around four fishponds, the largest of which, Kalāhuipuaʻa Fishpond, is still in use today. Various stories are associated with the fishponds. The ancient trail (winding in and out under the 1800s trail) leads around the ponds and along the coast to dozens of ancient sites. Excavation of lava tube shelters and house sites confirms they were used from 1200-1700 A.D. Petroglyphs include triangular and linear human figures, dots, circles, *papamū* and an impressive depiction of a helmeted warrior.

* Kahāpapa and Kuʻualiʻi fishponds at ʻAnaehoʻomalu (see Register Map No. 824)

An oasis along an otherwise arid coastline, the fishponds of Kahāpapa, Kuʻualiʻi, and the smaller brackish (anchialine) and fresh water ponds, provided ancient Hawaiians with the resources necessary to sustain themselves along the South Kohala coast. The fishponds were generally managed for support of the royal households, with rights of taking fish granted to the people of the land. This was particularly important during seasons of rough weather, when canoes could not leave the shore, as fish provided the primary protein to the Hawaiian populace. Ancient residents of the coastal lands around the fishponds also traveled regularly between the rich cultivated lands of the Waimea region, the coastal residences, and they left behind many reminders of past times. Historically, the fishponds remained in regular use through the early 1940s.

Waikōloa Petroglyph Preserve at ʻAnaehoʻomalu (Waikōloa Beach Resort)

Protected within the Waikōloa Beach Resort are two restored, operative fishponds, C-shaped stone break walls used by early travelers as shelters against the prevailing wind, other structural remains, and the extensive Waikōloa Petroglyph Preserve through which the ancient *ala loa* passes. Common petroglyph carvings include cupules that may be associated with birth rituals. Other elements include various styles of human figures, canoes, a turtle, a crab claw, fishhooks, and a nineteenth century cowboy (*paniolo*) on horseback. A stick-figure image of Lono, god of the *Makahiki*, can be seen among the other petroglyphs beside the old foot-worn *Ala Māmalahoa*. It is estimated that the earliest petroglyphs were done around 800 A.D. when the ʻAnaehoʻomalu region was first extensively settled.

Near the main Waikōloa petroglyph field is a large abrader quarry area on the inland side of the coastal bypass trail. "Here porous pieces of *pāhoehoe* were ground down in basin-like depressions into hand-held sized abraders used for woodworking. Hundreds of basins on the *pāhoehoe* surface are scattered through this quarry. Also, a few temporary shelters are present in the form of rock shelter overhangs and a few small surface enclosures. Dates from these shelters show use of the quarry beginning about A.D. 1400 and increasing after A.D. 1600" (Cordy 1994b:14).

"At the Kona border, on the seaward edge of the coastal bypass trail, is a small rectangular platform, the Ke ahu a Lono, which Lonoikamakahiki is said to have built ca. 1640-1660 in commemoration of his reconciliation with his chief advisor, Kapaihiahilina. The site is also identified as the *ahupuaʻa* shrine for the ʻAnaehoʼomalu-Waikōloa area. The platform has recently been reconstructed and has temporary interpretive signage" (Cordy 1994b:14). This area is currently in need of repair.

North and South Kona Districts

* Kapalaoa complex, Anchialine Ponds and Petroglyph Field (see Register Map No. 824; and No.1278, J.S. Emerson, Surveyor, 1885)

Kapalaoa was the northern-most village of the North Kona District, being a part of the *ahupuaʻa* of Puʼu Anahulu. It was most likely closely tied to the ʻAnaehoʻomalu-Kalāhuipuaʻa sites. The near shore boundary of Puʻu Anahulu-Kona, and ʻAnaehoʻomalu-Kohala, is marked by an ancient *heiau* known by the name of Hiʻiaka-i-ka-ʻale-ʻī. To the inland, where the ala loa passes from Kohala to Kona, is found the *heiau*, Ke-ahu-a-Lono, which is associated with events of the island king, Lono-i-ka-makahiki. The village at Kapalaoa remained in use by traditional Hawaiian families through the 1960s. The old house sites gave way to wooden structures, but families continued to use the old ponds and fisheries, and other sites associated with generations of residency in the region. One site on the southern side of the Kapalaoa village is a field of petroglyphs, with figures that span the generations, recording ancient images, the arrival of western sailing ships along the coast, and the use of letter printing to record the names of families of the land.

* Wainānāliʻi and Kīholo Fishpond Complexes, Villages, and Luahinewai (see Register Map No. 1278)

In ancient times, the residents of this region developed fishponds along the shore of Puʻu Anahulu and Puʻu Waʻawaʻa. The fishponds were controlled by the chiefs, but the people who worked the ponds and lived on the land were allowed access to the fishery resources of the ponds in order to sustain themselves, while supporting their chiefly benefactors. The two fishpond complexes were still worked during the reign of Kamehameha I, with the Kīholo fishpond actually rebuilt in ca. 1811, under the direction of Kamehameha I. Like other sites along this coastline between Kohala and Kailua, traditional communities were established around the fishponds and freshwater sources. In the Wainānāliʻi-Kīholo vicinity, native tenants also regularly traveled between the coast and the uplands of Puʻu Anahulu and Puʻu Waʻawaʻa, where they tended extensive cultivating fields—with seasonal movement between the shore and uplands, coinciding with the dry and rainy periods of the year.

Approximately one-half mile south of the Kīholo fishpond, the *ala loa* enters onto the 1800 lava flow, and passes the area of Luahinewai, a freshwater pond. Luahinewai is a significant sight in the history of the rise of Kamehameha I to power on the island of Hawaiʻi. It was at this pond, that Keōua-ku-ʻahuʻula—a cousin of Kamehameha I—participated in a ceremonial bath to prepare his body for sacrifice at Puʻu Koholā Heiau, in Kawaihae.

* Kalaemanō salt works and habitation features (ceremonial significance) (see Register Map No. 1278)

Kalaemanō (The shark point) is an area of an ancient lava flow, surrounded by branches of the 1800 lava from Hualālai. The point was the traditional home of a shark-god, who protected the people and fishery resources of the region. Elders from the neighboring villages of Kīholo, Kaʻūpūlehu, and other lands to the south, learned that while passing along the *ala loa*, at Kalaemanō, one had to always travel with respect, as the shark's home, a cave entered from the sea, was situated below an area crossed by the trail. Also, extensive system of salt pans existed in this area. Fishing was the primary livelihood of the ancient and historic residents of this region—with the largest quantities of fish being the *ʻōpelu*, a type of mackerel. These fish were caught, hundreds at a time, and salt (*paʻakai*) made from the salt water, which was dried in salt pans at Kalaemanō, was use to preserve the fish.

The dried *ʻōpelu* were in turn, exchanged with people from other communities for items such as poi, and goods for various aspects of life.

Kaʻūpūlehu (Kona Village Resort)

Despite alterations to the terrain wrought by the lava flows from the 1801 eruption of Mt. Hualālai, Kaʻūpūlehu contains the ruins of a prehistoric settlement on Kahuwai Bay, a petroglyph field of at least 324 units, restored fishponds and a portion of a *hōlua* sled ramp. Vestiges of the *ala loa* that probably circled the bay may be present; however, it is known the 1801 lava flow extensively altered the configuration of Kahuwai Bay. The prehistoric *ala loa* would have been buried wherever lava flowed to the sea.

The fifteen-acre Kaʻūpūlehu petroglyph field is one of the most significant and unique rock art sites in Hawaii. The most unusual aspect of the site is the large number of Hawaiian sail motifs pecked into the smooth *pāhoehoe* lava. There are scenes with figures in elaborate headdresses that seem to indicate chiefly concerns (Stasack and Lee 1992; Lee and Stasack, in press). There are also canoe paddlers, and *papamū*. Other elements are unique and include a surfing fisherman, a head-to-head depiction of twins, elaborate kite designs, and what appears to be a captive individual slung from poles, possibly a sacrificial victim.

Kaʻūpūlehu is of historic interest, too, for the incident of the *Fair American* (1790), a ship attacked by Hawaiians who were retaliating for the flogging of one of their chiefs by Captain Metcalf of the ship *Eleanora* just a few days earlier. To lay hands on a chief by such means was punishable by death. Captain Metcalf's son, Simon Metcalf, was captain of the *Fair American*. He and all his men were slain, except for Isaac Davis, who escaped by swimming to shore. The crew of the *Fair American* is believed to be buried in the Kaʻūpūlehu area. However, Davis, who was captured, entered the limelight of history and became, with John Young, a trusted advisor of Kamehameha I.

* Kūkiʻo to Kaulana—a series of small villages, and features associated with traditional and historic residency, including fishponds and anchialine pools. (see Register Map no. 1278)

The near-shore *ala loa*, connects a series of villages, including many associated features, with functions ranging from those resulting from daily subsistence activities to ceremonial observances. Among the notable features are the remains of the great fishpond Paʻaiea, which was destroyed by the 1801 lava flow of Hualālai. The native accounts of the visit of Pele—in human form—to the region, and the refusal of the overseer of the fishpond to share fish with her, describe many *wahi pana* of the region. The account also explains why the small, life sustaining anchialine ponds, fresh water pools, and fishponds remain on the landscape. A traditional saying of the ancient fishpond observed

> O na hōkū o ka lani luna, o Paʻaiea ko lalo —
> The stars are above, Paʻaiea is below.
>
> (This refers to "Kamehameha's great fishpond Paʻaiea, in Kona… Its great size led to this saying—the small islets that dotted its interior were compared to the stars that dot the sky…" Pukui 1986:275 – 2515)

Keāhole Point to Kaloko Ahupuaʻa

"This stretch of land crosses the former *ahupuaʻa* of Kalaoa, ʻOʻoma, Kohanaiki, and Kaloko. The area consists of dry, arid lava lands near the shore. Prehistoric agricultural fields were several miles inland on the upland slopes where rainfall was sufficient for year-round cultivation. The bulk of the dwellings in this area, however, were along the shore, being connected to the upland fields by inland-heading (*mauka-makai*) trails" (Cordy 1994b:14). In contrast with the more densely populated Kaloko *ahupuaʻa* to the south, the settlements of Kohanaiki, ʻOʻoma, and Kalaoa, were small and dispersed, reflecting a notable drop in prehistoric population beyond Kaloko. Small clusters of house ruins are scattered just behind the sandy shore. Kohanaiki and ʻOʻoma each have small community *heiau* (a platform and enclosure, respectively) located immediately seaward of the *ala loa*'s former location (now marked approximately by a jeep road in the sand). "A few other small religious structures are present, notably a fishing shrine in ʻOʻoma which is a small platform with three upright stones. Additionally, a complex of modified tidal (anchialine) ponds in Kohanaiki are present, marked off by large stone cairns. These ponds seem to have been used in part for the raising of bait for offshore fishing" (Cordy 1994b:14).

Developers are currently planning two resorts for the Kohanaiki-ʻOʻoma -Kalaoa area, (Kohanaiki and ʻOʻoma II). A number of historic sites will be preserved, including Kohanaiki's *heiau* and several house sites. Just north, the remainder of ʻOʻoma and Kalaoa are

on the State's Natural Energy Laboratory Authority's land. Here a multi-acre historic preserve encloses ʻOʻoma's *heiau*, the fishing shrine and several house sites. In Kalaoa, the best example of a small prehistoric house site along the trail is being preserved, and a historic preserve which includes a complex of 1800s to early-1900s house ruins has been set aside. All of these sites are scheduled for interpretation under state historic preservation agreements tied to development. (Cordy 1994b:15).

Kaloko-Honokōhau National Historical Park

This great chiefly center is a National Historic Landmark (Honokōhau Settlement, December 29, 1962) and a newly developing National Historical Park. It contains over 200 sites and features denoting a sizable population in late prehistoric times. Some historic structures are also present. Almost every type of pre-contact structure is represented including ʻAimakapā and Kaloko fishponds (the largest surviving ponds on the island), and ʻAiʻopio fish trap; several *heiau*; a *koʻa*; burial areas; house platforms; stone enclosures believed to be agriculture planters; a *hōlua* slide; canoe landings; lava tube shelters; salt pans; *papamū* surfaces for *kōnane*; and several types of trails. The latter include *mauka-makai* trails, the inland straighter-line historic *Ala Māmalahoa*, and the probable route of the *ala loa* along the shore, although the latter is no longer visible.

"The shoreline itself consists of fairly rugged *pāhoehoe* tidal rocks. A narrow band of sand usually lies just above the high tide line. The houses that were along this shore were generally found just inland of the coastal sand strip and would have lined the trail which ran in front of them on the sand... to the south of Kaloko fishpond are unwalled house ruins, both single structures and groups of multiple structures. One has been interpreted as a high chief's residence. To the north and back of the fishpond are house ruins that have one meter high enclosing walls around the house yards. These walled house lots are more common to the mid-1800s period. To the south of the fishpond are also two large pavings interpreted as community *heiau* and just inland is a large prehistoric cemetery. These Kaloko sites reflect a typical Kona community that would be found along the *ala loa*" (Cordy 1994b:15).

Kaloko has tremendous significance to people of Hawaiian ancestry, some of whom believe it is the sacred and *kapu* final resting place of Kamehameha I whose bones were placed in a hidden sepulcher near those of other noted *aliʻi* (Kamakau 1964; USDI 1994:96). The location remains a closely guarded secret. Kaloko is also believed to be the resting place of Kahekili, ruler of Maui, as well as other members of the Kamehameha family.

Kamakahonu and the Ahuʻena Heiau, Kailua

Kamakahonu, located on the north side of Kailua Bay, was from 1813 to 1819 the residence of Kamehameha I. It was here that his heir, Liholiho (Kamehameha II) was declared king, and in November 1819, abolished the traditional religious system, the *kapu*, an act that vastly altered Hawaiian life. It was also here that the first American missionaries came ashore in 1820 (after a brief stop in Kawaihae) to confer with Kamehameha II and his chiefs regarding a program for western religious instruction.

Only a fraction of the once multi-acre compound remains. The *ala loa* that formerly connected Kamakahonu with other settlements north and south of Kailua has been obliterated by modern construction, in particular Aliʻi Drive, King Kamehameha's Kona Beach Hotel and its adjacent facilities, and modernization of the Kailua Wharf (Dunbar 1985). Most of the original 11 structures in the compound described by Ii (1959:117-121) were destroyed; however, Kamehameha I's temple, the Ahuʻena Heiau, has been reconstructed and can be viewed on guided interpretive tours sponsored by the King Kamehameha Hotel. Kamakahonu is both a State and National Historic Landmark.

Hulihe'e Palace, Kailua

The palace was built in 1838 by Kuakini, governor of Hawaiʻi and brother of Kamehameha's favorite wife, Kaʻahumanu. Later, King David Kalākaua (1874-1891) redecorated Hulihe'e and used it as a summer palace. Across the street (Aliʻi Drive) is Mokuʻaikaua Church, the first Congregational church built in Hawaiʻi. According to Ellis (1963), stones from an old *heiau* were used for the foundation of the original church which was built in 1823 but destroyed by fire in 1835. The present structure was completed in 1837. Any vestiges of prehistoric or historic period trails have been lost to twentieth century construction.

* Kamoa-Keolonāhihi Point Complex

Kamoa Point and the Keolonāhihi complex at Hōlualoa, was once a royal center and resort. The surf

of *Pu'u*, which fronts the point was famed, and a place where *ali'i* and commoners sported. The land itself is host to several *heiau* and royal residences. The complex of *heiau* and residences also continued on the *mauka* side of the *ala loa* from Kamoa Point. One of the ancient mountain trails, later modified into what is now called the Judd Trail, also departed from this complex, ascending the slopes of Hualālai, and connected with other trails to Mauna Kea, Hilo, and the Kohala District. In this area, the ancient *ala loa* was modified into the Government Road system, and later paved as the present-day Ali'i Drive.

* La'aloa

Like the Kamoa Point complex, La'aloa was once a chiefly center, and the site of another *heiau*, Haukālua, passed by the ancient *ala loa*. While the trail itself is covered by the present-day Ali'i Drive, the ruins of the *heiau* may be seen in a County Park facility.

Kahalu'u Royal Center

Kahalu'u *ahupua'a* was the location of another famous prehistoric royal center. "It was a residence of Lonoikamakahiki ca. 1640-1660, and the oral histories specifically note its use by Alapa'i nui, Kalani'ōpu'u and Kamehameha — successive rulers from 1740-1760 on. The focus of this center was Kahalu'u Bay, a sand fringed bay. The ruler's residence was on the south end of the bay by a natural pond called Po'o Hawai'i, and a number of large *heiau* encircled the bay. High chiefs' residences undoubtedly were nearby and some were in Keauhou *ahupua'a* just to the south. In Kahalu'u, eight major *heiau* are still present near the shore. Between the Keauhou Beach Hotel and the Kona Lagoon Hotel, Ke'ekū Heiau (a *luakini*) extends off the shore on the *pāhoehoe* tidal flats. At this enclosure–type *heiau* Lonoikamakahiki is said to have offered up the body of the Maui ruler, Kamalālāwalu, to his gods after an invading Maui army was routed and defeated in Kohala. Petroglyphs on the tidal rocks reportedly commemorate this event. One hundred feet away, also extending offshore is the ruins of Hāpaiali'i Heiau, and another 100 or so feet north is Kapuanoni Heiau, a temple dedicated to agricultural and fishing success. Just behind Kapuanoni is the Keauhou Beach Hotel, and on its landscaped grounds on the south edge of Kahalu'u Bay is a pond — Po'o Hawai'i — where the ruler's residence is said to have been located. No surface architecture survives of the ruler's residence" (Cordy 1994b:16).

"Other *heiau* encircle the bay. The foundation of another *luakini*, 'Ōhi'amukumuku — used in the time of Kalani'ōpu'u and Kamehameha, is present at the head of the bay within a ruined churchyard. Ku'emanu, a large surfing *heiau*, is on the north edge of the bay. The houses of this center are largely gone today" (Cordy 1994b:16). Some habitations are being preserved, as well as agricultural fields, just inland within the Keauhou Resort. The *ala loa* in this area passed inland of the *heiau* and ruler's residence; however, as with the royal center in Kailua, it now lies under paved Ali'i Drive, a two lane paved main road with adjacent modern houses, condominiums, and hotels.

Kamehameha III Birthplace, Keauhou

Keauhou was an important chiefly center and one of several important *ali'i* sporting areas along the Kona Coast in the prehistoric and early historic periods. Kamehameha III (Kauikeaouli), a younger son of Kamehameha I, was born there in 1814. The actual birth site consists of a natural arrangement of stones surrounded by a rock wall. Also on the water's edge, is the "Kauikeaouli stone," at which the still-born child, Kauikeaouli, was set, and brought back to life by the priest, Kapihe.

Kāneaka, the Keauhou Hōlua Slide

This National Historic Landmark is located above the Kamehameha III birth site, somewhat inland from the ala loa which at this location deviated from Ali'i Drive and paralleled the shore. Called Kāneaka, the Keauhou slide is the longest (over one-half a mile) and largest hōlua sled run ever built by the Hawaiians, large enough to accommodate two parallel racers (Kamakau, 1961 & Dunbar 1987). The size of this structure dominates the landscape. The volume of stone used in its construction dwarfs that of the largest known temple platforms, making it in fact the largest surviving structure from ancient Hawaii.

It has been speculated (Kekahuna 1953; James 1995, as well as others), the slide originally extended another 3,000 feet, all the way down to the sea; however, there is no archaeological evidence, historic photos, or information from the traditional sources to support such a claim. Curiously, not even the indefatigable recorder Ellis (1963), who traveled the *ala loa* to Keauhou Bay, mentions the sled run although he commented extensively on the Hōnaunau slides which, by contrast, are considerably smaller. Today the Keauhou sled run ends abruptly at Ali'i Drive, leaving

one with the impression that its terminus may have been truncated by highway construction.

Lekeleke and Kuamoʻo Battle Site (1819)

Not far from Keauhou Bay is the famous battle site where Kekuaokalani, nephew of Kamehameha I, fought against the forces of Liholiho (Kamehameha II) to restore the national religious system. The battle was first encountered at Lekeleke, near the Keauhou-Honalo boundary. Kekuaokalani's forces were then pushed further south to the lands of Māʻihi and Kuamoʻo, where the last battle occurred. This was the last battle fought on the island of Hawaiʻi. Kekuaokalani was defeated and killed. At Lekeleke in Keauhou and at Kuamoʻo a little further south, rock platforms and stone mounds (*pūʻoʻa*) mark the burials of the slain warriors interred along the ancient *ala loa*. Cordy (personal communication, March 27, 1997) notes, "The trail is visible in this area, often as more modern curbed trail, flanked by house yard lots."

Kealakekua Bay State Historical Park

The lands and diverse cultural features between Keauhou and Kealakekua, are crossed via the ancient *ala loa*, portions of which were modified as early as the 1830s, when the young Hawaiian Kingdom, was establishing a system of government roads, the *Alanui Aupuni*. A number of *heiau*, residential complexes, *wahi pana*, and the Kāināliu, Nāwāwā, Onouli-Keōpuka, and Kaʻawaloa village sites are among the traditional places passed via the trail. (Maly, 2006)

Kealakekua Bay, one of the ruling centers of the Kingdom of Hawaiʻi, was associated with many of the Kingdom's renowned rulers such as Keawenuiaʻumi, Lonoikamakahiki, Kalaniʻōpuʻu, Kīwalaʻō, Kamehameha, Keaweaheulu, Naihe, and Kapiʻolani. Kaʻawaloa on the north side of the bay was a chiefly residential complex. Nāpoʻopoʻo on the south side of the bay contained a priestly residential complex near Hikiau *heiau* as well as houses of commoners and lesser chiefs. Hikiau was one of six *luakini heiau* on Hawaiʻi Island, and at the time of western contact, was apparently the *heiau* and chiefly complex used for opening and closing rites of the annual *Makahiki* rituals. (Belt Collins)

Kealakekua Bay and the ancient village sites of Nāpoʻopoʻo and Kaʻawaloa provided the background for one of the most dramatic events in the annals of culture contact. It was here that the British ships *Resolution* and *Discovery* dropped anchor on January 17, 1779, and here that Captain James Cook was feted as the god Lono, the god of agriculture and prosperity, on the temple platform of Hikiau Heiau.

Cook had first arrived in Hawaiʻi in 1778, stopping off at Kauaʻi; however, his return the following year coincided with the annual *Makahiki*, the season that honored Lono with tribute offerings, feasting, competitive games, and *hula* performances. Traditionally warfare was taboo during this period. The emblem of Lono was an upright pole with crossbeam and hanging *tapa* cloth, which the Hawaiians likened to the mast and sails of the European ships. During this visit to Hawaiʻi Island, Cook performed the first Christian ceremony at Hikiau Heiau, a funeral service for a crew member who had died January 28, 1779. Within days, Cook's ships departed and all would have gone well, but fate ordained otherwise. A broken mast forced Cook's return to Kealakekua Bay for repairs. By then the *Makahiki* had ended and attitudes had changed. There followed a skirmish at the water's edge fronting Kaʻawaloa village (a residence of ruling Chief Kalaniʻōpuʻu), and Captain Cook was slain. Cook had been attempting to take Chief Kalaniʻōpuʻu hostage in return for a cutter that had been stolen from his ship and later broken up by Hawaiians for its iron nails. Cook's body was then taken to nearby Puhina o Lono Heiau for traditional Hawaiian rites that included cooking and cleaning flesh from his bones, an honor afforded to only the highest and most sacred Hawaiian chiefs. A white obelisk on the north side of the Bay, the Captain Cook Monument, marks the spot where Cook lost his life.

Mokuʻōhai Battleground (1782)

Located along the *ala loa*, Mokuʻōhai was the decisive 1782 battle in which Kamehameha I defeated his cousin Kīwalaʻō. The battle was fought in the land of Keʻei near the bay listed on the maps as "Mokuakae" (Mokuokaʻe describes a defiled area because of the bodies left behind).

Puʻuhonua o Hōnaunau National Historical Park

The current interpretive emphasis of this sacred precinct is on the religious structures associated with the use of the area as a temporary place of refuge (*puʻuhonua*) for children, women, the elderly (and some chiefs as well) during war, or those fleeing punishment. "In a larger perspective, however, Hōnaunau was one of the royal centers along the Kona Coast. It contains the ruler's residential area and

immediately seaward a large wall (the Great Wall), at one end of which was a royal mausoleum (the Hale o Keawe). ... Seaward of the mausoleum, was the *luakini heiau* ʻĀleʻaleʻa, and other religious structures on the *puʻuhonua* grounds. Houses of high chiefs extended south along the shore. And not far to the south were several *hōlua* slides. The *ala loa* entered this area of Hōnaunau from the north, passed along the inland side of the ruler's dwelling, and then it may have proceeded seaward of the dwellings to the south" (Cordy 1994b:17).

"The Great Wall was said to have been constructed in the reign of Keākealanikāne, 1660-1680. And the ruler Keawe seems to have used Hōnaunau as one of his favorite residences, ca 1700-1720. Not surprisingly, the Hale o Keawe housed his bones, and those of his immediate family and descendants. Hōnaunau continued to be used occasionally as a royal center until the abolition of the *kapu* and the departure of the royal centers to other islands in 1820, but its primary period of use as a royal residential area may have been during Keawe's reign" (Cordy 1994b:17).

"The *ala loa* is no longer visible in this immediate area as the park's visitor center and parking lot are just inland of the royal residential area. In the ruler's residential area, few ruins are visible on the surface — a pond and a portion of a nearby paving can been seen. However, archaeological work, although limited, has found considerable subsurface remains. Notably, the Hale o Keawe, the Great Wall, and the ʻĀleʻaleʻa *luakini* platform have been restored. The Hale o Keawe's thatched house, surrounding images, and wooden fence provide a striking re-creation of this mausoleum, one of only two once present on Hawaiʻi Island. The massive size of the Great Wall and the ʻĀleʻaleʻa platform also readily give the viewer the impression of the scale of public-ceremonial structures at Hawaiian royal centers. The rubble ruin of another large *heiau* is also nearby. Beyond the *puʻuhonua* area to the south, the ruins of the shore side dwellings and *hōlua* slides are also present, although they are not actively interpreted at this time" (Cordy 1994b:17).

*** Kapalilua Region: Hoʻokena-Kauhakō, Hoʻopūloa, Miloliʻi, Okoe Bay, Honomalino and Kapuʻa (Sites**

Departing from the famed *Alahaka* (cliff-side trail) of the Hōnaunau vicinity, one enters the Kapalilua region of South Kona. Here nearly the entire extent of the ancient *ala loa* remains intact, with some sections modified in the 1840s as a part of the Kingdom's *Alanui Aupuni*. While appearing to be a rocky and almost desolate region, at numerous areas along the coast, ancient Hawaiians found fresh water, and sheltered bays provided them with safe places to live. Noted for its rich near-shore and deep-sea fisheries, this region was highly valued by its tenants. The uplands of this region were also sheltered by stands of forest, predominated by the *ʻōhiʻa* (*Metrosideros polymorpha*), which sheltered an extensive system of dryland agricultural fields. While no streams flow across this land, the daily *kēhau*, a moisture laden breeze, flowing off of Mauna Loa each night, provided much needed moisture for cultivation of such crops as *kalo* (taro), *maiʻa* (bananas), and ʻ*uala* (sweet potatoes). Numerous *mauka makai* trails also cross the individual *ahupuaʻa* of the Kapalilua region. The upper forests contained extensive stands of *koa* (*Acacia*), and the coastal residents were known not only as excellent fisher-people, but also as skilled canoe makers (*poʻe kālai waʻa*).

Among the sites documented in the State Register of Historic Place (1993), along this section of the trail are the Hoʻokena-Kauhakō Village sites, the Okoe Bay Village sites, the North Honomalino village sites, and the Āhole Hōlua and Kapuʻa village sites.

The trail passes thousands of residential features, canoe landings, and other sites associated with traditional life and ritual.

Kaʻū District

Although sparsely inhabited today, Kaʻū contains vestiges of many trails which attest to the travel of traditional residents and travelers across the landscape. The labor to create certain types of trails is indicative of powerful chiefs. Here, too, the trails, ancient village sites, chiefly residences with associated fishponds, and numerous coastal landing spots for canoes testify to the district's former importance in trade and chiefly affairs.

Among the cultural resources listed on the State Register of Historic Places (1993), and sites accessed via the trail system are

*Manukā Bay petroglyphs, habitation complex, and *hōlua* slide

*Kaiakekua and Keawaiki complexes

*Kāʻilikiʻi-Waiʻahukini fishing village complex,

chiefly center

*Waiʻahukini (royal residence)

Ka Lae – The South Point National Historic Landmark District

The coastal attraction of Ka Lae for ancient Hawaiians and modern fishermen alike lies in the adjacent deep-sea fishing zone with its abundance of prized pelagic (open sea) game species. Powerful cross-currents meet here and bring schools of fishes making for excellent but dangerous fishing grounds where tuna (*aku* and *ʻahi*), marlin (*aʻu*), and dolphin (*mahimahi*) are still avidly sought.

The landmark consists of a series of archaeological settlements, structures and features that define the area's significance as a favored fishing area in prehistoric time. There are dozens of ancient salt pans and canoe mooring holes carved into shoreline rocks; a significant fishing temple, Kalalea Heiau (reputedly used by Kamehameha I) at which offerings are still left by fishermen; and ancient habitation sites such as Mākālei Shelter, Waiʻahukini Shelter, and the famous Puʻu Aliʻi Dune Site whose radiocarbon dates suggest it was among the earliest known settlements in the Hawaiian Islands. During excavations conducted by the Bishop Museum in the 1950s at several of the South Point habitation sites, thousands of fishhooks and fishhook fragments were recovered from datable deposits (the earliest fishhooks and stone adzes from the Puʻu Aliʻi Site resemble forms from the Marquesas, 2400 miles to the south). The South Point fishhooks were serrated according to stylistic changes over time and thus provide a relative dating chronology for cross-dating other sites in Hawaii (Emory, Bonk and Sinoto 1959).

The prehistoric *ala loa* passed across Ka Lae (South Point), but much of it was on sand and hence not visible.

*The Kalalea Heiau.

*Mahana Bay and Kapalaoa archeological district—canoe mooring, salt pans, fishhook manufacturing localities.

Further south through Kaʻū many other features exist, but they have not been inventoried and described.

Punaluʻu Ruins

The importance of this former royal center, which may be commercially developed and interpreted under a historic preservation agreement with the state, is evident in the remains of a huge *luakini* called Punaluʻu nui overlooking the Punaluʻu Bay and a coastal fishpond of the same name. Remnants of Punaluʻu habitation sites are behind the pond. The area contains petroglyphs and east beyond Punaluʻu, vestiges of a coral marked *ala loa*.

Puna District

All locations discussed in this section are within Hawaiʻi Volcanoes National Park.

As with Kaʻū District, there are many vestiges of trails that have interpretive potential, but there has been no systematic research to identify and date these remaining trail segments.

Some aspects of trail location and uses can never be known due to recent and vast lava flows. There are some clues in the literature, but for present purposes these remain inconclusive because it is not always clear if a reference to an "ancient trail" refers to the actual prehistoric *ala loa*, or to a nineteenth century trail.

Spears, who was doing archeological survey for Hawaiʻi Volcanoes Park in the vicinity of Pānau Iki (1995) is of the opinion (personal communication, with Holly Dunbar, October 9, 1996) that the Puna-Kaʻū trail ... referred to on the 1922 USGS maps and some later editions is in general an accurate guide to the older coastal trail route through the district. The following properties are included in Puna–Kaʻū Historic District (129,655 acres), a property entered on the National Register of Historic Places on July 1, 1974.

Kealakomo Village

Kealakomo is of historic interest because it was at this village on the ancient coastal trail that Reverend Ellis was met by some two hundred native inhabitants when he descended from a visit to Kīlauea down to the coast. Coastal villages typically contain house sites, walled enclosures, canoe shelters, *koʻa*, *heiau*, and grave sites. Particularly noteworthy of the rock art at Kealakomo is the large number (67) of *papamū,* or rectangles of dots where the checker-like game of *kōnane* was played. Emory *et al.* (1959a:3) noted that Kealakomo "was and still is important as a salt

producing center. Dried fish were exported from here to ʻŌlaʻa and inland places in exchange for taro [*kalo*], tapas, and other products which could not be produced on this dry coastal land."

The Kealakomo visited by Ellis was a village already adapted to western contact; hence, there were probably already changes in traditional settlement pattern, with possible modifications to the alignment of the ancient pre-contact trail. Lava has inundated at least 85% of the area, but remains of the trail that passed through the area can still be picked up further east.

Puʻu Loa Petroglyphs

This extraordinary site is located two and one-half miles east of Kealakomo. *Puʻu Loa* ("long hill" or "hill of long life") has the most concentrated complex of petroglyphs (approximately 23,000 units) known in the Hawaiian Islands, and perhaps anywhere in the Pacific (Lee 1993; Lee and Stasack, in press). The most prevalent forms are the *piko* or *lua* glyphs associated with birth rituals for newborn children; however, human figures and other images are also carved in the *pāhoehoe*.

Although not specifically referencing the *ala loa*, Emory *et al.* (1959a:3) spoke of an ancient trail passing through the site:

> ...east of Kealakomo, and nearly a mile from the shore, the ancient trail passes over a pāhoehoe pressure dome about 400 feet long named Puʻu Loa, "Hill of Long Life." The dome itself and the area along both sides of the trail as it approaches the hill from either direction are covered with hundreds of glyphs.

Prehistoric art specialist, Georgia Lee (personal communication with Holly Dunbar, February 20, 1996) also believes the prehistoric main trail through Puna was set back from the coast in this area and did go through the site. Spears, on the other hand, says of the "ancient trail" (1995:83):

> ...traveling west, as you approach Puʻu Loa, the trail veers southwest and thus by-passes the sacred nature of Puʻuloa. It continues inland on a westerly course, then turns toward the ocean where it comes out at the settlement of Kaena.

It is not clear if Spears is discussing the same ancient trail noted by Emory and Lee, or if she perhaps does not know the maximum extent and boundaries of this vast petroglyph field.

Hawaiʻi Volcanoes archeologist Laura Schuster (personal communication with Holly Dunbar, May 2, 1997) has walked the sections of the trail noted by Emory, Lee and Spears. Her description of the trail moves from east to west:

> ...the trail that continues through Puʻuloa connected with Laeʻapuki ... As the trail crossed different *ahupuaʻa* the trail became more defined, with curb stones, etc. and for the length of the trail, an earlier trail alignment or worn *pāhoehoe* is visible. This earlier worn area would weave in and out of the curbstones along the trail section in Laeʻapuki. The trail through Pānau nui/iki did not have curbstones and inland *mauka-makai* trails were present, but rare. The intersection of a trail, a hill like Puʻuloa, where the *piko* ceremony was carried out, and *ahupua'a* boundaries is a pattern that is repeated at least five times between Puʻuloa and Kaʻiliʻili. I would agree with Emory that this is an old trail, [that] may have been modified in some areas, like Laeʻapuki, but it is old.

Laeʻapuki and Kamoamoa Village Ruins

These former coastal villages and trail associations were destroyed in the same 1988-95 series of lava flows that encircled Wahaʻula Heiau before eventually pouring into the sea. Laeʻapuki (occupied until 1920) had been a traditional farming and fishing community whose local economy converted to goat and cattle herding following western contact. Kamoamoa, an ancient farming and fishing settlement, had been partially destroyed by the *tsunami* of 1868.

Wahaʻula Heiau

The Wahaʻula temple complex, inundated by lava in 1998, consisted of low wall enclosures. Construction has been attributed to the legendary Pāvao (Malo 1951:6-7; Ladefoged *et al.* 1987:56) who is also credited with the construction or refurbishment of Moʻokini Heiau near ʻŪpolu Point in Kohala. (Note: Cordy, personal communication with Holly Dunbar, March 27, 1997, believes "the oral histories relating to Pāʻao and Pili date to around A.D. 1400, using 20 years per generation.") Thrum (1908:52) said the temple formerly had a *puʻuhonua*, but this was not verified in the archaeological work reported by Ladefoged (*et al.*). A possible explanation is provided by Kelly, citing unpublished notes by Stokes (in Bryan

and Emory 1986:154), who says another *heiau* called Waha‘ula, but located in the land of Kamā‘ili, Puna, was claimed by local residents to have been the original *heiau* of Waha‘ula, and that the stones were taken to Pūlama to build the large Waha‘ula in its present location.

Waha‘ula was reconditioned by ‘Īmaikalani, a chief of Ka‘ū in the late 1500s or early 1600s A.D., and again by Kalani‘ōpu‘u around 1770 A.D. Kamehameha I ordered the final renovations in early historic times, dedicating the temple to his family war god, Kūkā‘ilimoku. In the early nineteenth century, Liholiho (Kamehameha II) visited Waha‘ula during the peaceful period of the annual *Makahiki* cycle.

Other structures existed in the vicinity of the temple, including portions of the *ala loa*; however, in 1989 a massive lava flow crossed the Chain of Craters Road in Hawai‘i Volcanoes National Park, covering hundreds of recorded archeological sites and surrounding the temple. In 1998, the lava flow encompassed the *heiau* itself.

Appendix D: Consultation with the United States Fish and Wildlife Service

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122, Box 50088
Honolulu, Hawaii 96850

In Reply Refer To:
1-2-2005-SP-180

APR 21 2005

Memorandum

To: Meredith Kaplan, Project Planner, National Park Service, Pacific West Region
Oakland, California

From: Acting Field Supervisor, Pacific Islands Fish and Wildlife Office
Honolulu, Hawaii

Subject: Species List Request for the Ala Kahakai National Historic Trail on the Island of Hawaii

Thank you for your March 9, 2005, letter requesting a species list and information on changes in environmental or resource conditions that may be of concern regarding the addition of the Ala Kahakai trail to the National Trails System. We received your letter on March 14, 2005.

We reviewed the information you provided and pertinent information in our files, including data compiled by the Hawaii Natural Heritage Program. Our records of the last 20 years indicate that there is no plant or animal critical habitat overlapping the project area, and that the following federally endangered, threatened, or candidate species may occur within the vicinity of the project area:

PLANTS: endangered
ʻOhai (*Sesbania tomentosa*)
Loulu (*Pritchardia affinis*)

MAMMALS: endangered
Hawaiian Hoary Bat or ʻopeʻapeʻa (*Lasiurus cinereus semotus*)

BIRDS: endangered
Hawaiian duck or koloa maoli (*Anas wyvilliana*)
Hawaiian coot or ʻalae keʻokeʻo (*Fulica alai*)

Hawaiian stilt or ae'o (*Himantopus mexicanus knudseni*)
Hawaiian hawk or 'io (*Buteo solitarius*)

REPTILES: endangered
Green turtle or honu (*Chelonia mydas*)

REPTILES: threatened
Hawksbill turtle or honu'ea (*Eretmochelys imbricata*)

DAMSELFLIES: candidate
Orange-black damselfly (*Megalagrion xanthomelas)*

SHRIMP: candidate
Anchialine pool shrimp (*Metabetaeus lohena*)

In addition, we recommend signage at the low and high salinity anchialine pools found along the Ala Kahakai trail, prohibiting bathing, littering, fishing, or other inappropriate use of the pools.

We appreciate your concern for endangered species. If you have any questions, please contact Christa Russell, Plant Conservation Program Coordinator, at 808/792-9451 (fax: 808/792-9580).

Additional special status species listed by the National Park Service http://www.nature.nps.gov/biology/endangered-species/database/parksearch.cfm retrieved December 19, 2006

Species listed at Hawai'i Volcanoes National Park:

Caesalpinia kavaiense	uhiuhi	endangered	flowering plant
Ischaemum byrone	Hilo ischaemum	endangered	flowering plant
Pleomele hawaiiensis	hala pepe	endangered	flowering plant
Oceanodroma castro storm-petrel	band-rumped	candidate	bird
Pterodroma phaeopygia sandwichensis	Hawaiian dark-rumped petrel	endangered	bird
Puffinus auricularis newelli shearwater	Newell's Townsend's	threatened	bird

Species listed at Pu'ukoholā NHS

Branta sandvicensis	Hawaiian Goose	endangered	bird
Hibiscus brackenridgei	ma`o hau hele	endangered	flowering plant

Species listed at Kaloko-Honokōhau NHP

Metabetaeus lohena		candidate	anchialine pool shrimp
Palaemonella burnsi		candidate	anchialine pool shrimp
Bidens micrantha	ko'oko'olau	candidate	flowering plant
Ctenophylla	l		
Monachus schauinslandi	Hawaiian monk seal	endangered	mammal

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Box 50088
Honolulu, Hawaii 96850

In Reply Refer To:
PI-03-60

AUG 29 2003

Michael L. Donoho
National Park Service
Ala Kahakai National Historic Trail
Kaloko-Honokohau NHP
74-4786 Kanalani Street, #14
Kailua-Kona, Hawaii 96740

Dear Mr. Donoho:

This responds to your February 11, 2003, letter requesting, we provide a list of all threatened, endangered, and candidate species affected by the designation of the 175-mile long Ala Kahakai National Historic Trail on the Island of Hawaii. The National Park Service has initiated a Comprehensive Management Plan and Environmental Impact Statement for the Ala Kahakai National Historic Trail and is moving ahead with the public scoping process and data collection. The initial information request was received on February 12, 2003. On March 4, my staff met with Michael Donoho to discuss the specific location of the trail. During this meeting we requested additional maps and Geographic Information Systems data layers, and they were provided.

We reviewed the information you provided and pertinent information in our files, including maps prepared by the Hawaii Natural Heritage Program and from other sources. Tables 1 and 2 include data from the Hawaii Natural Heritage Program on listed and candidate species, species of concern, natural communities, and designated critical habitat for plants that may occur in the vicinity of the Ala Kahakai National Historic Trail. Table 3 includes the listed and candidate species of plants and plant species of concern from data sources other than the Hawaii Natural Heritage database. Three additional maps are enclosed to depict the vicinity of the Ala Kahakai Trail in relation to listed and rare species and critical habitat boundaries of Blackburn's Sphinx Moth (*Manduca blackburni*), the endangered plant (*Kokia drynariodes*), and 13 other plant species.

We appreciate your efforts to conserve endangered species. If you have any questions, please contact Fish and Wildlife Biologist Antonio Bentivoglio or Ray Hoy (phone: 808/792-9530; fax: 808/792-9581). (808) 792-9400

Sincerely,

Gina Shultz

for Paul Henson, Ph.D.
Field Supervisor

Table 1. Listed and Candidate Species, and Species of Concern in the Vicinity of the Ala Kahakai National Historic Trail from the Hawaii Natural Heritage Program

CATEGORY	SCIENTIFIC NAME	COMMON NAME	DATE	STATUS	COUNT
Animal	ANAS WYVILLIANA	HAWAIIAN DUCK, KOLOA	1985	LE	1
Animal	BRANTA SANDVICENSIS	NENE, HAWAIIAN GOOSE	1891	LE	1
Animal	BUTEO SOLITARIUS	HAWAIIAN HAWK, `IO	1993	LE	1
Animal	CHELONIA MYDAS	HONU, GREEN TURTLE	1973	LT	1
Animal	CORVUS HAWAIIENSIS	HAWAIIAN CROW, `ALALA	1982	LE	1
Animal	ERETMOCHELYS IMBRICATA	HAWKSBILL SEA TURTLE	1996	LE	1
Animal	FULICA ALAI	`ALAE KE`OKE`O, HAWAIIAN COOT	1995	LE	1
Animal	GALLINULA CHLOROPUS SANDVICENSIS	HAWAIIAN GALLINULE, `ALAE-`ULA	1988	LE	1
Animal	GYMNOTHORAX HILONIS	ANCHIALINE MURAENID EEL	1982		1
Animal	HIMANTOPUS MEXICANUS KNUDSENI	HAWAIIAN STILT, AE`O	1970	LE	1
Animal	LASIURUS CINEREUS SEMOTUS	`OPE`APE`A, HAWAIIAN HOARY BAT	1996	LE	1
Animal	MONACHUS SCHAUINSLANDI	HAWAIIAN MONK SEAL	1994	LE	2
Animal	OREOMYSTIS MANA	HAWAII CREEPER	1952	LE	1
Animal	PSITTIROSTRA PSITTACEA	`O`U	1895	LE	1
Animal	PUFFINUS NEWELLI	NEWELL SHEARWATER, `A`O	1996	LT	1
Invertebrate	ANTECARIDINA LAUENSIS	ANCHIALINE POOL SHRIMP	1973	SOC	2
Invertebrate	CALLIASMATA PHOLIDOTA	ANCHIALINE POOL SHRIMP	1985	SOC	1
Invertebrate	DROSOPHILA DIGRESSA	POMACE FLY	1976	C	1
Invertebrate	DROSOPHILA HETERONEURA	POMACE FLY	1978	C	1
Invertebrate	HALOCARIDINA PALAHEMO	ANCHIALINE POOL SHRIMP	1992	SOC	1
Invertebrate	MEGALAGRION XANTHOMELAS	ORANGE-BLACK MEGALAGRION DAMSELFLY	1994	C	7
Invertebrate	METABETAEUS LOHENA	ANCHIALINE POOL SHRIMP	1992	SOC	5
Invertebrate	NERITILIA HAWAIIENSIS	ANCHIALINE POOL SNAIL	1972	SOC	2
Invertebrate	NERITILIA SP 1	ANCHIALINE POOL SNAIL	1972		1
Invertebrate	NERITILIA SP B	ANCHIALINE POOL SNAIL	1992		2
Invertebrate	PALAEMONELLA BURNSI	ANCHIALINE POOL SHRIMP	1972	SOC	1
Invertebrate	PROCARIS HAWAIANA	ANCHIALINE POOL SHRIMP	1985	SOC	1
Invertebrate	VETERICARIS CHACEORUM	ANCHIALINE POOL SHRIMP	1985	SOC	1
Natural Community	CANTHIUM ODORATUM LOWLAND DRY SHRUBLAND	ALAHE'E LOWLAND DRY SHRUBLAND	1990		1
Natural Community	DIOSPYROS SANDWICENSIS/COLUBRINA OPPOSITIFOLIA LOWLAND DRY FOREST	LAMA/KAUILA LOWLAND DRY FOREST	1992		2
Natural Community	HETEROPOGON CONTORTUS LOWLAND DRY GRASSLAND	PILI LOWLAND DRY GRASSLAND	1988		2
Natural Community	HIGH SALINITY LAVA ANCHIALINE POOL	HIGH SALINITY LAVA ANCHIALINE POOL	1996		5
Natural Community	HIGH SALINITY LAVA TUBE ANCHIALINE POOL	HIGH SALINITY LAVA TUBE ANHCIALINE POOL	1991		1
Natural Community	LOW SALINITY LAVA ANCHIALINE POOL	LOW SALINITY LAVA ANCHIALINE POOL	1996		5
Natural Community	LOW SALINITY LAVA TUBE ANCHIALINE POOL	LOW SALINITY LAVA TUBE ANCHIALINE POOL	1987		1
Natural Community	LOW SALINITY LAVA TUBE ANCHIALINE POOL	LOW SALINITY LAVA TUBE ANCHIALINE POOL	1992		1
Natural Community	MYOPORUM SANDWICENSE COASTAL DRY SHRUBLAND	NAIO COASTAL DRY SHRUBLAND	1990		1
Natural Community	SESBANIA TOMENTOSA LOWLAND DRY SHRUBLAND	`OHAI LOWLAND DRY SHRUBLAND	1992		1
Natural Community	UNCHARACTERIZED ANCHIALINE POOL	UNCHARACTERIZED ANCHIALINE POOL	1900		11
Natural Community	UNCHARACTERIZED ANCHIALINE POOL	UNCHARACTERIZED ANCHIALINE POOL	1986		23
Natural Community	UNCHARACTERIZED ANCHIALINE POOL	UNCHARACTERIZED ANCHIALINE POOL	1994		6
Plant	ABUTILON MENZIESII	KO`OLOA `ULA	1971	LE	1
Plant	ACHYRANTHES MUTICA		1779	LE	1
Plant	BIDENS M. SSP CTENOPHYLLA	KO`OKO`OLAU, KOKO`OLAU	1993	C	1
Plant	BOBEA TIMONIOIDES	`AHAKEA	1988	SOC	2
Plant	BONAMIA MENZIESII		1986	LE	1
Plant	CAESALPINIA KAVAIENSIS	UHIUHI	1993	LE	1
Plant	CAPPARIS SANDWICHIANA	PUA PILO, MAIAPILO	1991	SOC	3
Plant	CHAMAESYCE OLOWALUANA	`AKOKO, KOKO, KOKOMALEI	1952	SOC	1
Plant	COLUBRINA OPPOSITIFOLIA	KAUILA	1987	LE	1
Plant	DIELLIA ERECTA		1927	LE	1
Plant	DIELLIA ERECTA		1991	LE	1
Plant	EXOCARPOS GAUDICHAUDII	HEAU	1933	SOC	1
Plant	FIMBRISTYLIS HAWAIIENSIS		1992	SOC	1
Plant	FLUEGGEA NEOWAWRAEA	MEHAMEHAME	1982	LE	1
Plant	GARDENIA BRIGHAMII	NANU, NA`U	1929	LE	1
Plant	HEDYOTIS COOKIANA		1816	LE	1
Plant	ISCHAEMUM BYRONE		1995	LE	1
Plant	ISODENDRION PYRIFOLIUM	AUPAKA	1993	LE	1
Plant	KOKIA DRYNARIOIDES	KOKI`O	1993	LE	1
Plant	LIPOCHAETA LOBATA VAR LOBATA	NEHE	1779		1
Plant	MARISCUS FAURIEI		1992	LE	1
Plant	NERAUDIA OVATA	MA`ALOA, MA`OLOA, `OLOA	1995	LE	1
Plant	NOTHOCESTRUM BREVIFLORUM	`AIEA	1992	LE	2
Plant	OPHIOGLOSSUM CONCINNUM	POLOLEI	1990		1
Plant	PLEOMELE HAWAIIENSIS	HALAPEPE	1992	LE	3
Plant	PORTULACA VILLOSA	`IHI	1992	SOC	1
Plant	PRITCHARDIA AFFINIS	LOULU	1990	LE	7
Plant	SESBANIA TOMENTOSA	`OHAI	1992	LE	2
Plant	SOLANUM NELSONII		1977	SOC*	1
Plant	TETRAMOLOPIUM C. VAR KAUENSE		1980		1
Plant	TREMATOLOBELIA GRANDIFOLIA		1913	SOC	1

*Federal Status:

LE = Endangered
LT = Threatened
C = Candidate
SOC = Species of Concern

Table 2. Designated Critical Habitat for Plants Occurring in the Vicinity of the Ala Kahakai National Historic Trail from the Hawaii Natural Heritage Program

CATEGORY	CRITICAL HABITAT NAME	COUNT
Plant Critical Habitat	Diellia erecta	1
Plant Critical Habitat	Flueggea neowawraea	1
Plant Critical Habitat	Colubrina oppositifolia	1
Plant Critical Habitat	Diellia erecta	1
Plant Critical Habitat	Flueggea neowawraea	1
Plant Critical Habitat	Gouania vitifolia	1
Plant Critical Habitat	Neraudia ovata	1
Plant Critical Habitat	Pleomele hawaiiensis	1
Plant Critical Habitat	Sesbania tomentosa	1
Plant Critical Habitat	Ischaemum byrone	1
Plant Critical Habitat	Ischaemum byrone	1
Plant Critical Habitat	Pleomele hawaiiensis	1
Plant Critical Habitat	Sesbania tomentosa	1

Table 3. Listed and Candidate Species of Plants, and Plant Species of Concern in the Vicinity of the Ala Kahakai National Historic Trail from Other Sources

CATEGORY	SCIENTIFIC NAME	COMMON NAME	DATE	STATUS	COUNT	SOURCE
Plant	Bidens micrantha ssp. ctenophylla	Ko`oko`olau	0	C	1	Pratt
Plant	Bobea timonioides	`Ahakea	0	SOC	1	Pratt
Plant	Bonamia menziesii	None	2001	E	1	N.Agorastos
Plant	Capparis sandwichiana	Pua pilo, Maiapilo	0	SOC	4	Pratt
Plant	Capparis sandwichiana	Pua pilo, Maiapilo	0	SOC	2	Rick2
Plant	Cyanea marksii	Haha	0	SOC	1	Rick1
Plant	Cyrtandra menziesii	Ha`iwale	0	SOC	3	Rick1
Plant	Diellia erecta	None	0	E	1	Rick2
Plant	Diellia erecta	None	1999	E	2	Wood
Plant	Fimbristylis hawaiiensis	None	0	SOC	3	Pratt
Plant	Flueggea neowawraea	Mehamehame	0	E	1	Giffin
Plant	Flueggea neowawraea	Mehamehame	2000	E	1	L.Perry, B.Stormont, N.Agorastos
Plant	Flueggea neowawraea	Mehamehame	2000	E	1	L.Perry, P.Moriyasu
Plant	Gouania vitifolia	None	2000	E	1	N.Agorastos
Plant	Ischaemum byrone	Hilo ischaemum	0	E	3	Pratt
Plant	Neraudia ovata	None	0	E	1	Rick2
Plant	Pleomele hawaiiensis	Hala pepe	0	E	3	Rick1
Plant	Portulaca villosa	`Ihi	0	SOC	1	Pratt
Plant	Portulaca villosa	`Ihi	0	SOC	1	Rick2
Plant	Pritchardia affinis	Loulu	0	E	2	Pratt
Plant	Pritchardia affinis	Loulu	0	E	2	Rick2
Plant	Pritchardia affinis	Loulu	1990	E	1	HINHP
Plant	Pritchardia affinis	Loulu	2001	E	4	N.Agorastos
Plant	Sesbania tomentosa	`Ohai	0	E	1	Pratt
Plant	Sesbania tomentosa	`Ohai	0	E	1	Rick2
Plant	Sesbania tomentosa	`Ohai	1995	E	2	Pratt
Plant	Sesbania tomentosa	`Ohai	1997	E	8	T.R.Belfield
Plant	Sesbania tomentosa	`Ohai	2001	E	3	N.Agorastos
Plant	Sesbania tomentosa	`Ohai	2001	E	2	Pratt
Plant	Solanum nelsonii	Popolo	0	SOC	1	Rick2
Plant	Streblus pendulinus		0	NS	1	Rick1

*Federal Status:

E = Endangered
C = Candidate
SOC = Species of Concern
NS = Rare but not Listed

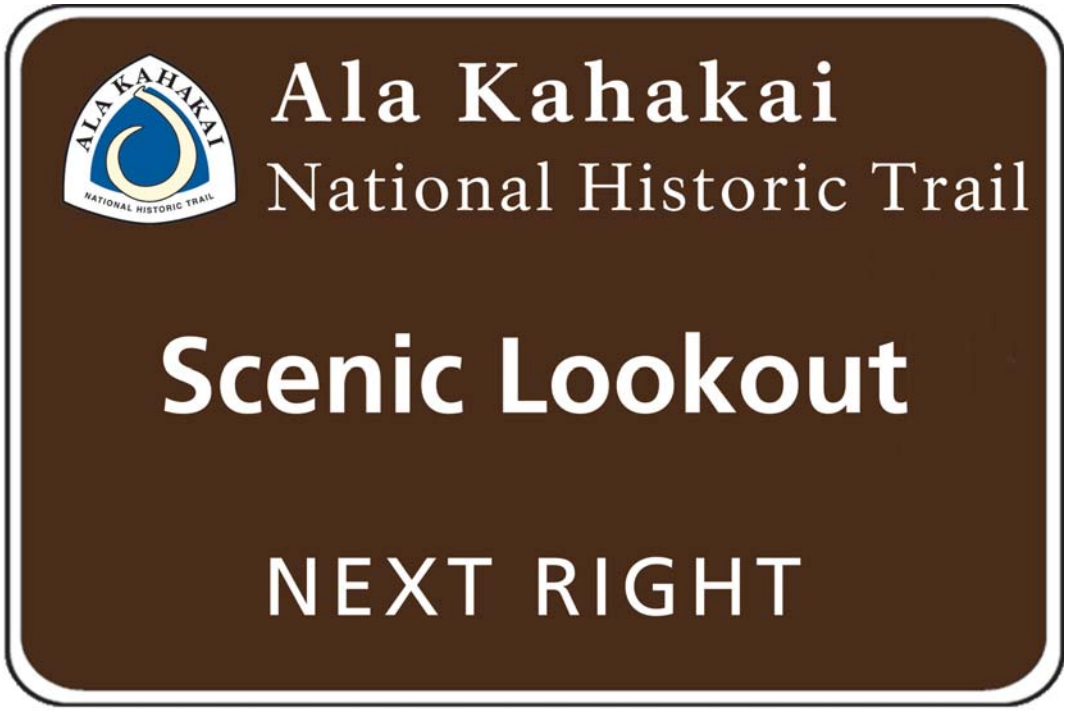
Appendix E: Uses of the Uniform Marker

The proposed sign plan will address the design, placement, and use of the official marker on a variety of signs, such as highway information and directional signs, entrance signs at parking areas, trailhead information signs, regulatory signs, directional indicators, identity signs that distinguish unaltered and verified trail segments from linking trails, interpretive signs and wayside exhibits, wilderness area marking, private property signs, destinations signs, and trail partner or adopter signs. Following are examples of possible auto tour route markers.

Example of a sign that might be used to mark the auto tour roadways.

Example of a directional sign to a national park along the route.

Example of a directional sign to a nonfederal site along the route.



Example of a directional sign for a scenic lookout associated with the trail.